



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

co-organizer :



**E-PROCEEDING**



**THE INTERNATIONAL  
CONFERENCE**  
on **Social Sciences**  
and **Humanities**

Innovations in Digital Humanities:  
Shaping the Future of Social Sciences

**4-5 SEPTEMBER**  
**2024**

**KSL Resort Johor Bahru**

<https://humanities.utm.my/ticssh2024/>

**Innovations in Digital Humanities: Shaping the Future of Social Sciences**

First Edition 2024  
©E-Proceeding TICSSH 2024 Innovations in Digital Humanities: Shaping the Future  
of Social Sciences  
Faculty of Social Sciences and Humanities 2024

All copyrights are preserved. No part of this publication may be reproduced or exchanged in any form by any means, whether electronically and/or mechanically, including photocopy, recording or any means of storage of information and retrieval system, without the written consent of Dean, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia 81310 Johor Bahru, Johor Darul Takzim, Malaysia.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

THE INTERNATIONAL CONFERENCE ON SOCIAL SCIENCES AND HUMANITIES  
(TICSSH2024) / Faculty of Social Sciences and Humanities (FSSH)

e ISBN 978-967-26037-6-4

e ISBN 978-967-26037-6-4



Published by:  
Faculty of Social Sciences & Humanities,  
Universiti Teknologi Malaysia,  
81310 Johor Bahru,  
Johor  
MALAYSIA

Electronic publication - <https://humanities.utm.my/ticssh2024/>

## **FOREWORD**

The International Conference on Social Sciences and Humanities (TICSSH 2024) is organised by the Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, in collaboration with the Faculty of Social and Political Sciences, Universitas Airlangga, Indonesia.

The theme, "Innovation and Digital Humanities: Shaping the Future of Social Sciences," reflects the evolving landscape of social sciences and humanities. This conference aims to foster a collaborative and inclusive environment where interdisciplinary dialogue can thrive, paving the way for innovative solutions to global challenges.

In our interconnected world, understanding human behaviour and cultural diversity is crucial. This conference serves as a platform for bridging gaps, providing fresh perspectives on complex issues and contributing to positive global change.

We extend our heartfelt gratitude to the participants, authors, and presenters for their valuable contributions. May this conference inspire you to continue producing impactful research that benefits both the community and the nation.

Assoc. Prof. Ts. Dr. Sharifah Osman  
Dr. Junaidah Yusof  
Dr. Siti Nur Hadis A Rahman  
Dr. Kew Si Na

## TABLE OF CONTENT

PAGE	PAPER ID	PAPER TITLE
9	1571061131	EXPLORING COACHING SKILLS AMONG SCHOOL LEADERS: A STRUCTURED REVIEW
22	1571052111	CLASSROOM CHALLENGES INFLUENCING TEACHERS' CODE-SWITCHING PRACTICES IN CHINESE UNIVERSITY ENGLISH PROFICIENCY CLASSES
26	1571052515	EXPLORING LEARNING THEORY USAGE IN WEB-BASED LEARNING: A COMPREHENSIVE LITERATURE REVIEW
30	1571054208	FUNDAMENTAL ELEMENTS FOR SELF-INITIATED PROFESSIONAL DEVELOPMENT AMONG TVET TEACHERS: A LITERATURE REVIEW
35	1571063054	HALAL PURCHASING DECISIONS AND CONSUMER BEHAVIOR: A BIBLIOMETRIC ANALYSIS
36	1571042399	DEVELOPMENT AND VALIDATION OF THE ACADEMIC ACHIEVEMENT SCALE TO MEASURE THE COMPREHENSIVE ABILITIES OF CHINESE UNDERGRADUATE STUDENTS
48	IDS-01	A CONCEPTUAL PAPER ON THE EFFECTIVENESS OF MESSAGE FRAMING AND ALTRUISM TO IMPROVE HAPPINESS AMONG UNIVERSITY STUDENTS
50	1571045464	THE USE OF PLAYBACK SPEED IN CAPTIONED VIDEOS IN IMPROVING VOCABULARY ACQUISITION AMONG LOWER PROFICIENCY HIGHER PRIMARY PUPILS
60	1571062001	CHALLENGES IN IMPLEMENTING CRITICAL THINKING SKILLS IN CHEMISTRY ACCORDING TO MALAYSIAN EDUCATORS
69	1571061917	EXPERT VALIDATION OF A RESEARCH CULTURE ASSESSMENT TOOL FOR SECONDARY SCHOOLS
71	1571063296	THE USE OF YOUTUBE IN FACILITATING LEARNERS' SPEAKING SKILLS AMONG UNDERGRADUATE STUDENTS OF THE SCHOOL OF EDUCATION IN UTM

75	1571063755	THE LEVELS OF NEGATIVE EMOTION, ACADEMIC MOTIVATION, TEACHERS' PROFESSIONAL IDENTITY AND CAREER ADAPTABILITY
84	1571062700	EXPLORING DIVERSITY IN INDONESIAN CHILDREN'S LITERATURE: FROM GRAND NARRATIVES TO POSTMODERN DISCOURSE
85	1571048877	THE FUZZY DELPHI METHOD: VALIDATION OF THE PROFESSIONAL COMPETENCIES ELEMENTS IN CAREER READINESS INSTRUMENT FOR STUDENTS WITH DISABILITIES
97	1571060639	DOES ECONOMIC PROMOTE SUSTAINABLE DEVELOPMENT: STUDY IN INDONESIA, MALAYSIA AND THAILAND
115	1571056279	THE DEVELOPMENT PROSPECTS AND FUTURE TRENDS OF CHINA'S BADMINTON INDUSTRY UNDER THE GUIDANCE OF SPORTS INDUSTRY POLICIES
125	1571056420	IMPACT OF COGNITIVE PSYCHOLOGY AND HUMAN FACTORS ENGINEERING ON MECHANICAL ENGINEERING PRODUCT SUSTAINABILITY
134	1571057162	THE EFFECTS OF BLENDED LEARNING ENVIRONMENT ON UNIVERSITY STUDENTS' CRITICAL THINKING DISPOSITIONS IN COLLEGE ENGLISH COURSE
136	1571060181	THE ROLE OF ASTRONOMY IN EARLY STEM EDUCATION: A CASE STUDY OF PRESCHOOL TEACHER TRAINING PROGRAMS
140	1571062000	EXPLORING THE PERCEPTION AND UNDERSTANDING OF MALAYSIA PUBLIC UNIVERSITY LECTURERS ON CRITICAL THINKING SKILLS IN CHEMISTRY USING FACIONE'S CRITICAL THINKING MODEL
148	1571055678	A CONTENT VALIDITY OF INNOVATIVE BEHAVIOR ASSESSMENT INSTRUMENT
152	1571062731	PEMIKIRAN INOVATIF POSITIF BERTERASKAN INTEGRASI ILMU SPIRITUAL MELALUI MATA PELAJARAN REKA BENTUK DAN TEKNOLOGI
153	1571054926	SPIRITUAL INTEGRITY IN THE DIGITAL REALM: SUFISM AND TECHNOLOGY DILEMMAS
159	1571046035	ENABLERS TO WOMEN CAREER ADVANCEMENT IN ACADEMICS AT MANAGEMENT POSITIONS IN PAKISTANI UNIVERSITIES

176	1571062299	CROSS-CULTURAL IMPACT: HOW KOREAN BEAUTY BRANDS SHAPE CONSUMER PREFERENCES IN INDONESIA
178	1571062335	YOUTH CLIMATE ACTIVISM IN INDONESIA; CONTRIBUTIONS, CHALLENGES AND PROPOSITIONS
179	1571049834	THE FACTORS OF DEFICIENCIES OF IMPORTED MEAT IN MALAYSIA: A PROPOSED MODEL OF HALAL MEAT IMPORTER
185	1571055400	A REVIEW OF MENTORING PROGRAMS FOR NEW FACULTY MEMBERS IN MALAYSIAN HIGHER EDUCATION INSTITUTIONS
198	1571056082	SERVANT LEADERSHIP AND ITS INFLUENCE ON WORK-LIFE BALANCE IN WORK FROM HOME SETTINGS
205	1571061010	COMPULSIVE PORNOGRAPHY BEHAVIOUR AND RELIGIOSITY OF MALAYSIAN TEENAGERS IN JUVENILE REHABILITATION INSTITUTION
211	1571042828	THE ROLE OF EDUCATION ON DIGITAL PAYMENT ACCEPTANCE AMONG AGRICULTURAL SOCIETY IN INDONESIA
216	1571047681	THE ARCHITECTURE, ENGINEERING AND CONSTRUCTION (AEC) COMPANIES' PREFERENCES ON DIGITAL LITERACY AMONG FRESH GRADUATES
222	1571060622	THE ACCURACY OF QIBLA DIRECTION APPLICATIONS USED BY THE PUBLIC
226	1571061977	DIGITAL SURVEILLANCE OF ONLINE SHOPPING FRAUD VICTIMS THROUGH THE FACEBOOK COMMUNITY
228	1571062289	DOES UNIVERSITY EDUCATION MATTERS IN FARMERS RESISTANCE TOWARD DIGITAL PAYMENT? A MULTIGROUP ANALYSIS
235	1571062332	ARTIFICIAL INTELLIGENCE FOR SHAPING ISLAMIC SOCIO-ECONOMIC VALUE
236	1571063625	AN ANALYSIS OF ENGLISH LANGUAGE LEARNING (ELL) WEBSITES: INSIGHTS ON THEIR RELEVANCE AND SUITABILITY
240	1571054158	THE EFFECTS OF RESISTANCE TRAINING ON OVERWEIGHT: A BIBLIOMETRIC ANALYSIS

250	1571055202	THE COMMUNICATION STRATEGY OF CHAHAR CULTURE FROM THE PERSPECTIVE OF INTERCULTURAL COMMUNICATION THEORY
261	1571056725	BEST PRACTICES IN SUPPORTING CAREER TRANSITION FOR STUDENTS WITH SPECIAL NEEDS IN THE 21ST CENTURY: A SYSTEMATIC REVIEW
272	1571061215	TRACKING PREVIOUS STUDIES AND USING CRITICAL METHODS IN ECOFEMINISM STUDY IN ACEH
275	1571061748	APPRAISING THE FUTURE OF ISLAMIC CRIMINAL LAW IN MALAYSIA VIS-À-VIS CONSTITUTIONAL CHALLENGES
277	1571054739	INQUIRY-BASED LEARNING MODEL TO CHANGE MISCONCEPTIONS IN THE TOPIC OF FORCE IN THE MALAYSIAN CONTEXT
283	1571054743	GLOBAL TRENDS AND INFLUENCES IN GREEN CHEMISTRY EDUCATION: A COMPREHENSIVE REVIEW OF CONTRIBUTIONS (2014-2024)
293	1571055169	THE NECESSITY OF IMPLEMENTING THEATRE AND AESTHETIC EDUCATION IN INNER MONGOLIA COLLEGES AND UNIVERSITIES
302	1571055627	BRIDGING THE GAP: UNVEILING BUSINESS ENGLISH NEEDS THROUGH A NEEDS ANALYSIS OF MALAYSIAN POLYTECHNIC STUDENTS
307	1571055942	KEBERKESANAN MODUL PEMBELAJARAN BERBANTUKAN BAHAN MANIPULATIF TERHADAP PENCAPAIAN PELAJAR TINGKATAN SATU BAGI TOPIK UNGKAPAN ALGEBRA
311	1571060945	UNDERSTANDING COOPERATIVE ATTITUDE, BEHAVIOR, AND EFFECTIVENESS OF COOPERATIVE LEARNING: A VALUE-BASED APPROACH
321	1571055007	SEEING THEMSELVES SPEAK: HOW ONLINE VIDEO PEER FEEDBACK TRANSFORMS ORAL PRESENTATIONS
324	1571062646	THE EFFECTIVENESS OF THE RC-SE TEACHING MODULE TOWARDS READING COMPREHENSION AND SELF-EFFICACY FOR LEARNING DISABILITY STUDENT
327	1571046034	INTERNATIONALIZATION OF STUDENT MOBILITY FOR HIGHER EDUCATION MALAYSIA

337	1571054322	COMPARATIVE STUDY ON THE IMPLEMENTATION OF BLENDED ENGLISH TEACHING IN PRIVATE AND PUBLIC UNIVERSITIES IN CHINA
346	1571054882	THE RELATIONSHIP BETWEEN LEVEL OF CREATIVE THINKING AND VISUALIZATION SKILLS AMONG STUDENTS IN THE TECHNICAL AND VOCATIONAL EDUCATION PROGRAM
350	1571054209	TRENDS AND INSIGHTS IN ACADEMIC PROCRASTINATION OF STUDENTS: A BIBLIOMETRIC ANALYSIS
362	1571053118	NOMINAL GROUP TECHNIQUE (NGT) IN THE DEVELOPMENT OF A PHYSICS ORAL QUESTIONING MODEL FOR MATRICULATION COLLEGE TEACHERS
366	1571053722	FROM THEORY TO CLASSROOM: EXAMINING COMMUNICATIVE LANGUAGE TEACHING PRACTICES IN IRAQ
380	1571054215	EMPOWERING STUDENT WITH DRONE: A DDR APPROACH TO EXPANDING THE PHYSICS BODY OF KNOWLEDGE AND ENHANCING STEM EDUCATION
384	1571043502	HANDICRAFT HEROES: TRANSFERRING THE KNOWLEDGE TORCH IN MALAYSIAN CRAFTS, BOHI
394	1571063615	WOMEN'S CANDIDACY AGAINST PATRIARCHY IN POLITICAL PARTIES: CASE OF LOCAL ELECTION 2024
399	1571063692	CANCER MISINFORMATION IN MALAYSIAN CANCER FACEBOOK SUPPORT GROUPS: A NETNOGRAPHIC APPROACH
401	IDS-02	TAHAP PENGETAHUAN DAN PEMAHAMAN TENTANG ASAS DARAH WANITA (HAID DAN ISTIHADHAH) DALAM KALANGAN ORANG AWAM
410	1571046080	CONSTRUCTING CONSERVATION NARRATIVES: A MEDIA ANALYSIS OF GREENING MALAYSIA'S BIODIVERSITY INITIATIVES
413	1571054773	CULTURAL IMMERSION AND LANGUAGE ACQUISITION: AN AUTOETHNOGRAPHIC STUDY OF JAPANESE STUDENTS IN A SUMMER SCHOOL ENGLISH PROGRAMME



**Paper ID:** 1571061131

**Name:** Suzzanna Amir Mohammad, Halimah M. Yusof & Mohd Fazeli Bakar

**Paper Title:** Exploring Coaching Skills Among School Leaders: A Structured Review

**E-mail:** suzanna@graduate.utm.my

## 1. Introduction

The development of coaching skills among school leaders is essential for advancing educational leadership, particularly in Malaysia, where the education system is continually evolving to address the needs of a diverse student population. Effective school leadership has a significant impact on teacher performance, student outcomes, and overall school improvement (Leithwood et al., 2020). Recently, there has been an increased emphasis on the professional development of school leaders, with coaching emerging as a vital approach to enhancing leadership abilities. Coaching involves a collaborative partnership focused on promoting reflective practice, goal setting, and performance improvement through personalized feedback and support (Knight, 2011). In Malaysia, the distinct challenges and opportunities within the education system underscore the importance of school leaders being skilled not only in administrative duties but also in coaching and mentoring their staff (Hallinger & Heck, 2010). A systematic literature review on coaching skills among Malaysian school leaders aims to consolidate existing research, identify gaps, and offer insights into effective practices and frameworks for strengthening leadership development in this context. This review will examine various facets of coaching, including its theoretical foundations, practical applications, and its influence on leadership effectiveness. It will emphasize critical coaching skills for school leaders, such as active listening, questioning techniques, goal setting, and delivering feedback (Grant, 2017). Moreover, the review will evaluate how these skills are being nurtured and supported, considering training programs, policy initiatives, and the role of professional learning communities (PLCs) in fostering continuous improvement (DuFour et al. 2016)). By analysing the existing literature, this review seeks to contribute to the discussion on educational leadership development, providing an overview of current coaching practices, successful strategies, and recommendations for future research and practice. The ultimate aim is to support the growth of school leaders who are equipped with the essential coaching skills needed to lead their schools effectively, inspire their teachers, and sustainably improve student outcomes (Bush, 2020).

## 2. Literature Review

This five-year initiative trained 27 elementary teachers to become Mathematics Specialists in high-need schools. The research focused on their experiences and outcomes, revealing that teachers who embraced cognitively-oriented beliefs showed significant improvements in learner-centered teaching. The study also found variability in coaching practices and identified key themes such as increased confidence, initiative, and advocacy for effective pedagogy (Swars Auslander et al., 2024). Additionally, first-year literacy coaches face challenges when transitioning from classroom teachers, emphasizing the necessity for targeted training in adult learning and communication strategies (Ruesink & Teichert, 2024).

This paper by Carrington et.al (2024) explores how continuous professional development enhances teachers' skills in inclusive education. Interviews with school leaders and teachers from four Australian schools indicated that informal leadership practices are prevalent. The study, guided by Transformative Leadership Theory and the concept of Relatedness, evaluated various learning models, concluding that Relatedness is crucial for effective inclusive education (Carrington et al., 2024). To add to that, a two- year action research study examined a collaborative professional learning and coaching program for school leaders, developed in partnership with a school division. Data from surveys, interviews, and focus groups revealed that sustained, collaborative, and reflective approaches are effective in supporting leadership development, providing valuable insights for continuous professional growth (Thomas et al., 2024).

In Malaysian schools, middle leaders often lack a tailored professional development framework for instructional coaching. This study employed the Nominal Group Technique to develop a framework with input from School Improvement Specialist Coaches Plus (SISC+) and experienced middle leaders. The framework includes key elements such as coaching strategies, content, feedback, and continuous support, which were validated for effective instructional improvement (Rahman et al., 2024). Another study highlighted the critical role of school leaders in implementing evidence-based practices (EBPs) in special education. This study examined their perspectives on facilitators and barriers and evaluated 15 strategies, finding that ongoing consultation or coaching was both important and feasible, while other strategies varied. Enhancing leaders' knowledge in implementation science is essential for the effective application of EBPs (Moore et al., 2024). Coaching capacity is recognized as a crucial component in educational leadership standards, significantly influencing practice and student learning. An urban district in Southern California integrates coaching into its leadership programs, where candidates in a one-year, tuition-free program achieve a 100% pass rate and surpass state averages (Nava et al., 2024).

### 3. Material and methods

#### 3.1 Identification

The systematic review involved three phases: identifying relevant keywords and terms using various resources, developing search strings, and retrieving papers. The process included creating search strings for Scopus and Web of Science, which successfully yielded 160 relevant papers in the first stage of the review.

**TABLE 1 The search strings**

Scopus	(coaching AND skills AND school AND lead) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (PUBSTAGE, "final")) AND (LIMIT-TO (SRCTYPE, "j")) AND (LIMIT-TO (LANGUAGE, "English"))
WoS	coaching AND skills AND school AND lead (Topic) and 2020 or 2021 or 2022 or 2023 or 2024 (Publication Years) and Article (Document Types) and English (Languages)

#### 3.2 Screening

In the initial screening phase, duplicate papers were removed. During this first step, 6 articles were excluded. The second phase involved the screening of 73 articles using a set of inclusion and exclusion criteria established by the researchers. The primary criterion for inclusion was research articles, as they provide the most practical information. Other publication types, such as systematic reviews, reviews, meta-analyses, meta-syntheses, book series, books, and chapters, were excluded from the study. Additionally, the review focused exclusively on papers written in English. It's worth noting that the study covered a five-year timeframe from 2020 to 2024. In total, 87 publications were excluded based on these specific criteria.

### 3.3 Eligibility

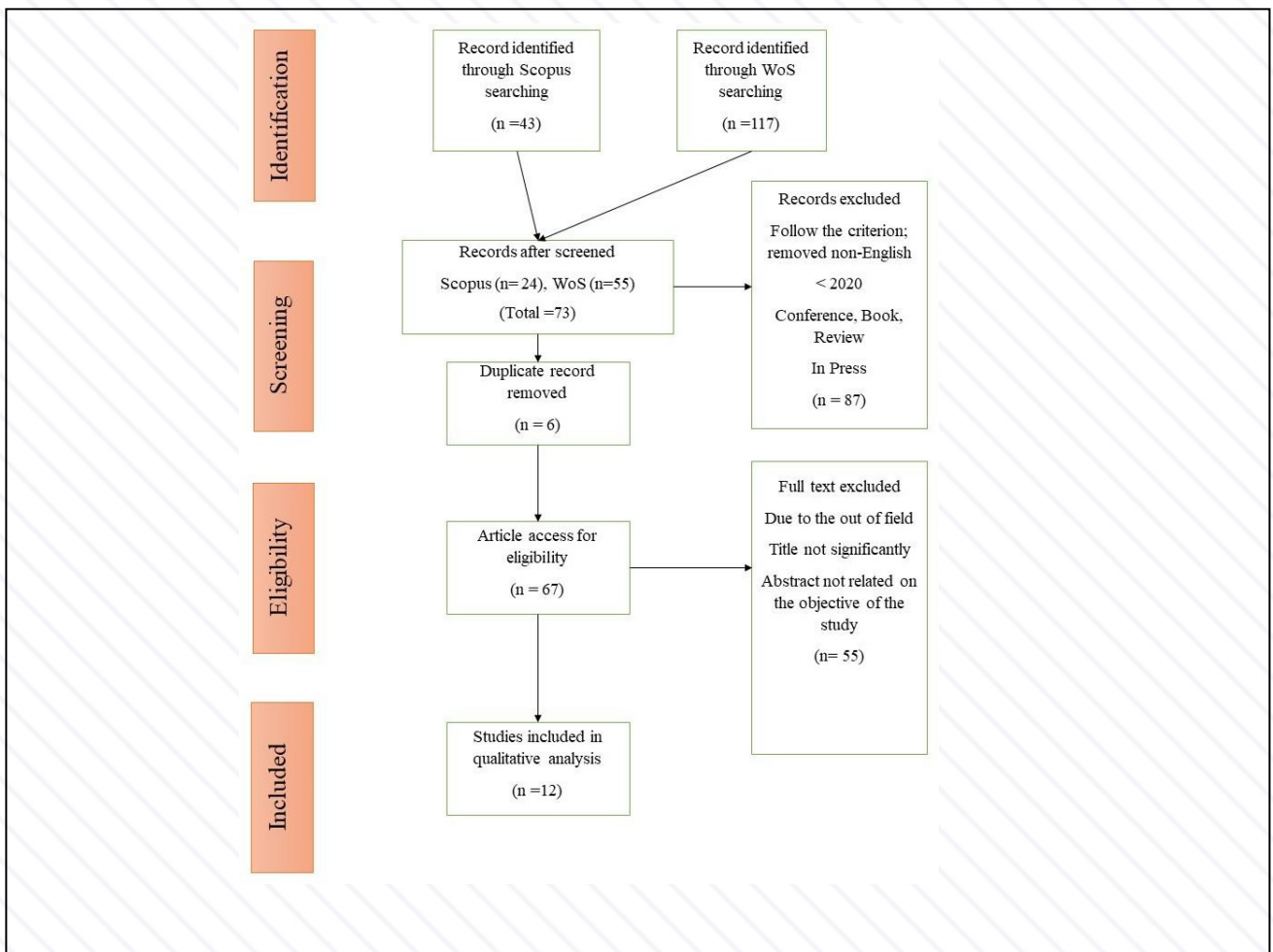
For the third step, known as eligibility, a total of 67 articles have been prepared. All articles' titles and key content were thoroughly reviewed at this stage to ensure that the inclusion requirements were fulfilled and fit into the present study with the current research aims. Therefore, 55 reports were omitted because they were not due to the out of field, title not significantly and abstract not related on the objective of the study. Finally, 12 articles are available for review (see Table 2).

**TABLE 2 The selection criterion is searching**

<b>Criterion</b>	<b>Inclusion</b>	<b>Exclusion</b>
Language	English	Non-English
Time line	2020 - 2024	< 2020
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press

### 3.4 Data Abstraction and Analysis

An integrative analysis was used as one of the assessment strategies in this study to examine and synthesise a variety of research designs (quantitative, qualitative, and mixed methods). The goal of the competent study was to identify relevant topics and subtopics. The stage of data collection was the first step in the development of the theme. Figure 2 shows how the authors meticulously analysed a compilation of 15 publications for assertions or material relevant to the topics of the current study. The authors then evaluated the current significant studies related to coaching skills and school leaders. The methodology used in all studies, as well as the research results, are being investigated. Next, the author collaborated with other co-authors to develop themes based on the evidence in this study's context. A log was kept throughout the data analysis process to record any analyses, viewpoints, riddles, or other thoughts relevant to the data interpretation. Finally, the authors compared the results to see if there were any inconsistencies in the theme design process. It is worth noting that, if there are any disagreements between the concepts, the authors discuss them amongst themselves. The produced themes were eventually tweaked to ensure consistency. The analysis selection was carried out by two experts, one in leadership (Halimah Mohd Yusof—expert in leadership and training), and the other, in coaching (Mohd Fazeli bin Bakar—School Specialist Coach) in determine the validity of the problems. The expert review phase ensures the clarity, importance, and suitability of each subtheme by establishing the domain.



**FIGURE 1.** Flow diagram of the proposed searching study (Moher D, Liberati A, Tetzlaff J, 2009)

#### 4 Result and Finding

**TABLE 3 The research article findings based on the proposed searching criterion**

##### **Theme 1: Development and Implementation of Leadership Coaching**

<b>Authors</b>	<b>Title</b>	<b>Journal</b>	<b>Methodology</b>	<b>Advantages and Findings</b>
Butler (2024)	Building a Coaching Culture in Irish Schools; Challenges and Opportunities : AMixed-Methods Study	Societies	Since 2015, Irish schools have embraced coaching as a leadership style. This study used surveys and interviews to explore the challenges and opportunities in developing a coaching culture in schools.	Results show leadership coaching boosts reflective practice, distributed leadership, and well-being among educators. Challenges include time constraints. Building a coaching culture in Irish schools requires support and continuous professional development.
Huggins etal. (2021)	Facilitating Leadership Coach Capacity for School Leadership Development: The Intersection of Structured Community and Experiential Learning	Educational Administration Quarterly	This article explores how experienced school leaders can develop coaching skills to aid less-experienced leaders, using two years of data from observations, interviews, and coaching sessions.	Combining structured learning with experiential opportunities boosts leadership coaching capacity. This study aids in supporting school leaders' development and highlights the need for

				further research on coaching for leadership supervisors.
Rodríguez et al. (2023)	Coach as youth development specialist: developing a TPSR-based coach training program and examining participants' experiences	Physical Education and Sport Pedagogy	Effective youth sport coaching develops personal, social, and athletic skills. This study tested the Coach as a Youth Development Specialist (CAYDS) program, expanding from five to seven modules, and found it enhanced coaches' skills.	Findings show andragogical approaches helped coaches develop interpersonal, intrapersonal, and professional skills. Positive community interactions and role-play increased self-awareness and motivation, aligning with TPSR values, and improved fundamental movement instruction.
Thompson, (2023)	Teachers' perceptions of the influence of leaders' behaviours on school culture: Exploring paradigm RePaDO	Power and Education	This study examines Jamaican primary teachers' views on principals' leadership, including recognition and	The study recommends adding executive coaching and periodic discussions for principals, along with confidential 360-degree

			decision-making. Teachers value these aspects but feel their contributions are often overlooked, despite principals' crucial role.	reviews, to enhance their role in shaping school culture and leadership growth.
Blazar(2020)	Teacher Coaching to Improve Instruction at Scale: Opportunities and Challenges in Policy Contexts	Teachers College Record	Teacher coaching, effective in enhancing instruction and outcomes, faces challenges from policy and organizational issues. This study explores these roles and suggests areas for further research.	More research on effective teacher coaching is needed, focusing on coaches' skills and dispositions to enhance instruction while navigating school and district policies.

## Theme 2: Impact of Coaching on Professional and Personal Development

Authors	Title	Journal	Methodology	Advantages and Findings
Fitzgerald et al. (2021)	The ACLGIM LEAD Program: a Leadership Program for Junior-Mid-Career Faculty	Journal of General Internal Medicine	Junior and mid-career medical faculty often assume leadership roles without formal training. A program with annual meetings, online learning, and leadership coaching was created for them, involving 79 participants from 2014 to 2018.	Post-program evaluations showed that the LEAD program effectively improved participants' understanding of leadership (93%), reflection (90%), and application of leadership principles

				(88%), while also helping build a network.
Doyle et al. (2023)	Testing the integration of a teacher coaching model and a social- emotional learning and literacy intervention in urban elementary schools	Teaching and Teacher Education	Teachers often struggle with SEL training, affecting implementation. This study tested if combining the 4Rs curriculum with the MyTeachingPartner (MTP) coaching model improves SEL and academic outcomes in 91 classrooms.	In summary, classrooms using both 4Rs and MTP exhibited notably reduced hostile attribution bias and less aggressive negotiation strategies, along with improved attendance rates and enhanced academic skills as reported by teachers.
Rodríguez et al. (2023)	Coach as youth development specialist: developing a TPSR-based coach training program and examining participants'	Physical Education and Sport Pedagogy	Effective youth sports coaching requires balancing personal, social, and athletic skill development.  This study evaluated the Coach as a Youth Development Specialist (CAYDS) program, finding it improved coaches' skills and youth development.	This study supports andragogical methods that improve coaches' skills and self-awareness. Activities like outreach and role-play were impactful. The CAYDS framework effectively aids coaches and shows promise for high-performance youth sports.



### Theme 3: Research Approaches and Insights in Coaching Studies

Authors	Title	Journal	Methodology	Advantages and Findings
Cohen et al., (2024)	Experimental Evidence on the Robustness of Coaching Supports in Teacher Education	Educational Researcher	New teachers often learn on the job, causing burnout and poor outcomes. This paper evaluates a mixed-reality coaching model to improve teacher readiness and preparation through individualized coaching.	Brief, focused coaching improves instructional performance in simulations but is less effective for those not in formal programs. Supplementary coursework may be needed, emphasizing the value of targeted teacher preparation.
Reddy (2023)	Advancing the science of coaching in education: An introduction to the special issue	Journal of School Psychology	This article reviews four key studies on school-based coaching, highlighting its impact on staff, student outcomes, and practices. Studies cover coaching components, motivational interviewing, and behavior support coaching.	The article summarizes common themes, suggests future research directions, and includes a commentary on how school consultation research has shaped coaching research, offering recommendations for applying findings in practice.

Molaei (2022)	Toward Semiotic Coaching (Paris School): Change and Transformation	Language Related Research	This research examines how the Semiotics of Discourse can frame coaching as an academic discipline. Using Fontanille's methods and "Khodnavardi," it integrates coaching into transdisciplinary studies.	This study aims to localize coaching in Iran by linking it with Semiotics of Discourse and introducing "Khodnavardi." The "Semiotic Coaching" model connects with diverse fields and coaching types, fostering growth.
Huggins et al., (2021)	Facilitating Leadership Coach Capacity for School Leadership Development: The Intersection of Structured Community And Experiential Learning	Educational Administration Quarterly	This article examines how experienced school leaders can improve their coaching skills to support less-experienced colleagues. Using a two-year study with observations and interviews, it evaluates the effectiveness of leadership coaching.	The study finds that structured community learning and hands-on experience boost leadership coaching capacity, adding to research on school leadership. Results guide educational organizations and suggest further research for improving coaching.

## 5 Discussion and Conclusion

Findings reveal several key challenges in developing coaching skills among school leaders, including the difficulty of facilitating hands-on and interactive coaching sessions, varied interpretations based on different leadership experiences, challenges in applying practical coaching techniques, and technical issues during virtual coaching sessions. These issues highlight the need for tailored approaches to coaching that address diverse backgrounds and learning styles while ensuring effective delivery of practical skills and overcoming technical obstacles.

The following conclusions were obtained;

### ***Theme 1: Development and Implementation of Leadership Coaching***

Leadership coaching in educational settings faces several issues and challenges. A major issue is the lack of understanding and familiarity with coaching as a leadership style. School leaders often struggle with time constraints and heavy workloads, making it difficult to integrate coaching practices. Creating a coaching culture within schools is essential but challenging. Continuous professional development and education on coaching principles are crucial for effective implementation. Additionally, navigating organizational factors and policy contexts can impede coaching efforts, as seen in research highlighting the need for support services, structured learning, and understanding conditions that drive effective coaching.

### ***Theme 2: Impact of Coaching on Professional and Personal Development***

Leadership coaching in educational settings presents several challenges. Balancing the dual role of coaches in developing both personal/social and athletic skills is complex. Ensuring leadership development programs are accessible and relevant to participants is critical for success. Integrating coaching with other educational interventions maximizes impact but can be difficult to manage. Motivating coaches and leaders to engage in continuous personal and professional growth requires consistent effort and effective strategies. Addressing these issues is essential for creating effective coaching programs that foster comprehensive development in educational settings.

### ***Theme 3: Research Approaches and Insights in Coaching Studies***

Leadership coaching in educational settings faces several issues. Combining coaching with formal education to enhance its effectiveness is crucial. Developing innovative frameworks to conceptualize coaching and its impact is necessary for advancing the field. Identifying and understanding the specific components that make coaching effective can guide better practices. Designing scalable coaching programs that can be implemented in diverse educational contexts ensures broader applicability. Interdisciplinary approaches to coaching research can enrich both its theoretical and practical applications. Addressing these challenges is essential for the successful integration of coaching in educational environments.

In conclusion, Effective educational leadership coaching must address key challenges like understanding coaching practices, managing time constraints, fostering a coaching culture, and integrating with other interventions, while combining coaching with formal education and scalable frameworks.

### **Funding Statement**

This work was not supported by any given body.

### **Conflicts of Interest**

The authors declare that they have no conflicts of interest to report regarding the present study.

## References

- Blazar, D. (2020). Teacher Coaching to Improve Instruction at Scale: Opportunities and Challenges in Policy Contexts. *TEACHERS COLLEGE RECORD*, 122(10).
- Bush, T. (2020). Bush theories of educational leadership (p. 220).  
[https://books.google.com/books?hl=en&lr=&id=1Fc81Sd1XBYC&oi=fnd&pg=PR9&dq=educational+management+and+leadership&ots=BHiCYSbiU9&sig=zIthHT\\_Qy67RLn8qIDirGHNKw8w#v=onepage&q=educational+management+and+leadership&f=true](https://books.google.com/books?hl=en&lr=&id=1Fc81Sd1XBYC&oi=fnd&pg=PR9&dq=educational+management+and+leadership&ots=BHiCYSbiU9&sig=zIthHT_Qy67RLn8qIDirGHNKw8w#v=onepage&q=educational+management+and+leadership&f=true)
- Butler, P. (2024). Building a Coaching Culture in Irish Schools; Challenges and Opportunities: A Mixed-Methods Study. *Societies*, 14(1). <https://doi.org/10.3390/soc14010010>
- Carrington, S., Park, E., McKay, L., Siggers, B., Harper-Hill, K., & Somerwil, T. (2024). Evidence of transformative leadership for inclusive practice. *Teaching and Teacher Education*, 141. <https://doi.org/10.1016/j.tate.2023.104466>
- Cohen, J., Wong, V. C., Krishnamachari, A., & Erickson, S. (2024). Experimental Evidence on the Robustness of Coaching Supports in Teacher Education. *EDUCATIONAL RESEARCHER*, 53(1), 19-35. <https://doi.org/10.3102/0013189X231198827>
- Doyle, N. B., Gomez Varon, J. A., Downer, J. T., & Brown, J. L. (2023). Testing the integration of a teacher coaching model and a social-emotional learning and literacy intervention in urban elementary schools. *Teaching and Teacher Education*, 132. <https://doi.org/10.1016/j.tate.2023.104232>
- Fitzgerald, A. S., Fang, M., Lee, R. S., Gann, J., & Burnet, D. L. (2021). The ACLGIM LEAD Program: a Leadership Program for Junior-Mid-Career Faculty. *Journal of General Internal Medicine*, 36(8), 2443-2447. <https://doi.org/10.1007/s11606-021-06918-y>
- Grant, A. M. (2017). The third 'generation' of workplace coaching: creating a culture of quality conversations. *Coaching*, 10(1), 37-53. <https://doi.org/10.1080/17521882.2016.1266005>
- Hallinger, P., & Heck, R. H. (2010). Collaborative leadership and school improvement: Understanding the impact on school capacity and student learning. *School Leadership and Management*, 30(2), 95-110. <https://doi.org/10.1080/13632431003663214>
- HoDuFour, R., DuFour, R., Eaker, R., & Many, T. (2016). Learning by Doing. In Solution Tree Press. <https://doi.org/10.1016/B978-0-12-375678-7.01110-X>
- Huggins, K. S., Klar, H. W., & Andreoli, P. M. (2021). Facilitating Leadership Coach Capacity for School Leadership Development: The Intersection of Structured Community and Experiential Learning. *Educational Administration Quarterly*, 57(1), 82-112. <https://doi.org/10.1177/0013161X20915948>
- Knight, J. (2011). What Good Coaches Do: When coaches and teachers interact equally as partners, good things happen. *Educational Leadership*, 69(2), 18-22. [http://www.ascd.org/publications/educationalleadership/oct11/vol69/num02/abstract.aspx#What\\_Good\\_Coaches\\_Do](http://www.ascd.org/publications/educationalleadership/oct11/vol69/num02/abstract.aspx#What_Good_Coaches_Do)
- Leithwood, K., Harris, A., & Hopkins, D. (2020). Seven strong claims about successful school l

- leadership revisited. *School Leadership and Management*, 40(1), 5-22. <https://doi.org/10.1080/13632434.2019.1596077>
- Molaei, L. (2022). Toward Semiotic Coaching (Paris School): Change and Transformation. *Language Related Research*, 12(6), 661-705. <https://doi.org/10.52547/LRR.12.6.21>
- Moore, S. A., Sridhar, A., Taormina, I., Rajadhyaksha, M., & Azad, G. (2024). The perspective of school leaders on the implementation of evidence-based practices: A mixed methods study. *Implementation Research and Practice*, 5. <https://doi.org/10.1177/26334895231220279>
- Nava, M., Estrada, D., Rodriguez, J., Kim, D., Chou, L. L., & Gamba, J. (2024). Building coaching capacity within aspiring school leaders. In *Pursuing Equity and Success for Marginalized Educational Leaders* (pp. 1-16). <https://doi.org/10.4018/979-8-3693-1009-0.ch001>
- Rahman, N. R. A., Abdullah, Z., Kenayathulla, H. B., & Gurusamy, T. (2024). DETERMINING THE KEY ELEMENTS OF INSTRUCTIONAL COACHING STRATEGIES FOR PROFESSIONAL DEVELOPMENT FRAMEWORK OF MIDDLE LEADERS IN MALAYSIAN SCHOOLS VIA NOMINAL GROUP TECHNIQUE (NGT). *Malaysian Online Journal of Educational Management*, 12(1), 17-28. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85183834918&partnerID=40&md5=82110db1cc1d42348b9d52afce95f9ea>
- Reddy, L. A. (2023). Advancing the science of coaching in education: An introduction to the special issue. *Journal of School Psychology*, 96, 36-40. <https://doi.org/10.1016/j.jsp.2022.10.003>
- Rodríguez, F. I. E., Falcao, W. R., & Mccarthy, J. (2023). Coach as youth development specialist: developing a TPSR-based coach training program and examining participants' experiences. *PHYSICAL EDUCATION AND SPORT PEDAGOGY*. <https://doi.org/10.1080/17408989.2023.2281910>
- Ruesink, L., & Teichert, L. (2024). From Teacher to Literacy Coach: Negotiating Roles and Learning on the Job. *Reading Teacher*, 77(5), 624-631. <https://doi.org/10.1002/trtr.2275>
- Swars Auslander, S., Bingham, G. E., Tanguay, C. L., & Fuentes, D. S. (2024). Developing elementary mathematics specialists as teacher leaders during a preparation program. *Journal of Mathematics Teacher Education*, 27(4), 665-689. <https://doi.org/10.1007/s10857-023-09582-7>
- Thomas, C., Koehn, J., & Turner, J. (2024). Promising Practices for Leadership Development: Exploring a Collaborative Professional Learning and Coaching Program. *Canadian Journal of Educational Administration and Policy*, 204, 88-103. <https://doi.org/10.7202/1111527ar>
- Thompson, C. S. (2023). Teachers' perceptions of the influence of leaders' behaviours on school culture: Exploring paradigm RePaDO. *POWER AND EDUCATION*. <https://doi.org/10.1177/17577438231200083>

**Paper ID:** 1571052111

**Name:** Yixin Jiang & Farhana Bakar

**Paper Title:** Classroom Challenges Influencing Teachers' Code-Switching Practices in Chinese University English Proficiency Classes

**E-mail:** jiangyixin@graduate.utm.my

## Introduction

Teachers' code-switching usually occurs in English as a Foreign Language (EFL) classrooms. Teachers' code-switching refers to alternating between English and students' first language (L1) to facilitate classroom interaction and enhance students' English proficiency (Lin, 2013). In various EFL settings, despite the emphasis on maximising English use, teachers often employ code-switching. This practice is used to overcome classroom challenges that hinder full participation in English-medium instruction, stemming from difficulties faced by both teachers and students (Leoanak & Amalo, 2018). Investigating these classroom challenges helps teachers understand the language, pedagogical and communicative needs of themselves and their students, allowing teachers to modify their code-switching practices more effectively to achieve the teaching objectives (Liu et al., 2004).

In Chinese university English proficiency classes, teachers rely on personal experience and intuition to alternate between English and Mandarin (students' L1), despite the English curriculum advocating extensive English use to foster students' language acquisition, effective communication, and critical thinking skills (National College Foreign Language Teaching Advisory Board, 2020). This reliance is due to the lack of clear guidance and training on practical language use in the curriculum (Teo, 2017). Teachers, consequently, engage in improper code-switching practices to solve classroom challenges, which may not fully support the curriculum's goals (Du, 2016). Hence, understanding these challenges that trigger teachers to code-switch is essential for aligning these practices with the curriculum's aims. To date, few studies (e.g., Liu, 2010; Zhang & Chan, 2022) focused on classroom challenges on codeswitching practices and these studies primarily concerned students' language and social

challenges. However, the classroom challenges faced by teachers that influence their codeswitching practices remain unclear. Recognising teachers' significant role in facilitating learning and implementing the English curriculum (Teo, 2017), this study explores classroom challenges both teachers and students encounter that influence teachers' practices on codeswitching in the English proficiency classes.

## Objective

This study aims to explore the specific classroom challenges encountered by teachers and students that influence teachers' code-switching between English and Mandarin in English proficiency classes at the university level in mainland China. The objectives in this study are:

- To investigate the language and social challenges faced by students that trigger teachers' code-switching in Chinese university English proficiency classes
- To explore the language and social challenges teachers encounter that influence their code-switching in university English proficiency classes in mainland China

## Methods

This study used qualitative approaches. According to Creswell (2012), qualitative methodology can obtain a profound investigation of phenomena that occur naturally in a social context. In other words, it can be used to provide a deep understanding of the classroom challenges teachers and students encounter, influencing teachers' code-switching practices in an actual learning environment.

The research context is located in a private university at the undergraduate level in mainland China. In this university, English proficiency classes are compulsory courses for non-English major students for four semesters. Each lesson lasts 90 minutes with a five-minute break time. Each class consists of approximately 50 students.

Twelve well-experienced English teachers participated in this study. The teachers were selected by purposeful sampling (Creswell, 2012). The selection was based on the following requirements: 1) they have high levels of English proficiency; 2) they hold at least a master's degree in relevant English and English teaching majors; and 3) they have at least three years teaching experience with the qualification for English teaching at university level.

The one-on-one interviews with teachers were conducted with semi-structured questions (Dornyei, 2007). Each interview lasted between 40 to 60 minutes. During interview sessions, the teachers were allowed to answer the questions in Mandarin and English. Meanwhile, a micoaudio recording was used to ensure high-quality audio recording.

This study used King and Horrocks (2018)'s thematic analysis framework to transcribe and analyse the data. The main researcher followed three steps: 1) descriptive coding to highlight and describe codes related to classroom challenges; 2) interpretive coding, such as identifying an interpretive code--students' linguistic barriers in English language acquisition; and 3) defining overarching themes. Both researchers in this study reviewed all codes and themes to ensure they accurately represented the data's meaning.

## Results and Discussion

This study explored the language and social challenges both teachers and students encountered that influenced teachers' practices on code-switching in English proficiency classes at the university level in mainland China. These challenges include students' language acquisition difficulties, classroom communication barriers, teachers' English proficiency concerns, and their teaching efficiency issues.

### a) Students' inadequate vocabulary mastery

Four teachers highlighted students' inadequate vocabulary mastery impeding the language acquisition. To overcome this challenge, teachers switched the codes from English to Mandarin for clear explanations. For example, Xia commented that "*Tāmen de cihui liang bu tai gou* (Their vocabulary is limited.)". This barrier influenced Xia to exchange the languages from English to Mandarin for translation in the reading classes.

This finding was reported by previous research (e.g., Grant & Nguye, 2017; Bhatti et al., 2018). These similar findings suggest that teachers' code-switching practices can play an immediate and effective role to facilitate students' comprehension of the unfamiliar vocabulary.

#### b) Students' anxiety in expressing themselves during classroom interaction

Six teachers emphasised English expression anxiety among the students during classroom interaction in the interviews. Yue said that: “*Yǒuxiē xiǎopengyǒu jiùshì bugǎn shuō* (Some students do not have enough courage to talk)”. This challenge influenced her to use code-switching to alleviate students' anxiety of expressing in the classrooms. This finding is consistent with data obtained in previous research (e.g., Narasuman et al., 2019; Johansson, 2014). This consistent finding may be due to students' lack of confidence and their fear of making errors when speaking in public.

#### c) Teachers' temporary block in English language use

Teachers' temporary block in English language use was identified as the key theme of teachers' language obstacles in lessons and classrooms interaction. Commenting on the use of code-switching, Yu said: “*zhège huati yǒu mǒu yīge dānci, wǒ zìjǐ yě meiyǒu xiǎngqǐ zhège dānci shì zěnmē jiǎng.*” (I forgot how to say certain words in English when discussing this topic.). This finding supports Khresheh (2012), who similarly found that some teachers struggled with fluently expressing complex or unfamiliar topics in English. It suggests that non-native English proficiency may affect teachers' ability to effectively convey certain native concepts.

#### d) Teachers' decreased teaching efficiency under time constraints

During the interviews, six teachers reported their decreased teaching efficiency under time constraints as an instructional challenge. For instance, Wang commented that “*Tāmen huì zhānyòng hěnduō de sīkǎo hé zhuǎnhuà shíjiān, zhèyàng huì tuō mǎn zhěngge kètāng de jīndù* (Students take up a lot of time for translation and thinking, which slow down the teaching progress.)”, when he used extensive English. Facing this issue, he employed code-switching as a strategy to save time. This finding is in line with previous studies (e.g., Köylü, 2018; Zainil & Arsyad, 2021), highlighting teachers' diminished teaching effectiveness due to limited instructional time as a factor for teachers' code-switching. This suggests that teaching guidance is needed to help teachers manage time more effectively, as code-switching, despite its effectiveness in the short term, may not ensure the sustainability of teaching goals over the long term.

### **Conclusion/Implications for Research/Policy**

The current study aimed to investigate the specific classroom challenges teachers and students encounter influencing teachers' code-switching practices between English and Mandarin in university-level English proficiency classes in mainland China. Twelve teachers in one Chinese university were interviewed for the purpose of this study. Analysis of the transcriptions through thematic analysis identified four key challenges: students' language acquisition difficulties, social engagement barriers, teachers' English proficiency concerns, and their classroom management issues. These challenges impede effective English acquisition and classroom interaction, resulting in teachers' code-switching to achieve the language, pedagogical and communicative goals. These findings provide insights on the classroom challenges from teachers' perspectives, influence teachers' code-switching practices in Chinese higher education EFL classrooms. For further research, it is recommended to expand the scope of the study with different research methods and contexts to include diverse EFL teaching and learning settings.



**CLASSROOM CHALLENGES INFLUENCING TEACHERS' CODE-SWITCHING PRACTICES IN CHINESE UNIVERSITY ENGLISH PROFICIENCY CLASSES**



**Introduction**

Teachers' code-switching usually occurs in English as a Foreign Language (EFL) classrooms. Teachers' code-switching refers to alternating between English and students' first language (L1) to facilitate classroom interaction and enhance students' English proficiency (Lin, 2013). In various EFL settings, despite the emphasis on maintaining English use, teachers often employ code-switching. This practice is used to overcome classroom challenges that hinder full participation in English-medium instruction, stemming from difficulties faced by both teachers and students (Loomis & Anadol, 2018). Investigating these classroom challenges helps teachers understand the language, pedagogical and communicative needs of themselves and their students, allowing teachers to modify their code-switching practices more effectively to achieve the teaching objectives (Liu et al., 2004).

In Chinese university English proficiency classes, teachers rely on personal experience and intuition to alternate between English and Mandarin students' L1, despite the English curriculum advocating extensive English use to foster students' language acquisition, effective communication, and critical thinking skills (National College Foreign Language Teaching Advisory Board, 2020). This reliance is due to the lack of clear guidance and training on practical language use in the curriculum (Tao, 2017). Teachers, consequently, engage in improper code-switching practices to solve classroom challenges, which may not fully support the curriculum's goals (Du, 2016). Hence, understanding these challenges that trigger teachers to code-switch is essential for adapting these practices with the curriculum's aims. To date, few studies (e.g., Liu, 2010; Zhang & Chen, 2022) focused on classroom challenges on code-switching practices and these studies primarily concerned students' language and social

1

challenges. However, the classroom challenges faced by teachers that influence their code-switching practices remain unclear. Recognizing teachers' significant role in facilitating learning and implementing the English curriculum (Tao, 2017), this study explores classroom challenges both teachers and students encounter that influence teachers' practices on code-switching in the English-proficiency classes.

**Objective**

This study aims to explore the specific classroom challenges encountered by teachers and students that influence teachers' code-switching between English and Mandarin in English proficiency classes at the university level in mainland China. The objectives in this study are:

- To investigate the language and social challenges faced by students that trigger teachers' code-switching in Chinese university English proficiency classes
- To explore the language and social challenges teachers encounter that influence their code-switching in university English proficiency classes in mainland China

**Methods**

This study used qualitative approaches. According to Creswell (2012), qualitative methodology can obtain a profound investigation of phenomena that occur naturally in a social context. In other words, it can be used to provide a deep understanding of the classroom challenges teachers and students encounter, influencing teachers' code-switching practices in an actual learning environment.

The research context is located in a private university at the undergraduate level in mainland China. In this university, English proficiency classes are compulsory courses for non-English major students for four semesters. Each lesson lasts 90 minutes with a five-minute break time. Each class consists of approximately 50 students.

2

Twelve well-experienced English teachers participated in this study. The teachers were selected by purposive sampling (Creswell, 2012). The selection was based on the following requirements: 1) they have high levels of English proficiency; 2) they hold at least a master's degree in relevant English and English teaching majors; and 3) they have at least three years' teaching experience with the qualification for English teaching at universities level.

The one-on-one interviews with teachers were conducted with semi-structured questions (Oring, 2007). Each interview lasted between 40 to 60 minutes. During interview sessions, the teachers were allowed to answer the questions in Mandarin and English. Meanwhile, a audio recording was used to ensure high-quality audio recording.

This study used King and Horrocks (2018)'s thematic analysis framework to transcribe and analyse the data. The main researcher followed three steps: 1) descriptive coding to highlight and describe the codes related to classroom challenges; 2) interpretive coding, such as identifying an interpretive code—students' linguistic barriers in English language acquisition; and 3) defining overarching themes. Both researchers in this study reviewed all codes and themes to ensure they accurately represent the data's meaning.

**Results and Discussion**

This study explored the language and social challenges both teachers and students encountered that influenced teachers' practices on code-switching in English proficiency classes at the university level in mainland China. These challenges include students' language acquisition difficulties, classroom communication barriers, teachers' English proficiency concerns, and their teaching efficiency issues.

a) **Students' inadequate vocabulary mastery**

Four teachers highlighted students' inadequate vocabulary mastery impeding the language acquisition. To overcome this challenge, teachers switched the codes from English to Mandarin for clear explanations. For example, Xia commented that "English (what I like to do) is not good (their vocabulary is limited)". This barrier influenced Xia to exchange the languages from English to Mandarin for translation in the reading classes.

3

This finding was reported by previous research (e.g., Grant & Njoku, 2017; Bharti et al., 2018). These similar findings suggest that teachers' code-switching practices can play an immediate and effective role to facilitate students' comprehension of the unfamiliar vocabulary.

b) **Students' anxiety in expressing themselves during classroom interaction**

Six teachers emphasised English expression anxiety among the students during classroom interaction in the interviews. Yao said that "I have had many students who do not talk. Some students do not have enough courage to talk". This challenge influenced her to use code-switching to alleviate students' anxiety of expressing in the classrooms. This finding is consistent with data obtained in previous research (e.g., Narasimam et al., 2019; Johnson, 2014). This consistent finding may be due to students' lack of confidence and their fear of making errors when speaking in public.

c) **Teachers' temporary block in English language use**

Teachers' temporary block in English language use was identified as the key theme of teachers' language obstacles in lessons and classrooms in the interviews. Commenting on the use of code-switching, Yu said: "I hope to talk with my class, but I can't speak in English (I hope to talk) but I can't speak". "I forgot how to say certain words in English when discussing this topic." This finding supports Khrebech (2012), who similarly found that some teachers struggled with fluently expressing complex or unfamiliar topics in English. It suggests that non-native English proficiency may affect teachers' ability to effectively convey certain native concepts.

d) **Teachers' decreased teaching efficiency under time constraints**

During the interviews, six teachers reported their decreased teaching efficiency under time constraints as an instructional challenge. For instance, Wang commented that "I cannot find a better way to explain the difficult to understand English (I cannot find a better way to explain the difficult to understand English). I have to use English (I have to use English) to explain the difficult to understand English (I have to use English) to explain the difficult to understand English". This finding suggests that teachers' time constraints may lead to decreased teaching efficiency. Wang said that "I have to use English (I have to use English) to explain the difficult to understand English (I have to use English) to explain the difficult to understand English". This finding suggests that teachers' time constraints may lead to decreased teaching efficiency.

4

with previous studies (e.g., Kiyoh, 2018; Zamil & Anjad, 2021). Highlighting teachers' diminished teaching effectiveness due to limited instructional time as a factor for teachers' code-switching. This suggests that teaching guidelines is needed to help teachers manage time more effectively, as code-switching, despite its effectiveness in the short term, may not ensure the sustainability of teaching goals over the long term.

**Conclusion/Implications for Research Policy**

The current study aimed to investigate the specific classroom challenges teachers and students encounter influencing teachers' code-switching practices between English and Mandarin in university-level English proficiency classes in mainland China. Twelve teachers in one Chinese university were interviewed for the purpose of this study. Analysis of the transcription through thematic analysis identified four key challenges: students' language acquisition difficulties, social engagement barriers, teachers' English proficiency concerns, and their classroom management issues. These challenges impede effective English acquisition and classroom interaction, resulting in teachers' code-switching to achieve the language, pedagogical and communicative goals. These findings provide insights on the classroom challenges from teachers' perspectives, influence teachers' code-switching practices in Chinese higher education EFL classrooms. For further research, it is recommended to expand the scope of the study with different research methods and contexts to include diverse EFL teaching and learning settings.

**Keywords:** classroom code-switching, classroom challenges, university EFL classrooms, mainland China

5

**extended abstract**

**ORIGINALITY REPORT**



**PRIMARY SOURCES**



Exclude quotes Off  
Exclude bibliography On  
Exclude matches Off

**Paper ID:** 1571052515

**Name:** Aimi Ruzaini Ahmad, Dayana Farzeeha Ali, Nuruljannah Abd Wahab, Nurulain Kamaruzaman & Nur Fadzilah Othman

**Paper Title:** Exploring Learning Theory Usage in Web-Based Learning: A Comprehensive Literature Review

**E-mail:** aimi0806@gmail.com

## Introduction

Nowadays, the information technology in education has shifted to digital learning. Web-based learning is a digital learning platform that can increase student productivity as it has elements of flexibility that can be implemented without limitations (Ahmad & Ali, 2022). It is a dynamic field that has evolved with technological advances and pedagogical research (Alkamel et al., 2018; MacDonald et al., 2001; Roberts, 2020). Its versatility and adaptability make it a valuable tool for address educational challenges and opportunities in the digital age. Web-based learning also known as online learning or e-learning is an educational approach that uses the Internet and digital technology to deliver educational content and facilitate the learning experience (Fauzi et al., 2018; Hoq, 2020; Zehry et al., 2011). It allows students to access educational materials, resources and activities through web-based platforms (Tangirov et al., 2021). The success of web-based learning is influenced by the pedagogical model, which supports its design and implementation. This model is based on several key learning theories that inform the structuring of online environments to optimise educational outcomes. For example, cognitive theory is related to students' understanding of internal mental processes (Alahmad, 2020). Constructivism theory related to students builds knowledge through experience and reflection (Matriano, 2020). Connectivism Theory is relevant in the digital era and supports the role of social technology in the learning process (Mampota et al., 2023).

## Objective

The aim of this study is to explore the utilization of learning theories in web-based learning. It is known for providing helpful observations on how to maximise educational results and improve student engagement.

## Methods and Instruments

The methodology of this literature review involved articles published between 2020 and 2024 (5 years). The Scopus and Google Scholar databases were used. To ensure a focus on the literature, searches were limited to research articles. Conference papers, book chapters, and review articles were excluded. The keywords search used is "web-based learning" and synonym of web-based learning are "e-learning", "learning management system" and "flipped classroom" to identify the article related to studies in web-based learning.

## Results and Discussion

Exploration of learning theories in web-based learning is comprehensive and diverse (Emadi, 2023). This study outlines the theoretical foundation of web-based learning and its impact on learning dynamics. The results highlight the prevalence and application of various learning theories in web-based learning derived from the analysis. This analysis revealed a dominant focus on Social Cognitive Theory with 52% of the reviewed studies. This emphasis indicates a strong interest in exploring how social behaviour and cognitive processes interact in learning environments, particularly in online settings. Furthermore, Constructivist Learning Theory, which emphasises the active role of students in constructing knowledge through personal experience, has been the subject of 19% of studies. This reflects the strong interest in understanding how personal interactions and experiences influence learning outcomes on digital platforms. However, Cognitive Load Theory and Cognitive Multimedia Learning Theory have been explored to a lesser extent, each capturing 11%, indicating a focused but important concern with optimising instructional design to align with cognitive ability. From the study, 4% mentioned Behavioral Theory and Connectivism Theory have the same percentage in this analysis. Behavioral Theory is not widely used perhaps because it reflects the trend towards a more cognitive and constructivist approach to web-based learning, while the growing interest in connectivism emphasizes the increasingly important role of digital networks today in contemporary education. These results highlight the involvement of multiple theories. It reflects the complex nature of educational research in digital learning environments. Theoretical approaches have been used to improve web-based learning and reflect the complexity and dynamics of educational research in the digital age (O'Neil & Perez 2013). Both theories offer insights that can improve the future development of integrated online platforms (Ellis & Bliuc, 2019).

## Conclusion

Web-based learning theoretical framework exploration emphasizes the interaction between the education process and digital technology. Social Cognitive Theory and Constructivist Learning Theory take the greatest influence on increasing social interaction and active learning. It is crucial as in an online platform to attract students' attention and make sure they can remember the new information. However, Cognitive Load Theory and Cognitive Multimedia Learning Theory are not widely covered. To create quality content often means to follow the model of human cognitive processes to create courses that are effective and not burdensome. Behavioural Theory and Connectivism Theory remain less prominent. However, the theory provides valuable experience in designing a learning process for a digital environment, focusing on changing human behavior through digital-experience feedback. These theories have significantly developed online learning platforms are now used in the educational process as all the educative designers and technologists should follow them for making their websites adaptive and attractive. Consequently, it does not only help with multiple learning, making it more accessible for different groups of people but also increase the educational spread in the digital format.

## References

- Ahmad, A. R., & Ali, D. F. (2022). Elemen Multimedia dalam Pembelajaran Berasaskan Web di Abad ke-21: Satu Kajian Literatur. *The International Conference Education (ICE) 2022*, 36-40.
- Alahmad, M. (2020). Strengths and Weaknesses of Cognitive Theory. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 3(3), 1584-1593. <https://doi.org/10.33258/birci.v3i3.1088>
- Alkamel, M., Hassan, A. B., Dawood Hafiz, K., Adulkareem Alkamel, M. A., Chouthaiwale, S. S., & Adulkareem Santosh Chouthaiwale, M. S. (2018). The use of ICT tools in English language teaching and learning: A literature review. Veda's journal of english language and literature. *The Use of ICT Tools in English Language Teaching and Learning: A Literature Review*, 5(2).
- Ellis, R. A., & Bliuc, A.-M. (2019). Exploring new elements of the student approaches to learning framework: The role of online learning technologies in student learning. *Active Learning in Higher Education*, 20(1), 11-24. <https://doi.org/10.1177/1469787417721384>
- Emadi, J. (2023). The Development of a Design Theory for Web Based Information Systems. *Journal of Robotics Spectrum*, 1, 13-23. <https://doi.org/10.53759/9852/JRS202301002>
- Fauzi, A., Hefniy, H., Baharun, H., Mundiri, A., Manshur, U., & Musolli, M. (2018). E- Learning in Pesantren: Learning Transformation based on the Value of Pesantren. *Journal of Physics: Conference Series*, 1114(1). <https://doi.org/10.1088/1742-6596/1114/1/012062>
- Hoq, M. Z. (2020). E-Learning During the Period of Pandemic (COVID-19) in the Kingdom of Saudi Arabia: An Empirical Study. *American Journal of Educational Research*, 8(7).
- MacDonald, C. J., Stodel, E. J., Farres, L. G., Breithaupt, K., & Gabriel, M. A. (2001). The demand-driven learning model A framework for Web-based learning. *Internet and Higher Education*, 4(1). [https://doi.org/10.1016/S1096-7516\(01\)00045-8](https://doi.org/10.1016/S1096-7516(01)00045-8)
- Mampota, S., Mokhets'engoane, S. J., & Kurata, L. (2023). Connectivism Theory: Exploring its Relevance in Informing Lesotho's Integrated Curriculum for Effective Learning in the Digital Age. *European Journal of Education and Pedagogy*, 4(4), 6-12. <https://doi.org/10.24018/ejedu.2023.4.4.705>
- Matriano, E. A. (2020). Ensuring Student-Centered, Constructivist and Project-Based Experiential Learning Applying the Exploration, Research, Interaction and Creation (ERIC) Learning Model. *International Online Journal of Education and Teaching*, 7(1), 214-227.
- O'Neil, H. F., & Perez, R. S. (2013). *Web-based learning: Theory, research, and practice*. Routledge.
- Roberts, L. N. (2020). Redesigning teaching, leadership, and indigenous education in the 21st century. In *Redesigning Teaching, Leadership, and Indigenous Education in the 21st Century*. <https://doi.org/10.4018/978-1-7998-5557-6>

Tangirov, K. E., Jomurodov, D. M., & Murodkasimova, S. K. (2021). The importance of e-learning and e-learning resources in individualized learning. *Asian Journal of Multidimensional Research (AJMR)*, 10(3). <https://doi.org/10.5958/2278-4853.2021.00176.2>

Zehry, K., Halder, N., & Theodosiou, L. (2011). E-Learning in medical education in the United Kingdom. *Procedia - Social and Behavioral Sciences*, 15. <https://doi.org/10.1016/j.sbspro.2011.04.265>

**Paper ID:** 1571054208

**Name:** Nuruljannah Abd Wahab, Dayana Farzeeha Ali, Aimi Ruzaini Ahmad & Nurulain Kamaruzaman

**Paper Title:** Fundamental Elements for Self-Initiated Professional Development Among TVET Teachers: A Literature Review

**E-mail:** nuruljannahabdwahab@graduate.utm.my

## **Introduction**

Technical and Vocational Education and Training (TVET) plays a vital role in developing skilled workers to meet the current economic demands, directly contributing to human capital by equipping individuals with productive and adaptive skills (UNESCO-UNEVOC, 2023). Empowering human capital through education, good jobs, and economic growth is a key element of the Sustainable Development Goals (SDG) 2016–2030. The 12th Malaysia Plan (RMK12) includes initiatives aimed at empowering TVET to improve vocational education, thereby supporting WKB 2030. To achieve these ambitious goals, it is imperative for TVET teachers in technical secondary schools and vocational colleges to enhance their teaching quality. This involves improving infrastructure, updating curricula to align with industry needs, and enhancing teacher skills through continuous training and professional development (Casto, 2019; González-Pérez & Ramírez-Montoya, 2022; Situmorang et al., 2022). Strengthening TVET teachers' competence is essential for effective teaching using the latest technology and methods, ensuring students are well-prepared for the workforce. Professional development for TVET teachers is crucial in maintaining competitiveness in teaching relevant skills. Continuous training in the latest teaching methods, technology, and industry developments not only improves teaching skills but also deepens teachers' understanding of their fields (Fernández-Batanero et al., 2022; Mallarangan et al., 2024). TVET teachers require ongoing professional development to stay current with the latest knowledge and skills, ensuring their students remain relevant in the current market (Makgato, 2021; Okolie et al., 2020; Subrahmanyam, 2020). The Continuing Professional Development (CPD) plan has been developed to support teachers' professional transformation, promoting Self-Initiated Professional Development. This approach encourages active learning and self-reflection, crucial for addressing today's educational challenges. By aligning with the Malaysian Ministry of Education's professional development initiatives, Self-Initiated Professional Development enhances teacher efficiency with technology and fosters collaboration among educators, thus strengthening TVET as a driver of Malaysia's progress.

## **Objective**

This study aims to discuss the elements of Self-Initiated Professional Development that are necessary and appropriate in producing a Self-Initiated Professional Development framework for TVET teachers in technical secondary schools and vocational colleges. These elements are collected based on literature studies related to elements used in professional development.

## **Methods and Instruments**

These elements are extracted from Scopus and Google Scholar databases based on previous research papers, articles and e-books on teacher self-learning and teacher

professional development. All elements that are required for Self-Initiated Professional Development have been taken into account, thus providing a broad set of elements needed by TVET teachers especially in technical secondary schools and vocational colleges. The information is explained through this literature review.

## **Results and Discussion**

The first element found based from the literature review is school administrators which they are crucial in helping teachers implement professional development effectively. This supported by previous studies (Akinyemi et al., 2019; Bunimin, 2016; Hill, 2020; Jonathan, 2019; Louws et al., 2017; Nurfaradilla, 2016; Rana et al., 2016; Riddle, 2019; Weir, 2017) have shown that administrators should provide support such as time, funds, and materials, guide teachers in their professional development, and demonstrate good leadership. However, teachers, especially TVET teachers, often lack the time to schedule professional development activities due to their busy work schedules.

Next, a collaborative environment encourages teachers to actively participate in their professional development (Brandisauskiene et al., 2020; Fairman et al., 2022; Yoon et al., 2020). Hill (2020) states that sharing ideas and collaborating among teachers can help implement Self-Initiated Professional Development effectively. Rana et al., (2016) add that a collaborative environment promotes unity and trust, allowing teachers to openly discuss problems. Therefore, the workplace is crucial as it provides learning opportunities and promotes healthy, productive relationships between teachers.

Autonomy is essential for effective Self-Initiated Professional Development has been highlighted by Nurfaradilla (2016). Teachers should take full responsibility for their professional growth, deciding what, when, and how to develop. Orakci & Durnali (2023) supports this, revealing that autonomy allows teachers to control their professional development and use their judgment. This leads to high ownership and freedom to pursue

development opportunities of interest. According to Smith & Gillespie (2023), teachers prefer professional development that is less controlled by administrators and want to be treated as adults.

Similarly, attitude plays a crucial role in the implementation of Self-Initiated Professional Development. Teachers should take the initiative, have a desire to learn, and be committed. Weir (2017) also noted that teachers should maintain a positive attitude towards professional development and avoid complacency. Teachers who take the initiative are more motivated to engage in new learning, while those resistant to change tend to form negative attitudes and are less likely to learn voluntarily.

Understanding is another key element that enhances the implementation of Self-Initiated Professional Development. According to Nurfaradilla (2016), understanding involves metacognition, where teachers recognize their learning needs. This self-awareness provides a rationale for why teachers need to pursue Self-Initiated Professional Development (Riddle, 2019). Metacognition helps teachers understand their strengths and weaknesses in professional development (de Vries et al., 2023; Zohar & Ben-Ari, 2022). By giving TVET teachers an early understanding of their learning needs helps them see the importance of continuous learning.

Teachers with high readiness and strong problem-solving skills are more responsible in implementing Self-Initiated Professional Development (Rana et al., 2016). These teachers should be central in decision-making (Hicks, 2020). Learning activities should match students' readiness, helping them become self-directed learners (Bergamin et al., 2019; Nurfaradilla, 2016). Artman et al., (2020) highlighted the success of flexible, participatory, and empowering teacher-directed professional development, which fosters a sense of community among teachers.

### **Conclusion/Implications for Research/Policy**

Several elements are involved in the effective implementation of Self-Initiated Professional Development. Additionally, distinct features differentiate general education from the professional development of TVET teachers, which must be considered. Identifying these elements can serve as a starting point for creating a meaningful professional development framework. Self-Initiated Professional Development enables teachers to take control of their own learning and development. This approach encourages self-reflection and continuous personal growth, which is important in facing today's educational challenges. The purpose is to become a more competitive individual in the global market. Therefore, Self-Initiated Professional Development needs to be empowered to support the professional development initiative led by the Malaysian Ministry of Education (MOE).

### **References**

- Akinyemi, A. F., Rembe, S., Shumba, J., & Adewumi, T. M. (2019). Allocation of time in communities of practice: A strategy to enhance continuing professional teachers' development of high schools teachers'. *Cogent Social Sciences*, 5(1), 1583629. <https://doi.org/10.1080/23311886.2019.1583629>
- Artman, B., Danner, N., & Crow, S. R. (2020). Teacher-directed professional development: An alternative to conventional professional development. *International Journal of Self-Directed Learning*, 17(1), 39-50.
- Bergamin, P. B., Bosch, C., du Toit, A., Goede, R., Golightly, A., Johnson, D. W., Johnson, R. T., Kruger, C., Laubscher, D., Lubbe, A., Olivier, J., van der Westhuizen, C., & van Zyl, S. (2019). *Self-Directed Learning for the 21st Century: Implications for Higher Education* (R. Bailey, J. de Beer, & E. Mentz (Eds.); Vol. 1). AOSIS. <https://doi.org/10.4102/aosis.2019.BK134>
- Brandisauskiene, A., Cesnaviciene, J., Miciuliene, R., & Kaminskiene, L. (2020). What factors matter for the sustainable professional development of teachers? Analysis from four countries. *Journal of Teacher Education for Sustainability*, 22(2), 153-170.
- Bunimin, J. (2016). *Model Konsep Pembangunan Profesionalisme Tenaga Pengajar Kolej Vokasional Malaysia*. Universiti Tun Hussein Onn Malaysia.
- Casto, A. R. (2019). Empowered educators: how high-performing systems shape teaching quality around the world. *Compare: A Journal of Comparative and International Education*, 49(6), 1012-1014. <https://doi.org/10.1080/03057925.2018.1552428>
- de Vries, J. A., Dimosthenous, A., Schildkamp, K., & Visscher, A. J. (2023). The impact of an assessment for learning teacher professional development program on students' metacognition. *School Effectiveness and School Improvement*, 34(1), 109-129. <https://doi.org/10.1080/09243453.2022.2116461>



- Fairman, J. C., Smith, D. J., Pullen, P. C., & Lebel, S. J. (2022). The challenge of keeping teacher professional development relevant. In *Leadership for Professional Learning* (pp. 251-263). Routledge.
- Fernández-Batanero, J. M., Montenegro-Rueda, M., Fernández-Cerero, J., & García-Martínez, I. (2022). Digital competences for teacher professional development. Systematic review. *European Journal of Teacher Education, 45*(4), 513-531.
- González-Pérez, L. I., & Ramírez-Montoya, M. S. (2022). Components of Education 4.0 in 21st century skills frameworks: systematic review. *Sustainability, 14*(3), 1493.
- Hicks, C. F. (2020). *Educator view of professional development and perceived influence on practice*. Concordia University (Oregon).
- Hill, N. N. (2020). *Career and Technical Education Teachers' Attitudes Toward and Their Participation in Technology-Based Professional Development Training in Mississippi's High School Districts*.
- Jonathan, W. (2019). *The role of self-directed professional development approach on primary school teacher's career development in Kilosa district, Tanzania*. The University of Dodoma.
- Louws, M. L., Meirink, J. A., van Veen, K., & van Driel, J. H. (2017). Teachers' self-directed learning and teaching experience: What, how, and why teachers want to learn. *Teaching and Teacher Education, 66*, 171-183. <https://doi.org/10.1016/j.tate.2017.04.004>
- Makgato, M. (2021). Challenges experienced by TVET colleges in producing skilled workforces: Implications for continuous professional development. In *New Models for Technical and Vocational Education and Training* (pp. 1-13). IGI Global.
- Mallarangan, A. D. D., Rahman, A., Nur, S., Lathifah, Z. K., & Lubis, F. M. (2024). Analysis Of The Influence Of Continuous Training Development And Education On Professional Competence Of Teachers In Public Schools. *Journal on Education, 6*(2), 13449-13456.
- Nurfardilla, M. N. (2016). *Reconceptualisation of self-directed learning in a Malaysian context*. The University of Edinburgh.
- Okolie, U. C., Elom, E. N., Igwe, P. A., Nwajiuba, C. A., Binuomote, M. O., & Igu, N. (2020). How TVET teachers foster employability skills: insights from developing countries. *International Journal of Training Research, 18*(3), 231-249. <https://doi.org/10.1080/14480220.2020.1860301>
- Orakci, Ş., & Durnali, M. (2023). The mediating effects of metacognition and creative thinking on the relationship between teachers' autonomy support and teachers' self-efficacy. *Psychology in the Schools, 60*(1), 162-181. <https://doi.org/10.1002/pits.22770>
- Rana, S., Ardichvili, A., & Polesello, D. (2016). Promoting self-directed learning in a learning organization: tools and practices. *European Journal of Training and Development, 40*(7), 470-489. <https://doi.org/10.1108/EJTD-10-2015-0076>

- Riddle, D. (2019). A Descriptive Exploration of a Self-Directed Approach to Teacher Professional Development. *Proceedings of the 2019 AERA Annual Meeting*. <https://doi.org/10.3102/1438206>
- Situmorang, M., Gultom, S., Mansyur, A., Gultom, S., & Ritonga, W. (2022). Implementation of Learning Innovations to Improve Teacher Competence in Professional Certificate Programs for In-Service Teachers. *International Journal of Instruction*, 15(2), 675-696.
- Smith, C., & Gillespie, M. (2023). Research on Professional Development and Teacher Change: Implications for Adult Basic Education. In *Review of Adult Learning and Literacy*, Volume 7 (pp. 205-244). Routledge. <https://doi.org/10.4324/9781003417996-7>
- Subrahmanyam, G. (2020). UNESCO-UNEVOC Study on the Trends Shaping the Future of TVET Teaching. *UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training*.  
 UNESCO-UNEVOC. (2023). [https://unevoc.unesco.org/pub/UNESCO-UNEVOC\\_Info\\_Booklet.pdf](https://unevoc.unesco.org/pub/UNESCO-UNEVOC_Info_Booklet.pdf)
- Weir, C. D. (2017). *Understanding self-directed professional development in mathematics for elementary teachers: A phenomenographical study*. The University of Western Ontario (Canada).
- Yoon, S. A., Miller, K., Richman, T., Wendel, D., Schoenfeld, I., Anderson, E., & Shim, J. (2020). Encouraging collaboration and building community in online asynchronous professional development: Designing for social capital. *International Journal of Computer-Supported Collaborative Learning*, 15, 351-371.
- Zohar, A., & Ben-Ari, G. (2022). Teachers' knowledge and professional development for metacognitive instruction in the context of higher order thinking. *Metacognition and Learning*, 17(3), 855-895. <https://doi.org/10.1007/s11409-022-09310-1>.

**Paper ID:** 1571063054

**Name:** Muhammad Bilal Zafar & Mohd Fauzi Abu-Hussin

**Paper Title:** Halal Purchasing Decisions and Consumer Behavior: A Bibliometric Analysis

**E-mail:** bilalezafar@gmail.com

**Purpose:** The purpose of this study is to conduct a comprehensive bibliometric analysis of academic research related to halal purchasing decisions and consumer behavior.

**Data and methodology:** This study examines a dataset of 184 articles published between 2007 and 2024, sourced from the Scopus database. A robust bibliometric methodology is employed, utilizing tools such as Bibliometrix in R for performance analysis, science mapping, and network analysis. The research follows standard bibliometric guidelines, encompassing stages of defining the research aim, collecting relevant data, conducting analysis and visualization, and interpreting the results.

**Findings:** The analysis reveals significant growth in academic interest in halal consumer behavior, particularly post-2017. Key findings include the identification of core journals, such as the Journal of Islamic Marketing, which dominates the publication landscape, and influential authors who have significantly shaped the discourse. The study also highlights emerging research trends, such as the increasing focus on non-food halal products and the application of behavioral theories like the theory of planned behavior in understanding halal purchasing decisions.

**Implications:** The findings of this study have important implications for both academia and industry. For academics, the study provides a roadmap for future research by identifying gaps in the literature and highlighting areas requiring further exploration. For industry practitioners, the insights into consumer behavior and emerging trends can inform more effective marketing strategies and product development in the halal market, ultimately enhancing consumer satisfaction and driving market growth.

**Originality:** This study is one of the first to apply a comprehensive bibliometric analysis to the field of halal purchasing decisions and consumer behavior. It offers a holistic view of the scholarly landscape, contributing significantly to both academic literature and practical applications within the rapidly expanding global halal market.

**Keywords:** Halal purchasing decisions, consumer behavior, bibliometric analysis, halal market, intellectual structure, research trends, systematic review

**Paper ID:** 1571042399

**Name:** Jiayang Liu & Zakiah Mohamad Ashari

**Paper Title:** Development and Validation of the Academic Achievement Scale to Measure the Comprehensive Abilities of Chinese Undergraduate Students

**E-mail:** liujiayang@graduate.utm.my

## Introduction

Since the UNESCO's release of the "2030 Agenda," the development of quality education has become a focal point for universities worldwide (Ghamrawi, 2023). Undergraduate students, being the largest student group in universities, have their academic achievement regarded as a key indicator of higher education quality (Lü, C.X., et al., 2022). However, academia lacks a consensus on defining academic achievement. The concept has evolved from merely focusing on learning outcomes to encompassing the holistic development of students (Cao, 2018). Traditionally, academic achievement in university has been equated with course grades. Yet, the limitations of using course grades as a measure of student evaluation are evident. For instance, Astin (2013) questions: Are students who receive an A grade in a course necessarily superior to those who receive a C grade?

A representative definition supporting this view comes from Zimmerman, who posits that academic achievement is not achieved overnight but requires incremental knowledge accumulation over time, leading to the acquisition of both cognitive and skill-based knowledge (Zimmerman, 1990). In China, Yue and Zhang (2011) concur with Zimmerman, asserting that academic achievement should encompass both foundational knowledge and practical skills. The most widely accepted definition of academic achievement comes from the National Leadership Council for Liberal Education America's Promise (2007), which states that academic achievement should not merely be about admission rates and graduation rates, but rather about whether students have acquired the essential knowledge and skills for their future life, work, and civic activities. Integrating these perspectives, this study defines academic achievement as the comprehensive development that undergraduates achieve throughout their university experience, encompassing not only the mastery and application of knowledge but also the various skills and abilities accumulated for future career success.

However, there is no widely recognized scale for measuring the comprehensive abilities of undergraduates. Many countries use national exams as primary measures of academic achievement, such as the SAT and GRE in the United States, and the Zhongkao, Gaokao in China. Some scholars have attempted to measure academic achievement from multiple dimensions. For example, Wang (2002) adapted performance appraisal structures from corporate settings, proposing that academic achievement should include learning performance, interpersonal promotion, and learning commitment. Feng (2010) argued that academic achievement should also encompass knowledge construction, autonomous learning, and collaboration abilities. Li and Yang (2016) suggested that academic achievement should be assessed by cognitive learning abilities, self-management skills, communication skills, and interpersonal promotion. Cao (2018) developed a scale based on Tsinghua University's CCSS, including dimensions of intrinsic, expanded, and developmental academic achievements.

While the aforementioned scales attempt to assess academic achievement from multiple perspectives, their dimensional comprehensiveness remains limited. For instance, aspects such as undergraduate social practice and career development, which are widely emphasized in Chinese higher education, have not been adequately addressed. Additionally, these scales target students across various educational stages—diploma, undergraduate, master's, and doctoral levels—without focusing specifically on the unique characteristics of undergraduates. To address these gaps, this study develops a five-dimensional scale encompassing abilities and skills, interpersonal relationships and communication, knowledge acquisition and application, social practice and participation, and career skills and development, tailored to the distinct needs of undergraduates.

## **Method**

### **Participants**

This study was conducted at a university in Guizhou Province, China, encompassing 11 colleges with over 20,000 undergraduate students. The research involved three samples: Sample 1 for item analysis and EFA, Sample 2 for CFA, reliability, and validity testing, and a subset of Sample 2 for test-retest reliability.

Sample 1 was selected through stratified random sampling from the 11 colleges. A total of 382 online questionnaires were collected, with 332 valid after excluding those with extremely short completion times and evident response patterns, resulting in an effective rate of 86.91%. The initial questionnaire, aside from basic information, consisted of 28 items, meeting the requirement of having at least 10 participants per item for EFA (10:1) (Boateng et al., 2018). Among the participants, 100 were male (30.1%) and 232 were female (69.9%), with an average age of 21.26 years, predominantly between 21 and 23 years old (63.6%). Sample 2, also selected through stratified random sampling, excluded participants from Sample 1. Yielded 893 online questionnaires, with 735 valid, resulting in an effective rate of 82.30%. The formal test questionnaire, aside from basic information, consisted of 24 items, far exceeding the CFA requirement of at least 20 participants per item (20:1) (Boateng et al., 2018). This sample included 217 males (29.5%) and 518 females (70.5%), with an average age of 20.79 years, mainly between 21 and 23 years old (54.7%). From Sample 2, 200 participants were conveniently selected for the test-retest reliability assessment, with an average age of 20.48 years, including 51 males and 149 females. Three weeks later, these participants completed the re-ordered formal scale to calculate test-retest reliability.

### **Research Design and Procedure**

This study develops and validates the UAAS in three phases using qualitative and quantitative methods.

*Phase 1: Item Development.* Through extensive literature review and expert consultations, questionnaires related to academic achievement, comprehensive quality, employability, and essential skills were gathered as references. Structured interviews were conducted to capture undergraduates' and counselors' perspectives on academic achievement, leading to an initial item pool. Expert evaluations were then conducted to examine content validity, ensuring that the items comprehensively and representatively measured the identified domains.

*Phase 2: Scale Development.* First, item analysis was conducted on Sample 1 to evaluate each item's contribution, with low-contributing items deleted based on the critical ratio and

t-test results. Next, EFA using Principal Axis Factoring. Factors with an eigenvalue greater than 1 were retained, and the cumulative variance percentage was ensured to be above 60% to determine the number of factors. Promax oblique rotation was then applied to extract the factors. Items were deleted based on communality, factor loadings, and cross-loadings, and EFA was iteratively performed to ensure the stability of the factor structure. Finally, the extracted factors were named according to their content to ensure that each factor accurately reflected its underlying construct.

*Phase 3: Scale Evaluation.* CFA on Sample 2 confirmed the validity and stability of the factor structure, ensuring good model fit indices such as CFI, TLI, and RMSEA. Next, the scale's internal consistency (Cronbach's Alpha) and test-retest reliability were assessed. Content, construct, and convergent validity were also evaluated to confirm the scale accurately measured the intended constructs.

### **Data Analysis Methods**

This study used SPSS 26.0 for item analysis and EFA on Sample 1, and assessed internal consistency, test-retest reliability, and convergent validity on Sample 2. CFA was conducted on Sample 2 using AMOS 24.0.

### **Initial Questionnaire Development**

This study follows DeVellis (2017) theory and methods for scale development. First, we reviewed relevant literature on undergraduate academic achievement and collected questionnaires related to academic achievement, comprehensive quality, employability, and essential skills. Descriptors of academic achievement were extracted from this literature. Next, we conducted three structured interviews with 11 counselors and 43 students from a university in Guizhou Province, China. The interview results were coded and combined with related literature (Li & Yang, 2016; Cao, 2018; Liu, 2021) to compile an initial item pool of 31 items. Subsequently, we invited five experts in the field of educational psychology to evaluate these items, resulting in a preliminary questionnaire containing 28 items. The questionnaire includes the following dimensions: knowledge acquisition and application (4 items), abilities and skills (8 items), emotional values (4 items), interpersonal relationships and communication (4 items), social practice and participation (4 items), and career skills and development (4 items). The questionnaire uses a 5-point Likert scale, where numbers "1-5" represent "Strongly disagree" to "Strongly agree," respectively. Higher scores indicate higher levels of academic achievement.

## **Results**

### **Item Analysis**

Based on the preliminary data, an item discrimination analysis was first conducted. Using the top 27% and bottom 27% of total scores as thresholds, we distinguished between high-score and low-score groups and performed independent sample t-tests on the two groups. The results showed that all 28 items exhibited significant differences between the groups ( $P < 0.001$ ), indicating good discrimination for all items, and therefore, no items needed to be removed. Additionally, the correlation between each item and the total score was calculated, with results showing correlation coefficients ranging from 0.443 to 0.724, all significant at  $P < 0.001$ . The standard deviation for each item was also calculated to measure the degree of dispersion. The results indicated that the standard deviations of the 28 items ranged from 0.767 to 1.245, showing a relatively high degree of dispersion. Based on these findings, all 28 items were retained.

### Exploratory Factor Analysis (EFA)

To determine the suitability of the data for factor analysis, we first tested the sampling adequacy. The KMO value was 0.935, and Bartlett's test of sphericity indicated a chi-square value of 6578.343 with 378 degrees of freedom and a significance level of 0.000 ( $P < 0.001$ ), confirming the data's appropriateness for factor analysis.

An EFA was conducted on the 28 items after item analysis using principal axis factoring and Promax oblique rotation. This resulted in five factors with eigenvalues greater than 1, accounting for 62.289% of the cumulative variance. Then, the following criteria were used for item reduction: (i)Communalities: Items with communalities  $< 0.40$  (Carpenter, 2018). (ii)Factor loadings: Items with the highest loading  $< 0.40$  (Chen et al., 2017). (iii)Cross-loadings: Items with the highest loading  $> 0.50$  and the second highest loading  $< 0.30$  (Hu, 2018). Based on criterion (i), no items were deleted because all items had communalities  $> 0.40$ . According to criterion (ii), item 13 was deleted, and a second EFA was conducted. Based on criterion (iii), items 14 and 15 were deleted, followed by a third EFA. Then the item 16 did not meet criterion (ii) and was deleted, leading to a fourth EFA. Due to these deletions, the original dimension of emotional values did not converge into a valid factor, and all its items were removed, resulting in the removal of the dimension. Finally, the EFA yielded five factors, resulting in a scale with 24 items that explained 63.942% of the total variance.

The factor loadings of the items are shown in Table 1 (Pattern Matrix).

**Table 1** Factor Loading Matrix for Undergraduate Academic Achievement

Items	Loadings				
	1	2	3	4	5
My academic performance in professional courses is among the top in the class.			.696		
I can easily understand the content taught by the teachers in class.			.801		
I have a good grasp of the basic theoretical knowledge in my major.			.921		
I can effectively apply professional knowledge to practice.			.723		
I have good oral communication skills.	.692				
I have good written communication skills.	.809				
I have the ability to adapt quickly.	.863				
I have organizational and leadership abilities.	.814				
I have good critical thinking skills (ability to deeply analyze and evaluate the logic and supporting evidence of knowledge/ideas)	.795				
I have the ability to identify and solve problems.	.843				
I have good self-management skills.	.592				
I can use innovative ideas or methods to solve problems.	.751				
I can cooperate effectively with others.		.793			
I can play an active role in a team.		.824			
I have harmonious relationships with my classmates and teachers.		.846			
I have good communication skills.		.687			
I have joined student unions or other student organizations and clubs and frequently organized and participated in activities.				.674	
I often participate in social practice or volunteer activities.				.853	
I frequently organize or participate in community service projects.				.837	
I frequently participate in social surveys inside and outside the school.				.699	
I am well-prepared with all the necessary conditions for employment.					.718
I have a clear plan for my future career development.					.709
I frequently attend career development training or seminars.					.725
I frequently do internships or part-time jobs related to my career.					.747

The eight items of Factor 1 relate to the comprehensive abilities and skills of undergraduates and are thus named "Abilities and Skills." The four items of Factor 2 relate to interactions with others, teacher-student relationships, teamwork, and communication skills, and are named "Interpersonal Relationships and Communication." The four items of Factor 3 pertain to undergraduate students' academic performance rankings, knowledge mastery, and knowledge application, and are named " Knowledge Acquisition and Application." The four items of Factor 4 relate to participation in social practice, clubs, and volunteer services, and are named "Social Practice and Participation." At last, the four items of Factor 5 are related to vocational skills development and career planning, and are named "Career Skills and Development."

### **Confirmatory Factor Analysis (CFA)**

#### *First-order Confirmatory Factor Analysis*

A first-order CFA was conducted on the UAAS. The five-factor model of academic achievement was constructed, and the results showed that the path coefficients from latent variables to their respective observed variables ranged from 0.53 to 0.88, all greater than 0.4, indicating strong explanatory power. Additionally, based on the output from Amos, the fit indices for the model were obtained (Table 2). The  $\chi^2/df$  was 4.462, slightly above the ideal range (1-3). However, Wu (2013) suggested that with a large sample size (such as the 735 samples in this study), the chi-square value ( $\chi^2$ ) tends to be large, which can lead to a higher  $\chi^2/df$ . Therefore, this index can be disregarded. Moreover, All other fit indices met the criteria (Wu, 2013), confirming that the five-factor model demonstrated good construct validity for the UAAS.



**Table 2** Fit Indices for the Five-Factor Model of Academic Achievement

Fit Index	$\chi^2/df$	RMSEA	NFI	TLI	CFI	SRMR
Value	4.462	0.069	0.911	0.919	0.929	0.046
Reference Standard	<3	<0.08	>0.9	>0.9	>0.9	<0.08

Subsequently, we conducted a correlation analysis of the five factors. The results (Table 3) showed that the five factors were all significantly positively correlated at the  $p < 0.001$  level. The covariance estimates between the factors were positive, with small standard errors, and the critical ratio (CR) values were all well above 2.58, indicating that all covariance estimates were statistically highly significant ( $p < 0.001$ ). This demonstrates the good structural validity of the scale, with significant and close correlations between the factors, confirming the existence of a higher-order factor that can explain all first-order factors.

**Table 3** Correlations Between the Five Factors of Academic Achievement

Path	Covariance Estimate	Standard Error (S.E.)	C.R. Value (C.R.)	Significance (P)	Correlation Coefficient
F1 <--> F2	0.354	0.026	13.845	***	0.855
F1 <--> F3	0.191	0.019	9.953	***	0.687
F1 <--> F4	0.291	0.024	11.926	***	0.653
F1 <--> F5	0.289	0.024	12.041	***	0.682
F2 <--> F3	0.187	0.019	9.674	***	0.583
F2 <--> F4	0.312	0.026	12.154	***	0.609
F2 <--> F5	0.273	0.024	11.273	***	0.56
F3 <--> F4	0.195	0.021	9.411	***	0.564
F3 <--> F5	0.194	0.02	9.524	***	0.594
F4 <--> F5	0.415	0.03	13.743	***	0.791

Note. \* =  $p < 0.05$ , \*\* =  $p < 0.01$ , \*\*\* =  $p < 0.001$

### Second-order Confirmatory Factor Analysis

Given the significant correlations among the five first-order factors and the good fit of the first-order CFA model with the sample data, a higher-order factor "Academic Achievement" was extracted to explain all first-order factors. Results from the second-order confirmatory factor analysis revealed  $\chi^2/df = 5.335$ , RMSEA = 0.077, NFI = 0.891, TLI = 0.899, CFI = 0.909, and SRMR = 0.067. Among these,  $\chi^2/df$ , NFI, and TLI did not meet the ideal standards, thus further optimization of the model was carried out. By analyzing the Modification Indices, it was found that the residual covariance between the Social Practice and Participation and Career Skills and Development dimensions had an MI value of 118.501, indicating a strong relationship between these dimensions. Furthermore, according to career development theory (Super, 1957), social practice and participation provide individuals with career-related experiences that are crucial for the development of career competencies and career planning. Thus, incorporating this residual covariance into the model is justified. After adding this covariance, the revised measurement model of academic achievement was obtained (Figure 1). The fit indices for the revised model are shown in Table 4. Except for  $\chi^2/df$ , which was elevated due to the large sample size, all other fit indices met the standards. Additionally, Squared Multiple Correlations (SMC) values were all above 0.4 (Kline, 2023), showing that the observed variables explain the latent factors well. Thus, the revised model fits the data effectively and demonstrates good overall fit.



**Figure 1** Revised Academic Achievement Measurement Model

**Table 4** Fit Indices of the Revised Model

Fit Index	$\chi^2/df$	RMSEA	NFI	TLI	CFI	SRMR
Value	4.771	0.072	0.903	0.9129	0.921	0.057
Reference Standard	<3	<0.08	>0.9	>0.9	>0.9	<0.08

Running the revised measurement model in AMOS yielded results shown in Table 5. All path significance probabilities were below 0.001, with critical ratios (C.R.) significantly exceeding 2.58, indicating significant path coefficients and a good model fit. The standardized regression coefficients for the five first-order factors loading onto the higher-order factor “Academic Achievement” were all strong, reflecting ideal loadings for both first-order and second-order factors.

**Table 5** Regression Weights for the Modified Measurement Model

	Estimate	Standardized Estimate	S.E.	C.R.	P
F2 <--- F1	1.146	0.976	0.06	19.078	***
F3 <--- F1	1	0.832			
F4 <--- F1	1	0.773			
F5 <--- F1	0.973	0.688	0.066	14.691	***
F6 <--- F1	0.963	0.702	0.058	16.553	***
Q10 <--- F2	1	0.721			
Q11 <--- F2	0.953	0.765	0.047	20.357	***
Q12 <--- F2	0.994	0.793	0.047	21.131	***
Q13 <--- F2	1.003	0.748	0.05	19.91	***
Q14 <--- F2	1.002	0.796	0.047	21.225	***
Q15 <--- F2	0.983	0.828	0.044	22.105	***
Q16 <--- F2	0.882	0.658	0.051	17.439	***
Q17 <--- F2	0.917	0.764	0.045	20.335	***
Q18 <--- F3	1	0.833			
Q19 <--- F3	1.075	0.872	0.036	29.924	***
Q20 <--- F3	0.97	0.788	0.038	25.484	***
Q21 <--- F3	1.014	0.816	0.038	26.95	***
Q6 <--- F4	1	0.669			

Q7 <--- F4	0.988	0.8	0.045	22.034	***
Q8 <--- F4	0.975	0.861	0.041	23.909	***
Q9 <--- F4	0.838	0.743	0.041	20.26	***
Q22 <--- F5	1	0.681			
Q23 <--- F5	1.108	0.841	0.054	20.339	***
Q24 <--- F5	1.131	0.879	0.054	21.064	***
Q25 <--- F5	1.029	0.831	0.051	20.15	***
Q26 <--- F6	1	0.816			
Q27 <--- F6	0.929	0.752	0.043	21.622	***
Q28 <--- F6	0.919	0.737	0.044	21.079	***
Q29 <--- F6	0.99	0.748	0.046	21.479	***

Note.\* =  $p < 0.05$ , \*\* =  $p < 0.01$ , \*\*\* =  $p < 0.001$

#### Reliability

Using data from Sample 2 ( $n=735$ ), the reliability of the scale was analyzed using internal consistency coefficients (Cronbach's  $\alpha$ ). Three weeks later, a test-retest reliability analysis was conducted with Sample 2 ( $n=200$ ) to evaluate the stability of the scale. Table 6 presents the results of the initial reliability test and the test-retest reliability for the total scale and each dimension. The Cronbach's  $\alpha$  coefficients for the total scale and each dimension exceeded 0.80, indicating that the scale has good reliability (DeVellis, 2021).

**Table 6** Internal Consistency and Test-Retest Reliability of the Scale

Dimension	Cronbach's $\alpha$ (Initial Measurement)	Cronbach's $\alpha$ (Retest)
Total Scale	0.950	0.969
Abilities and Skills	0.914	0.956
Interpersonal Relationships and Communication	0.907	0.937
Knowledge Acquisition and Application	0.802	0.858
Social Practice and Participation	0.877	0.899
Career Skills and Development	0.846	0.879

#### Validity

**Content Validity.** The items of this questionnaire were derived from authoritative literature on academic achievement. Structured interviews with undergraduates and counselors were conducted to gather their views, which informed the development of the questionnaire's dimensions and items. Additionally, five professors in the field of educational psychology were invited to evaluate the content of the scale. They concluded that the items were highly representative and demonstrated good content relevance.

**Construct Validity.** According to the results of the CFA conducted on the revised model, the UAAS demonstrates excellent construct validity.

**Convergent Validity.** The convergent validity of the scale was also assessed. Table 7 shows the Composite Reliability (CR) and Average Variance Extracted (AVE) values for each factor. The CR values for all factors were above 0.7 (Hair, 2017), indicating good internal consistency and high reliability. The AVE values for all factors were above 0.5, meeting the standard for good convergent validity (Hair, 2017).

**Table 7** Convergent Validity of the Scale

Factor	CR	AVE
Abilities and skills	0.916	0.578
Interpersonal relationships and communication	0.907	0.710
Knowledge acquisition and application	0.819	0.537
Social practice and participation	0.884	0.659
Career skills and development	0.848	0.583

## **Discussion**

Narrowly defined, academic achievement is often equated with exam scores (Yang, 2023), which provide a simple and straightforward evaluation method (Hong, 2019). However, as research deepens, scholars increasingly suggest that academic achievement, especially in university, should encompass knowledge, skills, and values gained through learning, incorporating cognitive, emotional, and practical dimensions (Wang, 2018; Hong, 2019). Currently, there is no widely accepted measure for college academic achievement, nor a scale specifically designed for undergraduates (Su, 2020). This study addresses this gap by developing and validating the Undergraduate Academic Achievement Scale (UAAS).

Compared to other academic achievement scales in China, the UAAS is tailored to the characteristics of undergraduates, better capturing the comprehensive development that students should achieve throughout their university education. It not only measures knowledge mastery but also assesses the various skills and abilities accumulated for future career success. Additionally, it considers students' social practice. This aligns with the current scholarly view that undergraduate academic achievement should be multidimensional, encompassing both knowledge achievements, skills and career capabilities (Li et al., 2016; Liu, 2021; Luo, 2022). Furthermore, in terms of reliability and validity, systematic data analysis and testing have demonstrated that the UAAS has a robust factor structure, reasonable factor score distribution, and good internal consistency reliability (Cronbach's Alpha), test-retest reliability, construct validity, and convergent validity. These results indicate that the UAAS is an effective measure of academic achievement among Chinese undergraduates.

Although this study provides substantial evidence of the psychometric properties of the scale, several limitations remain. First, the study is cross-sectional, with data collected at a single point in time. However, the process of achieving academic success among undergraduates is dynamic and can change with learning contexts, individual experiences, and social interactions. Therefore, future research should focus on the dynamic nature of academic achievement and conduct longitudinal studies across different time points and student year levels. Second, the sample was drawn from a single university in Guizhou Province, which may affect the generalizability of the results. Future studies should include samples from various regions and institutions to validate the scale's applicability in broader contexts.

## **Conclusion**

This study developed and validated a comprehensive Undergraduate Academic Achievement Scale (UAAS) for Chinese undergraduates through the formulation, pilot testing, and revision of an initial scale. The final scale includes five dimensions: abilities and skills, interpersonal relationships and communication, knowledge acquisition and application, social practice and participation, and career skills and development. Two rounds of confirmatory factor analysis (CFA) were conducted. The results indicate that the UAAS exhibits strong reliability and validity, with excellent model fit. Consequently, the UAAS serves as an effective tool for the comprehensive assessment of undergraduate academic achievement.

## Recommendations

The UAAS developed in this study has extensive practical significance. Firstly, the scale provides universities with a comprehensive tool for assessing undergraduate academic achievement. Educators can use it to identify students' strengths and weaknesses across various developmental dimensions, thereby formulating personalized educational interventions. Secondly, the UAAS can serve not only as an evaluation tool for teachers but also as a self-assessment tool for students, helping them to gain a more comprehensive understanding of their academic performance and developmental needs. This, in turn, allows students to develop more targeted learning and development plans. Finally, university administrators and education policy makers can utilize the assessment results of the UAAS to formulate more precise educational policies and resource allocation schemes, thereby promoting the overall improvement of undergraduate education quality.

## Acknowledgments

I sincerely thank my supervisor, Dr. Zakiah Binti Mohamad Ashari, for her invaluable guidance and support throughout this research. Her expertise was crucial to the success of this study. I also appreciate the faculty and students at Guizhou University of Traditional Chinese Medicine for their support and resources.

## References

- Astin, A. (2013). The promise and peril of outcome assessment. *Chronicle of Higher Education*, (1), 34. Washington, D.C.
- Cao, M. (2018). *The influence of family background on college students' academic achievement* (Master's thesis). Zhejiang Normal University.
- Carpenter, S. (2018). Ten steps in scale development and reporting: A guide for researchers. *Communication Methods and Measures*, 12(1), 25-44.
- Chen, H., Wang, L., Qiao, N., Cao, Y., & Zhang, Y. (2017). Preliminary development of the Adult Smartphone Addiction Scale. *Chinese Journal of Clinical Psychology*, 25(4), 645-649.
- DeVellis, R. F., & Thorpe, C. T. (2021). *Scale development: Theory and applications*. Sage publications.
- Feng, Z., Wu, X., Yao, M., & Wang, J. (2010). *Educational Psychology* (2nd ed.). People's Education Press.
- Ghamrawi, N. (2023). Toward agenda 2030 in education: Policies and practices for effective school leadership. *Educational Research for Policy and Practice*, 1-23.
- Hair, J. F., et al. (2013). *Multivariate Data Analysis* (7th ed.). Pearson Education Limited.
- Hong, W. (2019). *Study on the differences and influencing factors of academic achievement among undergraduate students in local universities* (Doctoral dissertation). Xiamen University.
- Hu, S. (2018). *Applicability study of SERVQUAL scale in evaluating the quality of community health services in China* (Master's thesis). Huazhong University of Science and Technology.
- Kline, R. B. (2023). *Principles and practice of structural equation modeling*. Guilford publications.
- Liu, B. (2021). *The impact of family capital on college students' academic achievement* (Master's thesis). Liaocheng University.
- Lü, C.X., et al. (2022). Does the motivation for subject selection in the new college entrance examination influence academic achievement? *Research in Educational Development*, 42 (17), 16-25.

- National Leadership Council for Liberal Education and America's Promise. (2007). *College learning for the new global century: Executive summary*. Association for American Colleges and Universities.
- Super, D. E. (1957). *The Psychology of Careers*. New York: Harper & Row.
- Su, W. (2020). A review of research on college students' academic achievement. *Journal of Zunyi Normal University*, 22(3), 116-119.
- Wang, Y. (2002). *Research on achievement goal orientation of enterprise employees* (Doctoral dissertation). Institute of Psychology, Chinese Academy of Sciences.
- Wu, M. (2013). *Structural Equation Modeling: Advanced Practices with AMOS*. Chongqing University Press.
- Yang, Y. (2023). *The impact of academic self-efficacy on academic achievement among master's students* (Master's thesis). Shanghai Normal University.
- Yue, X., & Zhang, Y. (2011). Academic achievement evaluation based on curriculum standards: A study of the Weber model. *Global Education Outlook*, 40(10), 79-85.
- Zimmer 990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist*, 25(1), 3-17.

**Paper ID:** IDS-01

**Name:** Amirul Mohd Zamri, Junaidah Yusof, Siti Aisyah Panatik

**Paper Title:** A Conceptual Paper on The Effectiveness of Message Framing And Altruism To Improve Happiness Among University Students

**E-mail:** amirulneezam@graduate.utm.my

## **Introduction**

This is a conceptual paper for a proposed research based on the review of relevant literatures related to message framing, altruism and happiness. With Malaysia pursuing the effort to improve its ranking in the World Happiness Index Report, many stakeholders play important role to improve the society evaluation on their lives. Among the important group that constitute the society is university students who are vulnerable and expose to life challenges. Some studies reported that cultivating compassion and altruism can lead to better health, happiness, well-being and longevity. On top of that, the literature shown that relationship between altruism and well-being is bidirectional highlighting that well-being is both the cause and outcome of altruism. However, studies involving different type of altruism (i.e., pure altruism and benevolence) regarding happiness is limited thus understanding this different type of altruism effect on students' happiness level worth studying. To supplement, the study incorporated message framing to further enhance the instrument introduced.

## **Objective**

There are 2 research objectives to be achieved in this study which included, 1) To assess the differences in the happiness level between pre and post intervention, and 2) To investigate the interaction effect of message framing and altruism on the happiness level post intervention.

## **Methods and Instruments**

### ***Research Design***

This study will be adopting experimental research design, specifically a 2x2 between-subjects factorial experiment. This approach enables the researcher to evaluate two different factors (i.e., message framing and altruism) and their effectiveness to improve happiness level among university students. This technique also allows every possible combination of the factors and their levels which expected to influence the intended outcome.

### ***Population and Sampling***

The study focuses on students from social science, education and engineering background while excluding health science and medical students. Due to the nature of their courses, non-health science and medical students' exposure and knowledge on the benefits and implication of altruistic behavior like blood donation are limited. Thus, manipulating the message framing and altruism to improve their happiness level worth studying.



### **Intervention and Instrument**

The intervention to be introduced in this study involve in the different combination of the independent variables (i.e., message framing and altruism). Message framing having two types including loss and gain, while altruism including pure altruism and benevolence. Thus, there will be four possible combinations of intervention for this study namely, i) gain x pure altruism, ii) gain x benevolence, iii) loss x pure altruism, iv) loss x benevolence. The four combinations of intervention were given to four different groups of university students and their effectiveness on their happiness level will be analyse.

Happiness level will act as the dependent variable and Subjective Happiness Scale (SHS) is to be adopted. SHS comprised four questions related to happiness statements that participants rate themselves or compare themselves to others. SHS utilized 7-point Likert Scale and having sufficient internal consistency in sample across cultures and ages ( $r = 0.79$  to  $r = 0.93$ ).

### **Data Analysis**

For research question 1, dependent t-test will be used to measure the differences between the pre and post intervention happiness among the four groups. Whereas for research question 2, factorial ANOVA will be used to analyse the interaction effect of message framing and altruism on the happiness level of the university students.

### **Results and Discussion**

This study expected that there is a significant difference in happiness level between pre and post intervention for all four groups. This study also expected that there is a significant interaction effect between message framing and altruism post intervention.

### **Conclusion/Implications for Research/Policy**

The result of this study may provide key information for the stakeholders on the best possible combination of message framing and altruism to improve the happiness of the university students. It will also be relevant to the student to expose themselves to altruism messages to achieve a better happiness state.

### **ACKNOWLEDGMENTS**

This work was supported and funded by the Ministry of Higher Education under the Fundamental Research Grant Scheme (FRGS/1/2021/SS0/UTM/02/1).

Keywords: message framing, altruism, happiness, university students

**Paper ID:** 1571045464

**Name:** Kirubah Rajendran & Hema Rosheny Mustafa

**Paper Title:** The Use of Playback Speed in Captioned Videos in Improving Vocabulary Acquisition Among Lower Proficiency Higher Primary Pupils

**E-mail:** kirubahrajendran1992@graduate.utm.my

## 1. Introduction

According to Renandya and Jacobs (2016), vocabulary is an essential component of language proficiency because it lays the groundwork for students to "listen, speak, read, and write" in the target language. Even so, vocabulary tends to be overlooked despite being regarded as a crucial element of language. Teng (2019) found that reading texts can lead to an incidental acquisition of new vocabulary. But by two weeks, the recently learned words would have substantially deteriorated. In order to address this problem, educators are advised to employ captivating and enjoyable methods for instructing vocabulary (Sheridan & Markslag, 2017). As such fun way of teaching is utilizing captioned videos. Captioned videos, which include synchronised on-screen L2 texts to enhance video understanding (Danan,2004), have gained considerable focus in recent times (Teng, 2020).

Captioned videos have been beneficial for learners of different proficiency levels by facilitating the visualisation of auditory information, thereby improving vocabulary learning (Peters, 2015; Webb, 2015 and Teng, 2019a, 2019b, 2019c). It also provides learners with a large amount of audiovisual content, which can be personalised to meet their unique needs using captions and adjusting the playback speed in the videos (Mahalingappa.L, Zong.J and Polat.N, 2024). The most significant factor about viewing videos is probably the speed at which they stream back. The quality will affect how well information is absorbed, how long it takes to watch a movie, and how easy it is for the user (Wang, Z. & Banerjee, S. & Jamin, S., 2003). Currently, there have been few empirical research examining the impact of playback speed in captioned videos on vocabulary learning among learners with lower competency. To address this deficiency, the current study aims to further investigate the effects of varying playback speeds on captioned videos.

## 2. Literature Review

### 2.1 Playback speed in captioned videos

The playback speed of educational videos is a significant characteristic that has drawn the interest of numerous experts. Ritzhaupt et al. (2015) investigated the impact of three different speeds (1.0x, 1.25x, and 1.5x) on the participants' learning outcomes. The researchers discovered that the variation in video playback speed had minimal impact on the learning outcome. However, it did have a significant effect on the participants' satisfaction level and cognitive load. Specifically, individuals reported lower satisfaction when watching videos at 1.5x speed compared to 1.0x speed. This is because studies show that slower speech speeds make it easier to understand clear and conversational speech styles (Bloomfield et al., 2010; Krause & Braida, 2002), while faster speeds make it harder to understand (Medina et al., 2020), especially for students with lower proficiency levels (Vandergrift, 2007). In this current study, the graded captioned videos comprise of two different speed such as the slow speed (0.75x) and normal speed (1.0x) as some research

looked at how learners react when the video playing speed is slowed down because there are experiments revealed that learners preferred regular speed to 0.75 speed (Murphy, D. H., Hoover, K. M., & Castel, A. D., 2023). Hence, it is applicable to observe whether the learners' preferred 0.75x or 1.0x speed in assisting them to improve their vocabulary acquisition.

### **3.Methodology**

This study adopts a quantitative design where it focuses on Pre and Post Tests method. Moreover, purposive sampling will be utilized in this study. The population of this study is 40 pupils. As for the pre-and post-tests, 20 participants were placed in the experimental and 20 participants in the control group. The participants were selected from 4 groups of Year 6 classes from the respective school by looking into their previous Performance Level. Those who are having band 3 and below were selected as lower proficiency learners of Year 6 pupils as they are required to reach band 5 or 6 by the end year of the schooling (Common European Framework of Reference, 2011).

#### **3.1 Project flow**

All 40 individuals in the experimental group as well as those in the control group took the pre- tests during the first week. The participants were given 30 minutes to complete the subsequent C-test. After listening to the five short texts that were chosen, the participants had to write the word forms to fill in the blanks. The listeners were given time to complete the C-test questions after each listening text audio was played twice. To lessen the learning impact after their pre-tests, the experimental group individuals received treatment in the third week and were not disturbed in the second week. In the third week, students in the control group viewed the same videos at 1.0x regular playback speed, while the experimental group individuals received treatment with captioned videos from English Central software every day for ten minutes, with at least five videos at 0.75x playback speed. Every week, the participants saw 25 videos. The learners watched five videos on a single day for a total of ten minutes because the videos are brief, lasting between one and two minutes. This was done constantly for six weeks, with the seventh week marking the completion of the treatment. There was a post-test given on the seventh week. The treatment and post-test are separated by a week. The purpose of this is to determine the extent to which the participants have internalized the new terms. A post-test was given to each participant in the experimental and control groups. To track and evaluate how well participants were acquiring vocabulary through graded captioned videos, the assessment was the same as the pre-test.

### **4.Results**

#### **4.1Research Question**

**a)** How playback speed of captioned videos assists lower proficiency pupils' in improving vocabulary acquisition?

The experimental and control group pupils were involved in this pre and post tests. One contextualized vocabulary test, which is called as C-test with 20 questions were used. Each question was given one mark and the total score of the questions are twenty. Based on the data collected, the frequency of the total score of Experimental and Control groups' pretest scores and post test scores were tabulated separately. Both the scores of pre and post tests were also been analyzed using Statistical Package for the Social Science Software (SPSS). Two different statistics analysis were used to analyze the scores of C-tests. The first was

descriptive statistics where it aids the researcher to find the mean and standard deviation. The second will be the Inferential statistics (Independent T-test) where it is being utilized in here to find out the mean difference between the pre and post test of the experimental and control group.

#### 4.1.1 Descriptive statistics of Experimental group’s C-Test Pre and Post test results

	n	Mean	Std. Deviation	Std. Error Mean
E Ctest Pretest	20	6.2	4.79	1.07
E Ctest Post-test	20	12.15	3.2	0.72

**Table 4.1.1 Descriptive statistics of Experimental group’s C-Test Pre and Post test results**

The table shows the statistical key figures of the dependent variable for the two groups E Ctest Pretest and E Ctest Post-test.

#### Sample Size (n)

There are 20 sample values in group E Ctest Pretest and 20 sample values in group E Ctest Post-test. In classical hypothesis testing (e.g., t-tests), small sample sizes are often considered those under 30.

#### Mean

The average value for the E Ctest Pretest group in this sample is 6.2, while it is 12.15 for the E Ctest Post-test group. This shows that the E Ctest Pretest group in this sample has on average a lower value for the dependent variable than the E Ctest Post-test group.

#### Standard deviation

The standard deviation measures the amount of variation or dispersion in a set of values. A low standard deviation means the values are close to the mean, while a high standard deviation means the values are spread out over a wider range. Here, the standard deviation for E Ctest Pretest is 4.79 and for E Ctest Post-test it is 3.2.

#### 4.1.2.T-test for independent samples

	t	df	p	Cohen's d
Equal variances	-4.62	38	<.001	1.46
Unequal variances	-4.62	33.16	<.001	1.46

Table 4.1.2 T-test for independent samples of Experimental group's C-Test Pre and Post test results

**Equal and unequal variances**

The table contains two rows, one row for the case where equal variance is assumed and one row for the case where unequal variance is assumed. The p-value of .034 calculated with the Levene test (previous table) is below the standard significance level of 0.05. This means that there is not enough evidence to reject the null hypothesis of equal variance. In other words, we can assume that the variances of the two groups (male and female) are not equal. We can therefore proceed with the row for unequal variances.

**t-Test**

A two tailed t-test for independent samples (equal variances not assumed) showed that the difference between *E Ctest Pretest* and *E Ctest Post-test* with respect to the dependent variable was statistically significant,  $t(33.16) = -4.62, p = <.001$ , 95% confidence interval [-8.57, -3.33]. Thus, the null hypothesis that there was no difference in the mean value between the two groups was rejected. The Cohen's d value of 1.46 represents a large effect size.

**4.1.3 Descriptive statistics of Control group's C-Test Pre and Post test results**

	n	Mean	Std. Deviation	Std. Error Mean
C Ctest Pretest	20	8.6	3.7	0.83
C Ctest Post test	20	8.9	4.2	0.94

Table 4.1.3 Descriptive statistics of Control group's C-Test Pre and Post test results

The table shows the statistical key figures of the dependent variable for the two groups C Ctest Pretest and C Ctest Post test.

**Sample Size (n)**

There are 20 sample values in group C Ctest Pretest and 20 sample values in group C Ctest Post test. In classical hypothesis testing (e.g., t-tests), small sample sizes are often considered those under 30.

**Mean**

The average value for the C Ctest Pretest group in this sample is 8.6, while it is 8.9 for the C Ctest Post test group. This shows that the C Ctest Pretest group in this sample has on average a lower value for the dependent variable than the C Ctest Post test group.

**Standard deviation**

The standard deviation measures the amount of variation or dispersion in a set of values. A low standard deviation means the values are close to the mean, while a high standard deviation means the values are spread out over a wider range. Here, the standard deviation for C Ctest Pretest is 3.7 and for C Ctest Post test it is 4.2.

#### 4.1.4 T-test for independent samples

	t	df	p	Cohen's d
Equal variances	-0.24	38	.812	0.08
Unequal variances	-0.24	37.41	.812	0.08

Table 4.1.4 T-test for independent samples of Control group's C-testPre and Post test results

#### Equal and unequal variances

The table contains two rows, one row for the case where equal variance is assumed and one row for the case where unequal variance is assumed. The p-value of .348 calculated with the Levene test (previous table) is above the standard significance level of 0.05. This means that there is enough evidence to reject the null hypothesis of equal variance. In other words, we can assume that the variances of the two groups (male and female) are approximately equal. We can therefore proceed with the row for equal variances.

#### t-Test

A two tailed t-test for independent samples (equal variances assumed) showed that the difference between C Ctest Pretest and C Ctest Post test with respect to the dependent variable was not statistically significant,  $t(38) = -0.24$ ,  $p = .812$ , 95% confidence interval [-2.84, 2.24]. Thus, the null hypothesis that there was no difference in the mean value between the two groups was not rejected. The Cohen's d value of 0.08 represents a very small effect size.

#### 4.1.5 Descriptive statistics of Experimental and Control groups' C-Test Pretest results

	n	Mean	Std. Deviation	Std. Error Mean
E Ctest Pretest	20	6.2	4.79	1.07
C Ctest Pretest	20	8.6	3.7	0.83

Table 4.1.5 Descriptive statistics of Experimental and Control groups' C-Test Pretest results

The table shows the statistical key figures of the dependent variable for the two groups E Ctest Pretest and C Ctest Pretest.

#### Sample Size (n)

There are 20 sample values in group E Ctest Pretest and 20 sample values in group C Ctest Pretest. In classical hypothesis testing (e.g., t-tests), small sample sizes are often considered those under 30.

#### Mean

The average value for the E Ctest Pretest group in this sample is 6.2, while it is 8.6 for the C Ctest Pretest group. This shows that the E Ctest Pretest group in this sample has on average a lower value for the dependent variable than the C Ctest Pretest group.

### Standard deviation

The standard deviation measures the amount of variation or dispersion in a set of values. A low standard deviation means the values are close to the mean, while a high standard deviation means the values are spread out over a wider range. Here, the standard deviation for E Ctest Pretest is 4.79 and for C Ctest Pretest it is 3.7.

### Standard error of the mean

The standard error of the mean estimates the variability of the sample mean if you were to take multiple samples from the same population. A smaller standard error suggests that the sample mean is a more accurate reflection of the population mean.

#### 4.1.6 T-test for independent samples

	t	df	p	Cohen's d
Equal variances	-1.77	38	.084	0.56
Unequal variances	-1.77	35.76	.085	0.56

Table 4.1.6 T-test for independent samples of Experimental and Control groups' Ctest pretest results

### Equal and unequal variances

The table contains two rows, one row for the case where equal variance is assumed and one row for the case where unequal variance is assumed. The p-value of .082 calculated with the Levene test (previous table) is above the standard significance level of 0.05. This means that there is enough evidence to reject the null hypothesis of equal variance. In other words, we can assume that the variances of the two groups (male and female) are approximately equal. We can therefore proceed with the row for equal variances.

### t-Test

A two tailed t-test for independent samples (equal variances assumed) showed that the difference between *E Ctest Pretest* and *C Ctest Pretest* with respect to the dependent variable was not statistically significant,  $t(38) = -1.77, p = .084$ , 95% confidence interval [-5.14, 0.34]. Thus, the null hypothesis that there was no difference in the mean value between the two groups was not rejected. The Cohen's d value of 0.56 represents a medium effect size.

#### 4.1.7 Descriptive statistics of Experimental and Control groups' C-test Post test results

	n	Mean	Std. Deviation	Std. Error Mean
E Ctest Post-test	20	12.15	3.2	0.72
C Ctest Post-test	20	8.9	4.2	0.94

Table 4.1.13 Descriptive statistics of Experimental and Control groups' C-Test Posttest results

The table shows the statistical key figures of the dependent variable for the two groups E Ctest Post-test and C Ctest Post-test.

##### Sample Size (n)

There are 20 sample values in group E Ctest Post-test and 20 sample values in group C Ctest Post-test. In classical hypothesis testing (e.g., t-tests), small sample sizes are often considered those under 30.

##### Mean

The average value for the E Ctest Post-test group in this sample is 12.15, while it is 8.9 for the C Ctest Post-test group. This shows that the E Ctest Post-test group in this sample has on average a higher value for the dependent variable than the C Ctest Post-test group.

##### Standard deviation

The standard deviation measures the amount of variation or dispersion in a set of values. A low standard deviation means the values are close to the mean, while a high standard deviation means the values are spread out over a wider range. Here, the standard deviation for E Ctest Post-test is 3.2 and for C Ctest Post-test it is 4.2.

#### 4.1.8 T-test for independent samples

	t	df	p	Cohen's d
Equal variances	2.75	38	.009	0.87
Unequal variances	2.75	35.48	.009	0.87

Table 4.1.14.2 T-test for independent samples of Experimental and Control groups' C-Test Post test results

##### Equal and unequal variances

The table contains two rows, one row for the case where equal variance is assumed and one row for the case where unequal variance is assumed. The p-value of .243 calculated with the Levene test (previous table) is above the standard significance level of 0.05. This means that there is enough evidence to reject the null hypothesis of equal variance. In other words, we can assume that the variances of the two groups (male and female) are approximately equal. We can therefore proceed with the row for equal variances.



### **t-Test**

A two tailed t-test for independent samples (equal variances assumed) showed that the difference between *E Ctest Post-test* and *C Ctest Post-test* with respect to the dependent variable was statistically significant,  $t(38) = 2.75, p = .009$ , 95% confidence interval [0.86, 5.64]. Thus, the null hypothesis that there was no difference in the mean value between the two groups was rejected. The Cohen's *d* value of 0.87 represents a large effect size.

### **5. Discussion and Conclusion**

Results above showed that the use of captioned videos with adjustable playback speed of 0.75x can significantly enhance vocabulary acquisition among lower proficiency pupils in an ESL classroom. Lower proficiency pupils can enhance their comprehension by watching the videos in 0.75x playback speed as it allows the students to control the pace by facilitating in understanding of unfamiliar words (Mo, C. Y., Wang, C., Dai, J., & Jin, P., 2022). Besides, it also assists the learners in vocabulary exposure where slower playback speeds allow learners more time to process new vocabulary and understand their usage within the sentences or captions in the videos (Teng, 2020). Moreover, the results also mentioned that 0.75x might improved retention. This is because research suggests that visual reinforcement (captions) combined with auditory input (video dialogue) enhances memory retention of vocabulary (Teng, 2022).

From this study the students can replay segments at slower speeds to reinforce understanding and retention of key vocabulary words and this can be seen when the participants were able to spell the words in C-test correctly compared to their pre-test. There are two important implications that can be implied from this study. The first is educational applications where it shows incorporating adjustable playback speeds into language learning programs to cater to students' varying learning paces and improve comprehension of spoken language (Nami, 2020). The next is learning enhancement for lower proficiency learners. This mentioned that lower proficiency learners often struggle with rapid speech and complex vocabulary and slower playback speeds can provide them with a supportive learning environment where they can better grasp and internalise new vocabulary from the captioned videos Yeldham, M. (2018).

In conclusion, the use of captioned videos with adjustable playback speeds in English language classrooms offers a dynamic approach to vocabulary acquisition for lower proficiency students. By combining visual reinforcement with auditory input and allowing students to control the pace of learning, educators can create a supportive environment where language skills are developed effectively. This method not only improves vocabulary retention but also enhances overall language comprehension and fluency over time.

## References

- Danan, M. (2004). Captioning and subtitling: Undervalued language learning strategies. *Meta*, 49(1), 67-77. doi:10.7202/009021ar.
- Krause, J. C., & Braida, L. D. (2002). Investigating alternative forms of clear speech: the effects of speaking rate and speaking mode on intelligibility. *The Journal of the Acoustical Society of America*, 112(5 Pt 1), 2165-2172. <https://doi.org/10.1121/1.1509432>
- Mo, C. Y., Wang, C., Dai, J., & Jin, P. (2022). Video Playback Speed Influence on Learning Effect From the Perspective of Personalized Adaptive Learning: A Study Based on Cognitive Load Theory. *Frontiers in psychology*, 13, 839982. <https://doi.org/10.3389/fpsyg.2022.839982>.
- Murphy, D. H., Hoover, K. M., & Castel, A. D. (2023). The effect of video playback speed on learning and mind-wandering in younger and older adults. *Memory (Hove, England)*, 31(6), 802-817. <https://doi.org/10.1080/09658211.2023.2198326>
- Nami, F. (2020). Towards More Effective App-Assisted Language Learning: The Essential Content and Design Features of Educational Applications. 9. 245-278. 10.22054/ilt.2020.52777.501.
- Peters, E. (2019) The effect of imagery and on-screen text on foreign language vocabulary learning from audiovisual input. *TESOL Quarterly*, 53(4): 1008-1032.
- Renandya, W. A., & Jacobs, G. M. (2016). Extensive reading and listening in the L2 classroom. In W. A. Renandya & H. P. Widodo (Eds.), *English Language Teaching Today* (pp. 97-110). New York: Routledge.
- Ritzhaupt, A., Pastore, R., & Davis, R. (2015). Effects of captions and time-compressed video on learner performance and satisfaction. *Computers in Human Behavior*. 45. 10.1016/j.chb.2014.12.020.
- Sheridan, Robert. (2017). Effective Strategies for Teaching Vocabulary: An Introduction to Engaging Cooperative Vocabulary Card Activities. *PASAA*. 53. 214-229. 10.58837/CHULA.PASAA.53.1.8.
- Teng, F. (2019). Maximizing the potential of captions for primary school ESL students' comprehension of English-language videos. *Computer Assisted Language Learning*, 32(7), 1- 27. <https://doi.org/10.1080/09588221.2018.1532912>.
- Teng, F. (2020). Vocabulary learning through videos: captions, advance-organizer strategy, and their combination. *Computer Assisted Language Learning*. 35. 1-33. 10.1080/09588221.2020.1720253.
- L. Vandergrift and C. C. M. Goh. 2012: Teaching and Learning Second Language Listening: Metacognition in Action, *Applied Linguistics*, Volume 35, Issue 2, May 2014, Pages 224-226, <https://doi.org/10.1093/applin/amu002>.
- Wang, Zhiheng & Banerjee, Sujata & Jamin, Sugih. (2003). Studying streaming video quality: From an application point of view. 327-330. 10.1145/957013.957083.

Webb, S. (2015) Extensive viewing: Language learning through watching television. In Nunan, D. & Richards, J. C. (eds.), *Language learning beyond the classroom*. New York: Routledge, 159-168.

Yeldham, M. (2018). Viewing L2 captioned videos: What's in it for the listener? *Computer Assisted Language Learning*, 31(4), 367-389. doi:10.1080/09588221.2017.

Zong, J., Polat, N., & Mahalingappa, L.J. (2024). Effects of playback speed and language proficiency on listening comprehension of multilingual English learners. *International Multilingual Research Journal*.

**Paper ID:** 1571062001

**Name:** Nur Wahidah Abd Hakim & Corrienna Abdul Talib

**Paper Title:** Challenges in Implementing Critical Thinking Skills in Chemistry According to Malaysian Educators

**E-mail:** nwahidah5@graduate.utm.my

## INTRODUCTION

Education plays an important role in nurturing the next generation with knowledge, skills, and competencies that are necessary for future workforce development. Thus, the first step is to integrate critical thinking skills, which are among the seven 21<sup>st</sup> century skills that are needed to face the challenges of the modern world. Critical thinking is important because it involves the ability to think clearly and rationally, evaluating arguments and evidence, and making reasoned judgments using appropriate evidence (Ministry of Education, 2018).

Thinking skills are among the aspirations outlined in the Malaysia Education Blueprint (Ministry of Education, 2012). Critical thinking skills were first introduced into the national curriculum through *Kurikulum Bersepadu Sekolah Rendah* (KBSR) and *Kurikulum Bersepadu Sekolah Menengah* (KBSM) in 1994. Following several reforms in the education system, the *Kurikulum Standard Sekolah Rendah* (KSSR) and *Kurikulum Standard Sekolah Menengah* (KSSM) were established in 2011 and 2014, respectively (Parimaladevi & Ahmad, 2019). KSSM emphasized more on the importance of critical thinking skills in the learning outcomes, especially in chemistry as critical thinking enables students to analyze data, identify patterns, leading to solving chemistry-related problems. Nine critical thinking skills in chemistry were emphasized according to KSSM (Ministry of Education, 2018). They are characterizing, comparing and contrasting, collecting and classifying, sequencing, arranging by priority, analyzing, detecting bias, evaluating, and drawing conclusions. Further explanation is given for each skill such as evaluation requires students to make considerations and decisions using knowledge, experience, skills, and values, and providing justification (Ministry of Education, 2018).

In order to foster these skills among students, critical thinking is encouraged to be integrated during lesson through various teaching approaches such as problem-based learning (Uliyandari et al., 2021), project-based learning (Alawi & Soh, 2019), and guided inquiry learning (Maknun, 2020). Later, higher order thinking skills questions were introduced in *Sijil Pelajaran Malaysia* (SPM) starting from 2014 with 20% higher order thinking skills questions were asked, aimed at testing the candidate's ability to use skills in applying, analyzing, evaluating, and creatively and innovatively generating ideas in the process of solving problems systematically in new situations and real life (Ministry of Education Examination Board, 2023). Gradually, the percentage of higher order thinking skills questions increased, with 50% higher order thinking skills were asked in SPM 2023. Note that terms such as higher order thinking skills, critical thinking, good thinking, logical thinking are widespread and often used interchangeably (Schulz & FitzPatrick, 2016; Yusoff & Seman, 2018).

However, according to the data from Ministry of Education Examination Board (2023), the overall performance of the SPM candidates is at a minimum proficiency level in higher order thinking skills questions. This is appalling considering higher order thinking skills questions had already been introduced in SPM since 2014 and teaching strategies that can foster critical thinking skills within students had been encouraged, therefore improvements on candidates' performance were to be expected. Are there any issues faced by educators when incorporating critical thinking skills in their lesson, especially in a difficult subject of chemistry?

Therefore, this study was conducted to explore educators' experiences and thoughts regarding the challenges they experienced when implementing critical thinking skills during chemistry lessons.

## **METHODOLOGY**

This study was conducted using qualitative method. Semi-structured interviews were employed to gain deeper understanding about teachers' and lecturers' experience in practicing critical thinking skills during lessons. The interview protocol was developed and sent to two experts for validation. Four chemistry teachers (RT1-RT4) and three chemistry education lecturers (R1-R3) with experience of more than five years were selected purposely as respondents. In-depth interview was conducted through Google Meet due to the diverse demographic between each respondent. The data then were analyzed using thematic analysis by closely examined the data to identify common themes that come up repeatedly (Jowsey et al., 2021). Various strategies such as member checking, peer examination, and triangulation were conducted to ensure the validity of the finding (Merriam, 2009; Cresswell, 2014).

## **FINDINGS**

The analysis of the findings revealed challenges faced by educators in embedding critical thinking skills in classrooms. Seven themes were identified from the data; difficulty in encouraging students to think, reliance of teacher/facilitator to think, syllabus and abstract nature of chemistry, gap between theory and practical, not enough knowledge, long and continuous process, and environment of the classroom.

### 1) Difficulty in encouraging students to think

Critical thinking involves skills such as analysis, evaluation, and explanation (Facione, 1990, 2015). Students may find it challenging to move beyond surface-level understanding and memorization to engage deeply with content and apply it critically, as observed by R3, *"Based on my experience...you know like organizing...programs like workshop with the students, and what I find is...they actually lack critical thinking like...when you give them...new assignment for them to solve, they cannot...I would say that they...might not have enough exposure."*

R3's observation when conducting workshop that offers hands-on experiences that encourage students to think critically shows the students' difficulty in handling new assignments that requires them to analyze and evaluate the task at hand. This difficulty suggested that students may not have exposure to conduct critical thinking skills especially

when presented with new assignments, therefore they might find it daunting to approach the assignments accordingly. RT1 concurred, stating that *“for high performance students, they could answer critical thinking questions well and we could let them explore things themselves, but for low performance students, we have to adjust the questions to easy questions and guide them one by one.”* RT2 also shared the same opinion, stating that *“students often don’t answer what is being asked, and instead they waited for us to think.”* This indicates that students struggle to provide answers, especially critical thinking questions.

### 3. Reliance of teacher/facilitator to think

Another challenge faced by teachers when implementing critical thinking during lesson is students’ reliance on the teacher/facilitator to think. R3 shared her observation regarding this phenomenon, *“For example, they have to... discuss among themselves, they have to... analyse the situation. And somehow, they have to solve problem and make decision, but they are not able to do it well without the teacher’s guidance.”* R3 noted that students were required to discuss among themselves (about their tasks) and analyze the problem. However, the students struggled to solve problems and make decisions on their own and instead asking for some guidance. This indicates that the students were unable to apply critical thinking autonomously and instead relied heavily on teacher guidance to navigate the problem-solving process.

R3 further elaborated her observation, *“I organized a workshop among the students especially the junior level. So umm... we trained them in a way they have to come out with a... one innovation... as the output of the programme. So... without the guidance from the facilitator... When we ask them question, we guide them... to solve the problem umm... and I mean like... in STEM, there is also a component of sciences. We somehow ask them to apply their... knowledge, umm... like it’s quite general science. So I think umm... they are having difficulties, they cannot... come up with the ideas, or they cannot solve the problem. So that’s what I found.”* R3 organized a workshop with the goal to encourage students to innovate as the outcome of the program. The objective suggested an emphasis on fostering critical and creative thinking skills among participants. Despite that, R3 noted that students struggle to generate an idea or solve problems without guidance from their facilitators. This highlights dependency on teacher or facilitator to navigate problem-solving process.

### 4. Syllabus and abstract nature of chemistry

The objective of the curriculum is to impart knowledge and also essential skills such as critical thinking skills within students. However, teachers faced challenges in finding balance, as mentioned by R2, *“Our curriculum messes with teachers minds because they think that they have to finish you know... syllabus within certain time.”* The statement from R2 highlighted the difficulty between the need to finish the syllabus within a specific timeframe and following the curriculum requirements. When teachers are compelled to strictly follow the timelines, there may be a tendency to prioritize content delivery, therefore the need to cultivate critical thinking skills might take a back seat. R2 further added, *“... If I’m a teacher, I want to finish the syllabus. If I don’t finish the syllabus, I feel very guilty, you know.”* The excerpt above shows that despite being aware of the need to foster critical thinking skills, a compromise needed to be done due to the guilt of not finishing the syllabus, therefore would lead to a focus on covering content rather than delving into development of critical thinking. This

issue was also observed by RT3, *"We want students to develop 21<sup>st</sup> century skills, but many teachers prefer chalk and talk"*

When asked to elaborate further on the reason why, RT3 explained, *"They said it's to finish the syllabus."* RT3's observation was aligned with RT2's experience, *"To finish everything (content) in one hour, I can't. So sometimes, as a teacher, we have to focus on finishing the syllabus...Not that we don't want to practice critical thinking, but it takes time"*. RT2 further elaborated that *"...in subjects like chemistry, we deal with abstract concepts. For instance, when teaching chemical reactions, it's not just about presenting A+B becomes C. We need time to explain how the reaction occurs, like how hydrogen ions interact in an acid-base reaction. But the syllabus is packed, and we often find ourselves rushing to cover all the materials. This makes it difficult to incorporate activities that foster critical thinking."*

RT2 explained that exam-oriented mindset might influence how teachers conduct their lesson. *"Sometimes...for them to practice that (employing critical thinking) is hard, they still focus on exam..."*

Apart from finishing the syllabus, the subject chemistry itself is already challenging due to its abstract nature since it involves concepts that are not seen with naked eyes like atomic structures, chemical bonding, and chemical reaction as described by R1, *"... The challenges to integrate critical thinking into chemistry. Firstly, is how you want to encourage students to think. That is the most important part. Chemistry is involved in a very abstract concept, so, the students are not really keen to know about chemistry. Then how do you want to encourage students to think deeply, to think in a critical way in chemistry."* R1 emphasized the difficulty of motivating students to think deeply and critically about chemistry. This challenge stems from the abstract nature of chemistry, which can be challenging to grasp without a strong foundation which might lead to disconnect, and they might struggle to see the relevance of critical thinking skills in this context. RT4 shared the same sentiment, *"Chemistry is among hard subjects to learn. The challenge...When we see the nature of chemistry itself, it is abstract..."*

#### 4) Gap between theory and practical

Another challenge when fostering critical thinking that should be taken into consideration is the gap between practical application and theoretical knowledge of critical thinking in chemistry. R2 shared her insight, *"I think we kind of like overstimulate our teachers and frighten our teachers with terms you know like oh "OK for critical thinking you have this five different." If a teacher... even if I'm as a teacher and if I see those five components, I think I'll give up."* R2 highlighted the approach of critical thinking as a series of steps which can be overwhelming due to too much information on the skills needed for teachers to cultivate critical thinking skills. This issue might discourage teachers from integrating critical thinking into their lessons.

In addition, some teachers might not be using *Dokumen Standard Kurikulum dan Pembelajaran* (DSKP) as reference for their lesson. This phenomenon was observed by RT3, *"There is so much information inside DSKP. The Bloom taxonomy, critical thinking, they are all already there. But the problem is, teachers don't read DSKP..."* DSKP is designed to provide a structured approach to curriculum, a much-needed resource for teachers to enhance their teaching strategies and make the lesson more effective. Failure to do have resulted in teachers unable to develop assessments that are aligned with learning objectives and

standards, as observed by RT3 above and RT2, "...if they(teachers) don't know DSKP, it's a mistake"

#### 5) Not enough knowledge

Misconceptions on critical thinking can impede development of critical thinking skills in education. R2 shared her experience on how her son once viewed critical thinking, "My son... I think he was in Form 4, Form 5 and he came back home and he told me, "Mom, I'm going to fail my physics." And I asked "Why? Why are you going to fail your physics? You haven't even sat for your physics paper yet." Then he said, "You know there's KBAT (HOTS)," and I was that time haven't heard of it, so I said "KBAT? So what is so difficult about it?" He said, "Oh, my teacher said there's more than one answer." And in my head, I'm thinking, "OK. Look, for my entire life, school life, teachers always expected me to find one answer. Now your teacher is giving you, you can choose a few answers. Don't you think your chances of getting it right, it'll be much higher?" Then he said like, "No, no, my teacher said we all going to fail."

The student's belief on there should be only one correct answer reflected a common misconception of what constitutes critical thinking questions and answers. This might be due to his experience throughout his school year in which he had been conditioned to believe that success in examinations depends on finding the "right" answer stated by teachers or textbooks. In critical thinking assessment, students are encouraged to consider various solutions, interpretations, and giving justification on their approaches to the problems. This can be unsettling for students who are accustomed to straightforward questions with definitive answers which require them to analyze, evaluate, and justify their answers based on reasoned arguments rather than simply recalling facts and information. The misconception led him to fear of failure and might perceive that critical thinking assessments as more challenging and riskier.

It's interesting to note how the teacher mentioned that the students would all fail. This implies that the teacher might have a preconceived bias on critical thinking itself and believing that their students would not be able to succeed. Another issue that hindered implementation of critical thinking in chemistry was misconceptions on the cognitive skills of critical thinking. Educators as the executioner in curriculum play a big role in ensuring that the objectives of the lesson when cultivating critical thinking among students are achieved. In order to do so, they must have a good grasp on how to implement the skills during lessons. However, the finding revealed that some misconceptions about what constitutes critical thinking might presence, as observed by R2, "I think the problem is... I mean I have seen teachers, they give questions like, "OK, should a student eat, should a student eat junk food or eat a well-balanced diet." You are asking the students to evaluate but there is a clear-cut answer to it. Of course, nobody's going to ask a child to eat junk food. So even though the students are doing evaluation, and it looks like... I put in inverted commas "evaluating question", but there's actually no evaluation done, in that sense, because everybody knows you have to choose the balanced diet. So, I think many of us are behind the assumption, "Oh, I'm actually doing evaluation skills, you know, because I asked my students to choose between balanced diet or junk food. So, they have to evaluate the situation and let us know." But for me, I think no, it's such a clear cut. There are no evaluation skills needed in it."

The excerpt raised a point on how misconception might have occurred when implementing critical thinking skills during lesson. R2 explained that during her



observations, teachers posed a question that appears to require evaluation. For example, asking students whether they should eat junk food or a balanced diet. Despite asking students to evaluate which foods are supposedly better, this type of question does not challenge students to critically analyze information because “eat a balanced diet” is universally accepted as correct. R2 believed that these questions do not require evaluation and instead merely test students’ ability to recall or state what is already known to be the correct answer due to “clear-cut” nature of the question.

Another issue is when teachers were unsure about higher order thinking skills, as stated by RT3, “...Teachers don’t really see higher order thinking skill. One teacher asked me, “If I change this (referring to one of higher order thinking skills)” I told the teacher, “When you asked them to compare and contrast, that’s higher order thinking skills.” The excerpt above indicated that some teachers may not fully grasp the concept of higher order thinking skills (by extension critical thinking), therefore it might lead to ineffective teaching strategies. By asking to compare and contrast, teachers are encouraging analysis and evaluation, key components in critical thinking.

This observation was also mentioned by RT4, “Sometimes when we ask the teachers critical thinking, they are unable to give those examples like classifying and so on. They’ve done it before during lesson, but they don’t know that those are critical thinking.” Meanwhile, some teachers believed that critical thinking questions mean asking hard questions, as observed by RT3 when she shared how a teacher that she met mentioned the difficulty of asking critical thinking questions, “...the questions do not necessarily have to be hard. Questions involving application and above are considered critical thinking. And the teacher said, “Oh, that easy?” The excerpt, “Oh, that easy” indicated that some teachers believed that it was hard to construct critical thinking questions.

#### 6) Long and continuous process

Cultivating critical thinking can be challenging when the effect cannot be seen quickly. Therefore, R3 stated that developing critical thinking among students should start early, “It’s a long process. And it has to be, it has to start early.” R2 concurred with this viewpoint and stressed on the importance of starting early, “It’s not easy to have this kind of thinking skills and all and these thinking skills must come from primary school, kindergarten and all that, you know.”

RT1 concurred, stating that, “if they were exposed early on, it makes the integration better since they were exposed early. That’s why I asked the school to teach science in Form 1, so that I can expose critical thinking early.” This showed that fostering critical thinking couldn’t be done within a short span of time. The long and continuous process of developing critical thinking skills can be challenging as it requires consistent effort over an extended period of time from all levels of educational systems. Concerted effort from all levels of the system could ensure that the progression remains steady and consistent throughout students’ educational journey.

#### 7) Environment of the classroom

Another challenge that can hinder the development of critical thinking in lesson is the environment of the classroom, as mentioned by R2, “So I don’t know maybe the class number, you know, I think some of the overseas schools they have like teacher assistants...”

*Maybe the number of classes the students are too big. I mean, I sympathize with the teachers nowadays. Big classrooms can hinder individualized attention and guidance from the teacher, therefore limit opportunities for meaningful students' participation. R3 shared the sentiment, Problem that with our student is a chance, the opportunity for them to practice umm... this critical thinking skill is a main challenge.*

As highlighted by R2 and R3, the effectiveness of critical thinking development within lessons is influenced by the environment of the classroom. A classroom with a large number of students would reduce the active participation and interactions between teachers and students, and that might inadvertently reduce students' opportunities to practice critical thinking as the lesson becomes more teacher oriented. This would lead to another issue, as the environment of the classroom becomes too authoritative, as mentioned by R2, *Because for them (the students) to be critical, they must feel safe, you know, if they feel the environment is too authoritative, they will be waiting for what the teacher will say. They don't want to give their ideas, they don't want to give reasons why they think like that, so that becomes an issue.* When the environment becomes too authoritative, students would not feel safe to participate actively, as they might perceive that there is little room for discussion. Instead, students would focus more on conforming teachers' answer for the fear of being wrong. This would likely result in students to wait for teachers' input rather than exploring the ideas or articulating and sharing their thoughts. Eventually, development of critical thinking skills slows down as students stop practicing critical thinking skills.

## **DISCUSSION AND CONCLUSION**

This study was conducted to explore the challenges faced by secondary school chemistry teachers and chemistry education lecturers in cultivating critical thinking skills in chemistry during lessons. The analysis of the data revealed that challenges these educators observed and faced are difficulty in encouraging students to think, reliance of teacher/facilitator to think, syllabus and the abstract nature of chemistry, gap between theory and practical, not enough knowledge on what constitutes critical thinking, wrong understanding on cognitive skills of critical thinking, long and continuous process, and lastly environment of the classroom. Encouraging students to think independently is one of the significant challenges.

Dependency on teacher or facilitator guidance could stem from a lack sufficient exposure to tasks that encourage critical thinking. A study conducted by Yusoff and Seman (2018) showed that teachers always asked lower order thinking skills questions and spend more time on asking factual or recalling questions during lesson. This could be due to teachers not knowing questioning techniques and concepts of Socratic questions (Seman et al., 2017). It also could be due to teachers' insufficient knowledge regarding what constitutes critical thinking that is evident in the study conducted by Seman et al., (2017). The gap between theory and practical application might have led to misunderstanding or misconceptions on the nature of cognitive skills required for critical thinking, causing educators to unable to employ effective strategies to integrate critical thinking in chemistry.

In addition, the syllabus and the abstract nature of chemistry pose another challenge. Chemistry involves complex and abstraction that can be difficult for students to understand and visualize it (Rusli & Ibrahim, 2021). Furthermore, focusing on finishing the

syllabus can leave little room for the exploration needed to develop critical thinking skills in chemistry (Karpudewan & Kulandaisamy, 2018). Therefore, educators must find ways to integrate critical thinking activities within the constraints of syllabus and that can connect through the use of real-life examples such as project-based learning that can connect abstract concepts of chemistry to practical applications such as the application of green chemistry in lesson (Karpudewan & Kulandaisamy, 2018) or separation of mixtures based on physical and chemical properties (Insani et al., 2018). Furthermore, the application also should be done in a less authoritative environment. This is because students who are given more autonomy during lessons perform better (Bara & Xhomara, 2020).

Developing critical thinking skills is a long and continuous process that requires sustained effort and practice for a long period of time. Unlike factual knowledge that can be quickly memorized, critical thinking skills develop gradually through repeated application and reflection through concerted effort from all parties involved. It can be challenging if critical thinking is introduced at later stages as the performance decrease with increasing age (Denney, 2007), thus delaying the development of critical thinking among students.

In conclusion, implementing critical thinking in chemistry can be challenging due to myriads of reasons. Educators must navigate the difficulties related to curriculum constraints, the abstract nature of chemistry, gaps in knowledge, and also students' attitudes in classroom. Addressing these challenges can help educators better equip students with critical thinking skills in chemistry.

## LIMITATION

The research focused on a small sample of four chemistry teachers and three chemistry education lecturers as the respondents. Furthermore, the research relies on the personal perceptions and experiences of the respondents which may be subjective, therefore the experiences and perceptions of this group may not reflect those of educators in different contexts.

## REFERENCES

- Alawi, N.H., & Soh, T.M.T. (2019). The effect of project-based learning (PjBL) on critical thinking skills form four students on Dynamic Ecosystem Topic "Vector! Oh! Vector!" *Creative Education*. 10. 3107-3117.
- Bara, G. & Xhomara, N. (2020). The effect of student-centered teaching and problem-based learning on academic achievement in science. *Journal of Turkish Science Education*. 17(2). 180-199.
- Cresswell, J.W. (2014). *Educational Research: Planning, conducting and evaluating quantitative and qualitative research*. Fourth Edition. London, UK: Pearson Education Limited.
- Denney, N.W. (2007). Critical thinking during the adult years: Has the developmental function changed over the last four decades? *Experimental Aging Research*. 21. 191-207.
- Facione, P.A. (1990a). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction*. Millbrae, CA: California Academic Press.
- Facione, P.A. (2015). *Critical thinking: What it is and why it counts*. The California Academic Press, Millbrae, CA.

- Insani, N., Fadiawati, N., Rudibyani, R.B. & Syamsuri, M.M.F. (2018). Using project-based learning in improving students' critical thinking skills to separate mixtures. *IJCER*. 2(2). 85- 89.
- Jowsey, T., Deng, C. Weller, J. (2021). General-purpose thematic analysis: a useful qualitative method for anaesthesia research. *BJA Education*. 21(12). 472-478.
- Merriam, S.B. (2009). *Qualitative Research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Karpudewan, M. & Kulandaisamy, Y. (2018). Malaysian teachers' insight into implementing green chemistry experiments in secondary schools. *Current opinion in green and sustainable chemistry*. 13. 1-10.
- Maknun, J. (2020). Implementation of guided inquiry learning model to improve understanding physics concepts and critical thinking skill of vocational high school students. *International Education Studies*. 13(6). 117-130.
- Ministry of Education. (2012). *Preliminary Report. Malaysia Education Blueprint 2013-2025*. Putrajaya.
- Ministry of Education. (2018). *Dokumen Standard Kurikulum dan Pentaksiran Kimia Tingkatan 4 dan 5*. Putrajaya.
- Ministry of Education Examination Board. (2023). *Laporan Analisis Keputusan Peperiksaan Sijil Pelajaran Malaysia 2023*. Putrajaya.
- Parimaladevi & Ahmad, A. (2019). The implementation of higher-level thinking skills (HOTS) in History Education. *RedWhite Press*. (2). 216-220.
- Rusli, N.S. & Ibrahim, N.H. (2021). Pandangan guru terhadap masalah pengajaran dan pembelajaran kimia tingkatan enam. *Proceeding of the 8<sup>th</sup> International Conference on Management and Muamalah 2021*. 800-813.
- Schulz, H. and FitzPatrick, B. (2016). Teachers' understanding of critical and higher order thinking and what this means for their teaching and assessments. *Alberta Journal of Educational Research*. 62(1). 81-86.
- Seman, S.C., Yusoff, W.M.W. & Embong, R. (2017). Teachers' challenges in teaching and learning for higher order thinking skills (HOTS) in primary school. *International Journal of Asian Social Science*. 7(7). 534-545.
- Uliyandari, M., Candrawati, E., Herawati, A.A. & Latipah, N. (2021). Problem-based learning to improve concept understanding and critical thinking ability of science education undergraduate students. *International Journal of Recent Educational Research*. 2(1). 65-72.
- Yusoff, W.M.W. & Seman, S.C. (2018). Teachers' knowledge of higher order thinking and questioning skills: A case study at a primary school in Terengganu, Malaysia. *International Journal of Research in Progressive Education & Development*. 7(2). 45-63.

**Paper ID:** 1571061917

**Name:** Wan Mohd Khairi Wan Ibrahim, Suhaidah Hussain & Azim Azuan Bin Osman

**Paper Title:** Expert Validation of a Research Culture Assessment Tool for Secondary Schools

**E-mail:** wmkwi79@gmail.com

## **Introduction**

The importance of research in the school environment is increasingly recognized, as it fosters inquisitive thinking, innovation, creativity, critical thinking, and problem-solving skills among teachers. However, evidence suggests that school leaders in secondary schools in Malaysia are not effectively cultivating a research culture. This article aims to develop a valid assessment tool to measure the level of research culture in secondary schools in Malaysia. A survey questionnaire was created and tested for content validity by a panel of ten experts. An item content validity index (I-CVI) was calculated for each indicator of research culture, with items scoring above 0.80 being retained and those scoring lower being discarded. The assessment tool has shown evidence of content validity and will require further statistical testing to determine its construct validity and reliability.

## **Objective**

1. What are the key indicators of a research culture in secondary schools?
2. To assess content validity (I-CVI) of research culture survey questionnaire.
3. To evaluate inter-rater agreement (I-IRA) of research culture survey questionnaire.

## **Methods and Instruments**

To evaluate the content validity (I-CVI) and inter-rater agreement (I-IRA) of the research culture survey instrument, this study was undertaken to create and authenticate a tool aimed at quantifying the degree of research culture implementation within Malaysian secondary schools. In the realm of quantitative research, it is imperative to validate a questionnaire prior to its dissemination for data gathering to ensure its efficacy, encourage participation from respondents, and pinpoint potential obstacles that may influence the outcomes of the study (Carpenter, 2018; Podsakoff et al., 2012). As articulated by Cooper & Schindler (2014), a pre-test encompasses the assessment of questions and instruments prior to the initiation of a study.

Although various methodologies are available for validating questionnaires, this investigation utilized an expert panel evaluation to ascertain the validity of the research culture questionnaire (Carpenter, 2018; Fisher, 2020; Rubio et al., 2003).

Content validity, as delineated by Fraenkel et al. (2012), pertains to the degree to which an instrument ostensibly measures a defined variable. The study necessitated two discrete categories of expert panels: 1) subject-matter experts possessing considerable knowledge and experiential insight within the pertinent domain, and 2) methodologists proficient in survey methodologies who can offer dependable counsel on the collection of accurate data pertinent to addressing the research inquiries (Carpenter, 2018; Fisher, 2020; Rubio et al., 2003). These experts executed their evaluations methodically by employing a standardized

scaling methodology and explicit guidelines to mitigate bias and subjective interpretations (Boateng et al., 2018; Carpenter, 2018).

### Results and Discussion

The questionnaire was distributed via email to 10 selected panel experts who agreed to participate. Within a month, eight experts returned the completed instruments, while two were unable to do so, possibly due to work commitments.

Boateng (2018) suggests that a panel of five to seven experts is typically sufficient for content validation purposes, given their diverse backgrounds. Therefore, this study selected seven of the eight returned rubrics for evaluation. Table 1 presents the values of CVI and IRA for both item-level and scale-level assessments. The results indicate that the research culture construct successfully met the criteria for content validity and inter-rater agreement, leading to its acceptance. Nevertheless, certain remedial actions have been implemented in response to additional comments provided by panel experts concerning the grammatical inaccuracies.

*Table 1: CVI and IRA for Research Culture constructs*

Construct	Item code	$n_r$	I-CVI	S-CVI	$\Sigma n_a$	I-IRA	S-IRA
Research culture	RC01	7	1.000		7	1.000	
	RC02	7	1.000		7	1.000	
	RC03	7	1.000	1.000	7	1.000	1.000
	RC04	7	1.000		7	1.000	
	RC05	7	1.000		7	1.000	

Note.  $n_r$  = number of experts rated the item as “representative” (score 3 and 4).  $\Sigma n_a$  = sum of individual item’s agreement (score 3 and 4).

### Conclusion/Implications for Research/Policy

In conclusion, this study effectively established and substantiated a research culture survey questionnaire intended for application within Malaysian secondary schools. A careful examination conducted by a committee of expert individuals diligently appraised the content accuracy and the agreement levels among reviewers of the tool. The findings demonstrated that the research culture constructs satisfied the requisite parameters for both content validity and inter-rater agreement, thereby affirming its appropriateness for subsequent utilization. The validated instrument is anticipated to assume a pivotal role in the assessment and enhancement of the research culture within schools, thereby contributing to the overarching advancement of pedagogical practices in Malaysia. Additional statistical analyses are advised to ascertain the construct validity and reliability of the instrument, thereby guaranteeing its efficacy across varied educational environments.

**Paper ID:** 1571063296

**Name:** Nurul Shahira Rustan & Faraha Hamidi

**Paper Title:** The Use of YouTube in Facilitating Learners' Speaking Skills Among Undergraduate Students of the School of Education in UTM

**E-mail:** shahira00@graduate.utm.my

## **Introduction**

The research is conducted to investigate the perception of learners among undergraduate students from the School of Education, UTM toward the effectiveness of YouTube videos as supplementary tools to facilitate learners' speaking skills and to rank the improvement of target language elements (Vocabulary, Pronunciation, and Sentence Structure) within the learners' speaking skills from the use of YouTube. The study was conducted following a surge in the integration of YouTube videos in global language learning settings especially after the pandemic which required most classes to be conducted online. Furthermore, most Malaysian ESL learners performed better on writing assessments compared to the speaking assessments revealing that there is less awareness of Malaysian ESL learners to master speaking skills although it was extremely vital in preparing themselves before entering the workforce. Therefore, the research will be focused on the undergraduate population in School of Education (SOE) in UTM with 10 participants for the semi-structured interview and 60 respondents for the online questionnaire. The research used a mixed-method approach where qualitative research would be conducted to investigate the perception of learners among undergraduate students from the School of Education, UTM on effectiveness and quantitative research would be implemented to rank their improvement in target language elements.

## **Objectives**

The research is conducted to achieve the following objectives:

- 1.** To investigate the perception of learners among undergraduate students from the School of Education, UTM on the effectiveness of YouTube videos as supplementary tools to facilitate learners' speaking skills.
- 2.** To rank the improvement of target language elements (vocabulary, pronunciation, and sentence structure) of learners among undergraduate students from the School of Education, UTM's speaking skills from the use of YouTube.

## **Methods and Instruments**

The respondents of this study are undergraduate students from the School of Education, Universiti Teknologi Malaysia. The methodology used for this research is a mixed method, a combination of qualitative and quantitative research where 10 participants are selected for a semi-structured interview and 60 respondents are involved in the online questionnaire. The semi-structured interview consisted of seven questions intended to collect in-depth information on the respondents' overall perceptions, personal experiences, and preferences of the use of YouTube in facilitating their speaking skills. The online questionnaire consists of 15 items to evaluate the students' self-assessed

performance on the target language elements namely vocabulary, pronunciation, and sentence structure as a result of using YouTube through an implementation of Likert scale. The questionnaire was divided into three major sections intended to evaluate the students' self-assessed performance in each target language with five questions per section. There were also two additional sections, in the beginning, to collect their demographic information to observe the learners' YouTube usage patterns. The items were crafted by adapting questionnaires from various studies.

Pre-reading was conducted prior to the research to build a deeper understanding, and some articles were referenced in constructing the semi-structured interview questions and the questionnaire. The participants were particularly selected through purposive sampling where only students who achieved Band 3 to Band 4.5 in Malaysian University English Test (MUET) were included in the research. The online questionnaire was also distributed to a number of 80 respondents, as a result of oversampling to ensure the responses could reach the targeted sample of 60 respondents. The data collection for quantitative and qualitative data were conducted sequentially in the respective order. 10 respondents of the questionnaire were selected randomly to participate in the semi-structured interview. The qualitative data were analysed thematically whereas the quantitative data was analysed descriptively using SPSS analysis software. The results from both analyses were then compared and interpreted before drawing out conclusion.

## **Results and Discussion**

The findings show a positive response from the participants where they deem YouTube videos an effective supplementary tool in facilitating their speaking skills, especially in their digital immersion and the enhancement of communicative competence. In terms of digital immersion, the participants highlighted the accessibility of the platform and the usefulness of its features that enhance their personalised learning experience to facilitate their speaking skills. The participants also admittedly found the learning content to be more engaging as they could engage with a greater variety of learning content, hence exposing them to a more authentic use of language. Other than providing a social influence on the learners' speaking skills, it also had a positive impact on their motivation to practice their speaking. The findings also discussed the participants improved ability in language use in communicative competence as shown in their speaking skills, especially in their practical communication skills such as their ability to organise their ideas effectively and navigate real-life conversation. The participants also expressed a positive perception on the use of YouTube as it improves their linguistic skills, particularly in vocabulary and pronunciation.

A dual analysis conducted on the data collected from the online questionnaire suggested that the majority of the respondents 'Agree' with the positive impact of YouTube use in facilitating their speaking skills in the target language elements, namely Vocabulary, Pronunciation, and Sentence Structure. This is reflected in the mean derived for each item in the questionnaire which ranged from 4.18 to 4.42. The questionnaire was equipped with a Likert scale to represent their responses to each item. A mean number above the value of 4 suggested that learners "Agree" with the item presented.

The findings from the online questionnaire also suggested that improvement of



language elements within their speaking skills due to the use of YouTube is more significant in Pronunciation, then followed by Vocabulary and Sentence Structure respectively with very little difference in average mean margin from each section. The result is shown in the following table:

<b>Language Element</b>	<b>Average Mean</b>
<b>Pronunciation</b>	<b>4.334</b>
<b>Vocabulary</b>	<b>4.278</b>
<b>Sentence Structure</b>	<b>4.266</b>

*Table 1: Average Mean*

The average mean as shown in Table 1 was accumulated from the mean of items in respective sections to assess the learners' self-assessed improvement on the target language elements. It was shown that the learners noticed an improvement in terms of pronunciation in their speaking the most with an average mean of 4.334, then was followed closely by Vocabulary with 4.278 and Sentence Structure with an average mean of 4.266 respectively. Learners were most likely to model and imitate the pronunciation from YouTube speakers, hence helping them to improve their pronunciation the most along the way. In terms of vocabulary, YouTube provides opportunities to learn new vocabulary with its meaning but is not necessarily effective in helping learners retain it through repetition. Lastly, the improvement in sentence structure from YouTube was mostly attributed to helping the learners generate and expand their ideas for speaking tasks along with the use of closed-caption (CC) to demonstrate a variety of sentence structures.

Nonetheless, the researcher also hopes to see improvement in future research regarding the area through a set of recommendations based on the findings of this research dedicated for the use of future research.

### **Conclusion/Implications for Research/Policy**

Overall, the findings from the research show that learners perceive the use of YouTube as a supplementary tool to be effective in facilitating their speaking skills, particularly in terms of digital immersion and the enhancement of their communicative competence. In general, the respondents agree that YouTube had good resources to allow learners to practice their speaking skills and the functionality allowed them to engage with the content according to their learning needs. It was also supported by their concluded response from the online questionnaire where the average mean for each item was above 4, which was indicated as 'Agree' based on the Likert-Scale. It is observed that the language elements that show the most to least improvement are Vocabulary, Pronunciation, and Sentence Structure respectively.

The research has shown that the use of YouTube in language learning shall be complemented with the integration of another learning platform to maximise the

effectiveness as the platform alone is not equipped with suitable assessment features. As the content accessed by the respondents of the research was not monitored by the researchers, it is advisable for a language teacher to be able to come up with an extensive guideline for choosing appropriate channels with a certain focus on the target language elements to optimise the learning outcomes.

The overall findings of the research showed rather marginal results due to the purposive sampling to choose only students with certain language proficiency levels, hence researchers could expand the sample size to learners with lower proficiency learners to discover a wider perception of the use of YouTube as a supplementary tool and the assessed improvement on language elements on their speaking skills.

**Paper ID:** 1571063755

**Name:** Lin Ma & Azlina Mohd Kosnin

**Paper Title:** The Levels of Negative Emotion, Academic Motivation, Teachers' Professional Identity and Career Adaptability

**E-mail:** malin@graduate.utm.my

## Introduction

Negative emotions among college students have been a significant concern, especially during challenging times such as the COVID-19 pandemic. Various factors have been identified as influencing the levels of negative emotions in college students. For instance, studies have shown that the COVID-19 pandemic has resulted in a rise in negative emotions among college students (Zeng et al., 2022; Xu & Huang, 2022). Factors such as boredom proneness, mobile phone addiction, stress response, social anxiety, and fear of negative evaluation have also been linked to higher levels of negative emotions in college students (Zhu, 2023; Xiao & Huang, 2022; Wan, 2024; Xu, 2023). Research has shown that negative academic emotions can significantly affect students' academic motivation and performance (Wang, 2024).

Academic motivation, characterized by the desire to engage in academic activities due to enjoyment and interest, plays a fundamental role in determining academic success (Işıkğöz, 2024). Studies have shown that motivation influences students' learning behaviors, academic achievements, and even their career choices (Wang, 2024). Furthermore, academic motivation is considered a key determinant of academic performance and is essential for students' academic development (Odedokun, 2022; Pânişoară et al., 2015).

Additionally, teacher professional identity is associated with work engagement, burnout, and career satisfaction among educators (Xing, 2022; Sun et al., 2022). Studies indicate that a strong professional identity leads to increased work engagement, subsequently enhancing career satisfaction (Sun et al., 2022). Furthermore, professional identity directly influences career adaptability, with learning engagement playing a mediating role in this relationship (Liu et al., 2023).

Career adaptability, which encompasses various dimensions such as adjusting to new environments, coping with transitions, and preparing for future challenges, is vital for students in navigating their career paths successfully (Ameliah, 2024; Rudolph & Zacher, 2021). Career adaptability is a psychosocial resource that aids individuals in coping with different career changes and challenges they may face throughout their professional lives (Rudolph & Zacher, 2021). It has been highlighted that career adaptability is crucial not only during times of stability but also in unstable working environments, emphasizing the importance of continuous learning and skill development (Woo, 2018).

## Problem statement

Career adaptability is essential for pre-service teachers in China's teacher-training programs, especially since they are often required to work in remote areas. The lack of adequate political and financial support from the government has significantly decreased the number of rural teachers, especially in poor areas. For example, the number of full-time teachers in rural China fell from 3.23 million in 2012 to 2.81 million in 2017, reflecting an

average annual decline of 2.754%. Poor working and living conditions are driving many rural teachers to leave their positions (Li et al., 2020).

One key objective of public-funded undergraduate teacher-training programs is to alleviate the shortage of qualified teachers in these underserved areas. However, some graduates assigned to these locations may depart after completing their service, exacerbating the teacher shortage issue. It is crucial to understand the negative emotions experienced by pre-service teachers, especially those with high job turnover rates, and how these emotions influence their career adaptability.

Negative emotions play a significant role in the experiences of pre-service teachers during their practicum and education. Research indicates that pre-service teachers often encounter feelings of inadequacy, cynicism, stress, anxiety, and depression (Anttila et al., 2016; Burak et al., 2022). These emotions can be particularly severe in challenging situations, especially when emotional support is lacking (García-Martínez et al., 2021). Additionally, a lack of confidence can exacerbate negative emotions and affect teaching performance (López, 2020).

Furthermore, variables such as academic motivation and professional identity can influence career adaptability. There is a relationship between negative emotions, academic motivation, and professional identity (Okan, 2023; Raharjo & Iswandari, 2019; Ortiz et al., 2019). In essence, emotional states impact career adaptability.

Academic motivation plays a crucial role; individuals with high professional flexibility are more apt to establish and accomplish ambitious academic goals, thereby boosting their overall motivation to succeed. Those with strong academic motivation are more likely to explore and implement self-regulation strategies, recognize their interests, work hard toward their objectives, and attain greater success. (Rogers & Creed, 2011). Research showed that intrinsic motivations are often more prominent than extrinsic ones among pre-service teachers (Yüce et al., 2013). Moreover, a teacher's motivation significantly influences the benefits they gain from their training, underscoring the importance of fostering autonomous motivation in pre-service teachers (UYSAL, 2022).

Within the realm of teaching, professional identity encompasses teachers' cognition and attitude towards their roles, influenced by their experiences and interactions within the profession (Wang, 2023). Professional identity has been identified as a predictor of career satisfaction and burnout among teachers (Xu et al., 2022). Moreover, the development of professional identity in pre-service teachers has been linked to career adaptability through factors such as teacher efficacy (Qiao et al., 2022).

### **Research Objective**

In general, the purpose of this study was to identify the levels of negative emotion, academic motivation, teacher's professional identity, and career adaptability that exists among public-funded undergraduate students in teacher-training program in Shanxi province, China. The specific research objective of this study is:

- Identify the levels of negative emotion, academic motivation, teachers' professional identity and career adaptability among public-funded undergraduate students in teacher-training program in Shanxi province, China.

### Research question:

- What are the levels of negative emotion, academic motivation, teachers' professional identity, and career adaptability?

### Methodology:

This study employs a descriptive analysis, utilizing data gathered from the provided instruments. Surveys are an appropriate research method for collecting information on the variables under investigation. According to Creswell (2012), survey studies are a quantitative research approach where researchers administer surveys to samples and populations. Descriptive and correlational designs are ideal for examining the relationships between variables. The instrument for evaluating career adaptability through Career Adapt-Abilities Scale short form(CAAS-SF), negative emotion through The Achievement Emotions Questionnaire for Teachers (AEQ-S), academic motivation through Motivated Strategies for Learning Questionnaire (MSLQ), and teacher's professional identity through The Early Teacher Identity Measure (ETIM). Questionnaires, as data collection tools, are frequently used by researchers due to their ease of administration and accuracy in data collection (Ary et al., 2009).

### Findings

#### Levels of of negative emotion, academic motivation, teachers' professional identity and career adaptability

The findings and discussion in this section address the research questions formulated to assess the levels of negative emotion, academic motivation, teachers' professional identity, and career adaptability. Descriptive analysis was employed, categorizing the results into three levels: high, medium, and low. Each variable was evaluated based on its mean value to provide a detailed explanation. Table 1 illustrates that academic motivation had the highest level ( $M = 5.2138$ ,  $SD = 1.26053$ ), while negative emotion had the lowest level ( $M = 2.86$ ,  $SD = 1.19112$ ). Career adaptability was ranked second-highest ( $M = 4.0019$ ,  $SD = 0.712$ ) compared to teachers' professional identity ( $M = 3.6238$ ,  $SD = 0.8635$ ). This indicates that the levels of the three variables under study are generally high. However, one variable studied is at a medium level.

Table 1 Levels of of negative emotion, academic motivation, teachers' professional identity and career adaptability

Variable	Mean	Std. Deviation	Level
CA	4.0019	0.712	high
NE	2.816	1.19112	medium
AM	5.2138	1.26052	high
TPI	3.6238	0.8635	high

Note:CA=career adaptability, NE=negative emotions, TPI=teacher's professional identity, AM=academic motivation

## Discussion and Recommendations

The results showed that the students had a high degree of career adaptation to their careers, a high degree of academic motivation to their academics, as well as a high degree of teacher's professional identity; However, their negative emotions still exist, although the level of negative emotions is lower than during the pandemic era, it still needs to be taken seriously.

Lifestyle factors like physical exercise and health-promoting behaviors have been found to play a crucial role in mitigating negative emotions among college students. Engaging in physical exercise has been associated with lower levels of negative emotions, with exercise positively influencing psychological resilience and ego effect while reducing negative emotion levels (Mu, 2024; Li et al., 2021). Additionally, health-promoting behaviors have been shown to have a positive impact on reducing negative emotions among college students (Tao, 2024).

Furthermore, studies have highlighted the importance of emotion regulation and mindfulness in managing negative emotions among college students. Emotion regulation strategies, such as music intervention and mindfulness training, have been found to help control and reduce negative emotions, thereby improving mental health outcomes (Xu, 2021; Li-sen, 2024). Additionally, trait mindfulness has been linked to lower negative emotions and reduced interpersonal sensitivity in college students (Ding et al., 2020).

Although career adaptability, academic motivation, and teacher's professional identity are at a high level, the universities still need to be maintained and enhanced. To enhance career adaptability among university students, various strategies can be implemented based on research findings. Interventions focused on enhancing career adaptability have shown promising potential in boosting college students' career decision self-efficacy, which is linked to greater academic and career goals (Wetstone, 2023). This indicates that targeted training programs can positively impact students' confidence in making career decisions and subsequently enhance their academic motivation. Enhancing career decision self-efficacy through problem-solving and future planning is crucial for improving students' career adaptation and achieving high-quality employment (Du, 2024). These interventions can help individuals develop a future orientation, curiosity, confidence, and effective decision-making skills, which are essential for career adaptability.

To enhance academic motivation among graduate students, various strategies and factors have been identified in the literature. Amida et al. (2020) suggest that intrinsic motivation, time management, autonomy, and reducing amotivation can directly increase academic success. Mahardika & Kuswando (2022) found that motivation-regulation strategies such as interest enhancement, goal-oriented self-talk, and environmental control can boost and maintain motivation in academic reading. Anh (2021) emphasizes the importance of a cohesive classroom climate in improving student academic motivation. Additionally, Yao (2024) discusses how ESP teaching strategies can enhance academic self-efficacy, reflective thinking, and achievement motivation.

Moreover, Awan et al. (2011) highlight the relationship between achievement motivation, academic self-concept, and academic performance, suggesting that engaging programs to motivate students can improve their academic achievements. Elsayed et al. (2021) mention that increasing students' extrinsic motivation can help those with low academic performance become more interested and satisfied with their learning

experience. Furthermore, Lohbeck & Moschner (2021) explore the interaction of academic self-concept with motivational regulation strategies, indicating that a higher academic self-concept can lead to more frequent use of certain strategies.

Professional identity is a dynamic construct shaped by various factors like social contexts, personal experiences, and interactions within the profession (Rachmajanti et al., 2021). Teachers with a robust professional identity are more likely to demonstrate high teaching quality and commitment to their roles (Rachmajanti et al., 2021). Therefore, understanding and promoting the development of professional identity among educators are crucial for enhancing their resilience, well-being, and effectiveness in the classroom (McIntyre & Hobson, 2015).

## Conclusions

Negative emotion, academic motivation, teacher's professional identity, and career adaptability are multifaceted concepts that significantly influence academic outcome, and career development in the educational domain. They are crucial factors that significantly impact students' educational and professional journeys. However, the relationship between four variables is intricate and interconnected. Negative emotion, academic motivation, teacher's professional identity, and career adaptability are significant aspects of pre-service teachers' experiences during practicum and teacher education; such as, academic motivation serves as a foundation for students to engage in learning activities, which in turn can enhance their career adaptability by fostering a proactive attitude towards skill development and readiness for future career transitions (Taibolatov, 2024). Next, correlation analysis should be conducted to explore the relationship between two variables (Fraenkel & Wallen, 2015), correlation studies specifically focus on assessing the strength and nature of the relationships between the variables.

Moreover, studies have explored the mediating role of career adaptability in the relationship between career commitment and motivation, indicating the importance of adaptability in shaping individuals' career paths (Najib & Aljanabi, 2020). Next, further exploration of the relationship between negative emotion and career adaptability through mediating variables (academic motivation and teacher's professional identity) should be carried out.

Recognizing the importance of career adaptability and its interplay with factors such as negative emotion, academic motivation, teacher's professional identity can aid stakeholders in education in better supporting teachers and students to achieve their academic and professional objectives.

## Reference

- Ameliah, A. (2024). Descriptive study of college student's career adaptability with an internship experience. *Annals of Human Resource Management Research*, 4(1), 1-11. <https://doi.org/10.35912/ahrmr.v4i1.1806>
- Amida, A., Algarni, S., & Stupnisky, R. (2020). Testing the relationships of motivation, time management and career aspirations on graduate students' academic success. *Journal of Applied Research in Higher Education*, 13(5), 1305-1322. <https://doi.org/10.1108/jarhe-04-2020-0106>

- Anh, H. (2021). The effect of classroom climate on student academic motivation mediated by academic self - efficacy at hanoi law university. *Scientific Journal of Tan Trao University*, 7(20), 96-104. <https://doi.org/10.51453/2354-1431/2021/488>
- Anttila, H., Pyhältö, K., Soini, T., & Pietarinen, J. (2016). How does it feel to become a teacher? emotions in teacher education. *Social Psychology of Education*, 19(3), 451-473. <https://doi.org/10.1007/s11218-016-9335-0>
- Ary, D., Jacobs, L. C., Irvine, C. K. S., & Walker, D. (2009). *Introduction to Research in Education* Eighth Edition.
- Awan, R., Noureen, G., & Naz, A. (2011). A study of relationship between achievement motivation, academic self concept and achievement in english and mathematics at secondary level. *International Education Studies*, 4(3). <https://doi.org/10.5539/ies.v4n3p72>
- Burak, S., Atabek, O., & Orhon, G. (2022). Relationships between musical behaviors and emotional states, humor styles, and coping humor. *Psychology of Music*, 50(6), 1877-1895. <https://doi.org/10.1177/03057356221076177>
- Creswell, J. W. (2012). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. In *Educational Research*.
- Ding, X., Zhao, T., Li, X., Yang, Z., & Tang, Y. (2020). Trait mindfulness and college student interpersonal sensitivity: the mediating role of negative emotions and the moderating role of effectiveness/authenticity.. <https://doi.org/10.21203/rs.3.rs-83562/v1>
- Du, B. (2024). The impact of college students' career decision self-efficacy on career adaptation from the perspective of high-quality employment: the mediating role of career preparation behavior. *World Journal of Education and Humanities*, 6(3), p1. <https://doi.org/10.22158/wjeh.v6n3p1>
- Elsayed, M., Mousa, M., & Abd-Elhamid, E. (2021). Academic motivation, academic self-efficacy and perceived social support among undergraduate nursing students, alexandria university, egypt.. *Assiut Scientific Nursing Journal*, 0(0), 0-0. <https://doi.org/10.21608/asnj.2021.60460.1112>
- Fraenkel, J. R., & Wallen, N. E. (2015). *How to design and evaluate research in education*. McGraw Hill.
- García-Martínez, I., Navío, E., Ferrá, M., & Quijano-López, R. (2021). Relationship between emotional intelligence, educational achievement and academic stress of pre-service teachers. *Behavioral Sciences*, 11(7), 95. <https://doi.org/10.3390/bs11070095>
- Han, Z., & Zhang, X. (2023). The Influence of Parental Career Support on Career Adaptability of Vocational College Students. *Advances in Vocational and Technical Education*, 5(5), 30-34.
- Işıkğöz, M. (2024). The mediating role of intrinsic motivation in the effect of rational decision-making on academic procrastination.. <https://doi.org/10.21203/rs.3.rs-4444166/v1>
- Ismail, S. (2017). Graduate employability capacities, self-esteem and career adaptability among south african young adults. *Sa Journal of Industrial Psychology*, 43(0). <https://doi.org/10.4102/sajip.v43i0.1396>
- Li, J., Li, M., & Zhang, C. (2021). The influence of physical exercise on college students' ego effect, psychological resilience and negative emotions: a descriptive, cross-sectional study.. <https://doi.org/10.21203/rs.3.rs-561130/v1>
- Li, J., Shi, Z., & Xue, E. (2020). The problems, needs and strategies of rural teacher development at deep poverty areas in China: Rural schooling stakeholder



- perspectives. *International Journal of Educational Research*, 99, 101496. <https://doi.org/10.1016/j.ijer.2019.101496>
- Li-sen, H. (2024). Effects of physical exercise on mood and sleep quality of college students under the covid-19 epidemic. *Revista Brasileira De Medicina Do Esporte*, 30. [https://doi.org/10.1590/1517-8692202430012022\\_0181i](https://doi.org/10.1590/1517-8692202430012022_0181i)
- Liu, X., Ji, X., Zhang, Y., & Gao, W. (2023). Professional identity and career adaptability among chinese engineering students: the mediating role of learning engagement. *Behavioral Sciences*, 13(6), 480. <https://doi.org/10.3390/bs13060480>
- Lohbeck, A. and Moschner, B. (2021). Motivational regulation strategies, academic self-concept, and cognitive learning strategies of university students: does academic self-concept play an interactive role?. *European Journal of Psychology of Education*, 37(4), 1217-1236. <https://doi.org/10.1007/s10212-021-00583-9>
- López, M. (2020). Emotions attributions of elt pre-service teachers and their effects on teaching practice. *Profile Issues in Teachers Professional Development*, 22(1), 15-28. <https://doi.org/10.15446/profile.v22n1.78613>
- Mahardika, A. and Kuswando, P. (2022). Indonesian graduate students' strategies in regulating their motivation in academic reading. *Premise Journal of English Education*, 11(2), 329. <https://doi.org/10.24127/pj.v11i2.4825>
- McIntyre, J. and Hobson, A. (2015). Supporting beginner teacher identity development: external mentors and the third space. *Research Papers in Education*, 31(2), 133-158. <https://doi.org/10.1080/02671522.2015.1015438>
- McIntyre, J. and Hobson, A. (2015). Supporting beginner teacher identity development: external mentors and the third space. *Research Papers in Education*, 31(2), 133-158. <https://doi.org/10.1080/02671522.2015.1015438>
- Mu, F. (2024). Influence of physical exercise on negative emotions in college students: chain mediating role of sleep quality and self-rated health. *Frontiers in Public Health*, 12. <https://doi.org/10.3389/fpubh.2024.1402801>
- Najib, H. and Aljanabi, A. (2020). The mediation role of career adaptability between career commitment and career motivation: an empirical investigation. *Information Management and Business Review*, 12(1(I)), 27-40. [https://doi.org/10.22610/imbr.v12i1\(i\).3033](https://doi.org/10.22610/imbr.v12i1(i).3033)
- Odedokun, S. (2022). Psychosocial factors as predictors of academic behavioural confidence among pre-medical students of university of ibadan. *European Scientific Journal Esj*, 18(31), 27. <https://doi.org/10.19044/esj.2022.v18n31p27>
- Okan, N. (2023). Is Self-Criticism Really a Trigger of Psychological Problems? An Analysis of Self-Criticism in the Context of Turkish University Students. *Educational Policy Analysis and Strategic Research*, 18(1), 175-195.
- Ortiz, D., Serra, T., Bubnys, R., & Colomer, J. (2019). Pre-service teachers' reflections on cooperative learning: instructional approaches and identity construction. *Sustainability*, 11(21), 5970. <https://doi.org/10.3390/su11215970>
- Pânișoară, G., Duță, N., & Pânișoară, I. (2015). The influence of reasons approving on student motivation for learning. *Procedia - Social and Behavioral Sciences*, 197, 1215-1222. <https://doi.org/10.1016/j.sbspro.2015.07.382>
- Qiao, T., Song, Z., Huang, J., Yan, J., Zhang, X., Wang, Y., ... & Wang, Y. (2022). The relationship between pre-service kindergarten teachers' professional identification and career adaptability: a chain mediation model. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.1045947>
- Rachmajanti, S., Sulisty, G., Megawati, F., & Akbar, A. (2021). Professional identity construction of efl teachers as autonomous learners. *Jees (Journal of English Educators Society)*, 6(2), 309-315. <https://doi.org/10.21070/jees.v6i2.1646>

- Raharjo, Y. and Iswandari, Y. (2019). Professional identity tensions and coping strategies of efl pre-service teachers. *Jet (Journal of English Teaching)*, 5(1), 26. <https://doi.org/10.33541/jet.v5i1.957>
- Rogers, R. (2016). Using Lenses to Make Sense of Research: A Review of Sharon M. Ravitch and Matthew Riggan's Reason & Rigor: How Conceptual Frameworks Guide Research. *The Qualitative Report*. <https://doi.org/10.46743/2160-3715/2016.2642>
- Rudolph, C. and Zacher, H. (2021). Adapting to involuntary, radical, and socially undesirable career changes. *Current Psychology*, 42(6), 5015-5026. <https://doi.org/10.1007/s12144-021-01859-5>
- Sun, B., Zhu, F., Sun, J., Wu, Y., & Xiao, W. (2022). How is professional identity associated with teacher career satisfaction? a cross-sectional design to test the multiple mediating roles of psychological empowerment and work engagement. *International Journal of Environmental Research and Public Health*, 19(15), 9009. <https://doi.org/10.3390/ijerph19159009>
- Taibolatov, K. (2024). The role of emotional intelligence on academic motivation of schoolchildren. *Frontiers in Education*, 9. <https://doi.org/10.3389/feduc.2024.1265946>
- Tao, Y. (2024). The relationship between health-promoting behaviors and negative emotions in college freshmen: a cross-lagged analysis. *Frontiers in Public Health*, 12. <https://doi.org/10.3389/fpubh.2024.1348416>
- Uysal, D. (2022). The relationship between academic motivation types and learning styles of pre-service EFL teachers. *Sakarya University Journal of Education*, 12(3), 591-611.
- Wan, Z. (2024). The effect of negative physical self on social anxiety in college students: the bidirectional chain mediation roles of fear of negative evaluation and regulatory emotional self-efficacy. *Psychology Research and Behavior Management*, Volume 17, 2055-2066. <https://doi.org/10.2147/prbm.s457405>
- Wang, J. (2023). A study on professional identity of teachers of chinese international education. *Journal of Education Humanities and Social Sciences*, 17, 193-198. <https://doi.org/10.54097/ehss.v17i.10492>
- Wang, X. (2024). An investigation into how learning motivation affects college students' major choices and academic performance in china. *Journal of Education Humanities and Social Sciences*, 29, 214-222. <https://doi.org/10.54097/91kf9485>
- Wang, Y. (2024). The influence of teacher-student relationship on chinese high school students' academic motivation for the ideological and political subject: the mediating role of academic emotions. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1329439>
- Wetstone, H. (2023). Enhancing career adaptability among university students: an intervention study. *Journal of Career Development*, 50(6), 1279-1292. <https://doi.org/10.1177/08948453231187910>
- Woo, H. (2018). Personality traits and intrapreneurship: the mediating effect of career adaptability. *Career Development International*, 23(2), 145-162. <https://doi.org/10.1108/cdi-02-2017-0046>
- Xiao, Z. and Huang, J. (2022). The relation between college students' social anxiety and mobile phone addiction: the mediating role of regulatory emotional self-efficacy and subjective well-being. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.861527>
- Xing, Z. (2022). English as a foreign language teachers' work engagement, burnout, and their professional identity. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.916079>

- Xu, F. and Huang, L. (2022). Impacts of stress response and negative emotion on mental health of college students during the covid-19 outbreak. *Frontiers in Psychiatry*, 12. <https://doi.org/10.3389/fpsy.2021.784661>
- Xu, L., Li, X., Sun, C., Sun, B., & Li, W. (2022). Relationship between professional identity, career satisfaction, value of competence and growth, and job burnout: a cross-sectional study of primary and secondary school teachers in china. *Psychology in the Schools*, 60(4), 1234-1248. <https://doi.org/10.1002/pits.22828>
- Xu, W. (2023). Research on the correlation between fear of negative evaluation and perfectionism among college students. *Lecture Notes in Education Psychology and Public Media*, 26(1), 158-166. <https://doi.org/10.54254/2753-7048/26/20230889>
- Xu, X. (2021). Influence of music intervention on emotional control and mental health management self-efficacy of college students. *International Journal of Emerging Technologies in Learning (Ijet)*, 16(20), 134. <https://doi.org/10.3991/ijet.v16i20.26511>
- Yao, X. (2024). A study on the influence of esp teaching strategies on reflective thinking, academic self-efficacy, and achievement motivation. *Scientific and Social Research*, 6(5), 65-69. <https://doi.org/10.26689/ssr.v6i5.6888>
- Yüce, K., Şahin, E., Koçer, Ö., & Kana, F. (2013). Motivations for choosing teaching as a career: a perspective of pre-service teachers from a turkish context. *Asia Pacific Education Review*, 14(3), 295-306. <https://doi.org/10.1007/s12564-013-9258-9>
- Zeng, W., Huang, D., Li, Q., Xu, Y., Xu, Z., Wu, C., ... & Zeng, Y. (2022). Negative emotions and creativity among chinese college students during the covid-19 pandemic: the mediating role of psychological resilience and the moderating role of posttraumatic growth. *Archives of Public Health*, 80(1). <https://doi.org/10.1186/s13690-022-00954-8>
- Zhu, Y. (2023). Examining the association between boredom proneness and bedtime procrastination among chinese college students: a sequential mediation model with mobile phone addiction and negative emotions. *Psychology Research and Behavior Management*, Volume 16, 4329-4340. <https://doi.org/10.2147/prbm.s431615>

**Paper ID:** 1571062700

**Name:** Rizky Noviasri & Rahma Sugihartati

**Paper Title:** Exploring Diversity in Indonesian Children's Literature: From Grand Narratives to Postmodern Discourse

**E-mail:** rizky.noviasri-2023@fisip.unair.ac.id

## **Introduction**

The landscape of children's literature in Indonesia has undergone notable changes from the New Order era to the post-New Order period. This transformation is evidenced by the rise of digital library platforms that showcase collections of children's books by Indonesian authors, illustrators, and publishers, thereby enhancing access to these literary works. This evolution is also reflected in the narratives themselves. This paper refers to the concept articulated by Bishop (1990) that children's books serve as 'mirrors,' 'windows,' and 'sliding glass doors.' Through children's literature, children can see themselves reflected in the 'mirrors,' learn about diversity through the 'windows,' and have the opportunity to enter the story and become part of the world created by the author through the 'sliding glass doors.' Encouraging children to engage with a broad spectrum of narratives helps them develop a deeper understanding of diversity.

## **Objective**

The aim of this study is to examine the development diversity representation through Indonesian children's literature narratives from New Order era to the post-New Order period.

## **Methods and Instruments**

This article employs a literary study to understand the grand narratives of children's books during the New Order era. It is followed by a qualitative content analysis method to describe diversity narratives found in children's literature from the Let's Read Asia digital library collection. The results are then related to the concept of postmodern conditions as proposed by Jean-François Lyotard.

## **Results and Discussion**

The narratives of children's books in Indonesia have shifted from grand narratives to postmodern discourse. Under the New Order period, the grand narrative was legitimated by Pancasila philosophy, emphasizing values such as patriotism, sacrifice, loyalty to the country, and rural development. However, with the end of the New Order, the grand narrative lost its legitimacy followed by narrative fragmentation. This fragmentation is reflected in the pluralism of narratives in children's books, encompassing topics such as disabilities, gender equality, mental health, and other narratives that reflect diversity.

## **Conclusion/Implications for Research/Policy**

The role of children's books as 'mirrors,' 'windows,' and 'sliding glass doors' has evolved in Indonesian children's literature. However, further research is necessary to determine whether these books genuinely reflect the diversity and experiences of minority groups, or if they merely offer a superficial depiction.

**Paper ID:** 1571048877

**Name:** Nur Maslina Mastam & Rozniza Zaharudin

**Paper Title:** The Fuzzy Delphi Method: Validation of the Professional Competencies Elements in Career Readiness Instrument for Students with Disabilities

**E-mail:** nurmaslina@student.usm.my

## **Introduction**

Attaining career readiness is an essential milestone for every student, as it acts as a connection between academic life and professional success (Borg et al., 2020). Career readiness is an essential component that requires attention and assistance to guarantee successful transitions to the workforce for students with disabilities (Mazzotti et al., 2024; National Association of Colleges and Employers, 2023). Students with impairments face distinct obstacles and can utilize specialized skills to enhance their chances of achieving success in the professional realm. Career preparedness comprises a variety of abilities, such as the capacity to advocate for oneself, employ effective job-seeking techniques, and adjust to the demands of the workplace (Majid et al., 2012; Sek-yum Ngai et al., 2023). These skills are crucial for students with disabilities as they move from education to employment, allowing them to compete on an equal level with their peers and succeed in different professional settings. Research suggests that students with disabilities frequently face obstacles, including increased course failure rates, limited access to academically rigorous curricula, and fewer opportunities to develop critical thinking skills. These challenges have a significant impact on their preparedness for post-secondary education and employment (Choiseul-Praslin & McConnell, 2020; Mazzotti et al., 2024).

Efforts to improve career preparation for individuals with disabilities involve prioritizing transition programmes that equip them for immediate work and enrollment in higher education (Alias, 2013; Lombardi et al., 2018). Research has shown that vocational training, work-based learning experiences, and internships are excellent strategies for improving the employability and career preparation of students with disabilities (Riesen et al., 2022; Sek-yum Ngai et al., 2023). Moreover, the implementation of customized assistance programmes and personalized learning plans is essential in aiding students with disabilities in acquiring the requisite skills for smooth transitions to higher education and the workforce. Furthermore, it is crucial to cater to the unique requirements of students with disabilities in terms of career planning. This can be achieved by offering resources such as disability management programmes, employing professionals who specialize in this area, and providing training for work-integrated learning practitioners. These measures are vital for fostering career readiness among students with disabilities (Gatto et al., 2021; Lu et al., 2022). Recognizing the valuable skills, aspirations, and achievements of students with disabilities is crucial. It is also important to offer continuous support and opportunities for skill enhancement to improve their readiness for future careers (J.francois et al., 2010; Karhina et al., 2022).

## **Career Readiness Instruments for Students with Disabilities**

Career Readiness Instruments for students with disabilities are specialized tools designed to evaluate and enhance the skills and preparedness of these students for entering the

workforce. These instruments consider the unique challenges and needs of students with disabilities, providing tailored assessments that focus on their strengths, areas for improvement, and specific accommodations they may require. By doing so, they help assure that students with disabilities receive the appropriate support and resources to develop the necessary skills for successful career transitions. In this study, the instruments are developed based on “Work Readiness Skills for the Commonwealth” and “College and Career Readiness for Transition”. A 25-year study conducted by the University of Virginia shows a high demand for career readiness skills in Commonwealth countries, and one of the important elements in this study is “professional competencies” (Crespin et al., 2017). Professional competencies are essential for successful performance in the workplace. These competencies encompass a variety of behavioral abilities, social and emotional skills, knowledge, attitudes, and experiences (Rashed & Snoubar, 2020). This includes traits such as (i) big-picture thinking, (ii) career & life management, (iii) continuous learning & adaptability, (iv) efficiency & productivity, (v) information literacy, (vi) information security, (vii) information technology, (viii) job-specific tools & technologies, (ix) mathematics, (x) professionalism, (xi) reading & writing and (xii) workplace safety. These qualities enable a person to perform effectively in various situations, work well with others, and contribute positively to their environment. Collectively, these skills and abilities establish the basis for being prepared for a career, enabling individuals to flourish in their positions and advance in their professional paths. Table 1 shows the basic characteristics of each trait in the element of professional competencies.

**Table 1: Basic Characteristics of Each Traits**

<b>Traits</b>	<b>Characteristics</b>
<b>Big Picture Thinking</b>	Recognize their role in achieving the workplace’s mission and take into account the economic, social, as well as environmental consequences of their actions.
<b>Career And Life Management</b>	Develops, executes, and oversees personal and professional growth objectives concerning education, finances, career, as well as health.
<b>Continuous Learning And Adaptability</b>	Receptive to constructive criticism and open to innovative ideas and methods;
	consistently enhances professional skills as well as knowledge to adapt to evolving job demands.
<b>Efficiency And Productivity</b>	Prioritizes, plans as well as adjusts work objectives to efficiently manage time and resources.
<b>Information Literacy</b>	Efficiently finds information, assesses the credibility and relevance of sources and facts, as well as utilizes the information effectively to complete work-related tasks.
<b>Information Security</b>	Understands fundamental Internet and email security practices and adheres to workplace protocols to ensure the safety of information, networks, computers, as well as facilities.
<b>Information Technology</b>	Keeps up-to-date with devices, hardware, resources, software, systems, applications, services, as well as IT standards.
<b>Job-Specific Tools And Technologies</b>	Possesses the ability to choose and safely utilize industry-specific technologies, tools, as well as machinery to perform job tasks efficiently.
<b>Mathematics</b>	Utilizes mathematical abilities to accomplish tasks as required.
<b>Professionalism</b>	Adheres to organizational standards for work schedule, appearance, conduct, as well as communication.
<b>Reading And Writing</b>	Understands and analyzes workplace documents and communicates clearly in writing.
<b>Workplace Safety</b>	Ensures a secure workplace by following safety protocols and recognizing hazards to oneself and others.

## Method

### Research Design

This study is quantitative in nature and applies the Fuzzy Delphi Method (FDM) to accomplish expert consensus on the constructs for the professional competencies required by employers for MBPK based on expert consensus. This method incorporates fuzzy set theory into the traditional Delphi method by converting the Likert scale chosen by experts into a fuzzy scale utilizing fuzzy numbering, represented by binary terms (0, 1). Integrating fuzzy numbering produces three values, known as the minimum value, the most reasonable value as well as the maximum value, which the experts select.

### Data Analysis Procedure

The data collection and analysis process for this study is based on the implementation steps of the Fuzzy Delphi Method (FDM) as follows:

#### *Step 1: Selection of experts*

To implement the FDM in this study, the researcher identified a group of experts who agreed in contributing their expertise by providing ideas, critiquing, and enhancing the content of the items determined by the researcher. The experts in this study consist of employers and teachers from Vocational Special Education Schools. The method for selecting the sample of experts was non-probability sampling, specifically purposive sampling, chosen relying on the purpose of evaluating their knowledge and experience. The researcher suggests that the criteria for selecting experts should also include the willingness of individuals to be appointed as experts. Willingness is essential in ensuring that the experts are genuinely willing to assist the researcher and have adequate time to participate in the study. Initially, 20 experts were identified to validate this survey instrument. However, only 13 agreed to cooperate, take the time, and willingly assist the researcher. According to Clayton (1997), a number of 10 to 15 experts is considered a homogeneous group of experts, which is the small sample size required as experts. Table 2 below shows the experts' profiles involved in this study.

Table 2: Experts Profile

Experts	Field	Sex	Age	Experience (Year)
E1	Food & Beverage	Male	42	20
E2	Cleaning Service	Female	40	15
E3	Dress Making	Male	44	10
E4	Laundry	Male	38	12
E5	Bakery	Female	45	12
E6	Hand Craft	Female	46	23
E7	Landscape	Male	38	16
E8	Human Resource	Female	39	10
E9	Education	Female	42	19
E10	Education	Male	40	14
E11	Education	Male	37	11
E12	Education	Female	48	22
E13	Education	Female	42	17

Table 2: Experts Profile

Experts	Field	Sex	Age	Experience (Year)
E1	Food & Beverage	Male	42	20
E2	Cleaning Service	Female	40	15
E3	Dress Making	Male	44	10
E4	Laundry	Male	38	12
E5	Bakery	Female	45	12
E6	Hand Craft	Female	46	23
E7	Landscape	Male	38	16
E8	Human Resource	Female	39	10
E9	Education	Female	42	19
E10	Education	Male	40	14
E11	Education	Male	37	11
E12	Education	Female	48	22
E13	Education	Female	42	17

Table 2: Experts Profile

Experts	Field	Sex	Age	Experience (Year)
E1	Food & Beverage	Male	42	20
E2	Cleaning Service	Female	40	15
E3	Dress Making	Male	44	10
E4	Laundry	Male	38	12
E5	Bakery	Female	45	12
E6	Hand Craft	Female	46	23
E7	Landscape	Male	38	16
E8	Human Resource	Female	39	10
E9	Education	Female	42	19
E10	Education	Male	40	14
E11	Education	Male	37	11
E12	Education	Female	48	22
E13	Education	Female	42	17

*Step 2: Create a questionnaire for experts*

The questionnaire can be constructed using various methods, such as interviews as well as literature reviews. According to Powell (2003), the Delphi method is highly adaptable for reaching expert consensus. This flexibility arises because the initial round of Delphi involves identifying an issue through expert interviews. Nonetheless, issues can also be identified via open-ended questions. Additionally, related issues can be gathered by utilising questionnaires derived from literature reviews (Duffield, 1993). In the designing and developing phase, the MBPK career readiness skills instrument, the foundation for the research, relies on combining expert interviews as well as literature review mapping analysis in needs analysis. A total of 12 items for professional competencies elements have been established for the questionnaire in the design and development of the MBPK career readiness skills instrument.

*Step 3: Distribute the questionnaire form*

The researcher met all 13 experts individually face-to-face while distributing the questionnaire to collect data.

During these meetings, the researcher and experts discussed each developed item.

*Step 4: Linguistic variable transformation.*



This process entails transforming all linguistic variable scales into Triangular Fuzzy Numbers (TFNs), which are represented by the values  $m_1$ ,  $m_2$ , and  $m_3$ . Here,  $m_1$  denotes the minimum value,  $m_2$  signifies the most reasonable value, while  $m_3$  indicates the maximum value. Subsequently, TFNs are employed to create a Fuzzy scale that employs a Likert scale for translating linguistic variables into Fuzzy numbers. The Fuzzy scale has an odd number of levels. A greater level on the Fuzzy scale yields more precise data. Figure 1 displays the minimum triangle graph in relation to the Triangular value, encompassing all three values within the TFN.

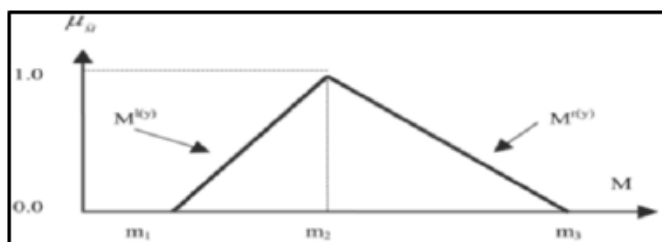


Figure 1: Minimum triangle graph against triangular. Adapted from Jamil & Noh (2021)

Figure 1 shows the minimum triangle graph in relation to Triangular with  $m_1 = \text{nilai minimum}$ ,  $m_2 = \text{nilai}$

*sederhana*, as well as  $m_3 = \text{nilai maksimum}$ . The Likert scale data collected were analysed with Microsoft Excel software. All data were transformed into TFN format, utilizing a 7-point Fuzzy scale for this research.

Table 3 shows the fuzzy scale comprising linguistic variables indicating a 7-point scale in the FDM.

Preferential Scale	7-point Fuzzy Scale	Likert Scale
Strongly disagree	(0.0, 0.0, 0.1)	1
Somewhat disagree	(0.0, 0.1, 0.3)	2
Disagree	(0.1, 0.3, 0.5)	3
Neutral	(0.3, 0.5, 0.7)	4
Agree	(0.5, 0.7, 0.9)	5
Somewhat disagree	(0.7, 0.9, 1.0)	6
Strongly disagree	(0.9, 1.0, 1.0)	7

#### Step 5: Data analysis

Data analysis relies on the scoring of TFNs aimed at obtaining Threshold (d) values. According to (Thomaidis et al., 2006), identifying the Threshold (d) value is crucial for achieving expert consensus. To achieve expert consensus for each item, the first condition that must be met is that the Threshold (d) value should not surpass or equivalent to 0.2, indicating expert consensus has been achieved (Cheng & Lin, 2002). The vertex method is employed to determine the distance between the average  $r_{ij}$ . The distance for each Fuzzy number  $m = (m_1, m_2, m_3)$  and  $n = (m_1, m_2, m_3)$  is calculated using the following formula;

$$(\tilde{m}, \tilde{n}) = \sqrt{13[(m_1 - n_1)^2 + (m_2 - n_2)^2 + (m_3 - n_3)^2]}$$

*Step 6: Determination of expert consensus percentage*

The second criterion for calculating the percentage of expert consensus requires that the overall agreement among the group must surpass 75% for each item. If this threshold is not met, a second round needs to be conducted (Chu & Hwang, 2008; Murray et al., 1985).

*Step 7: Data analysis using the average of Fuzzy numbers or average response (Defuzzification process)*

This analysis process seeks to determine a Fuzzy score (A). Here, the third criterion for achieving this Fuzzy score (A) is that it must be greater than or equal to the median value ( $\alpha$ -cut value) of 0.5 (Bodjanova, 2006; Tang & Wu, 2010). Moreover, this indicates that the element is accepted by expert consensus. Among other functions, the Fuzzy score (A) may be utilised to determine the priority as well as the position of an element as per expert consensus. The formula employed in obtaining the Fuzzy score (A) is written as:

i.  $A_{max} = 1/3 * (a_1 + a_m + a_2)$

ii.  $A_{max} = 1/4 * (a_1 + 2a_m + a_2)$

iii.  $A_{max} = 1/6 * (a_1 + 4a_m + a_2)$

The alpha-cut value is the median between '0' and '1', calculated as  $\alpha$ -cut = (0+1)/2 = 0.5. Not that if the value of A is less than the  $\alpha$ -cut value of 0.5, the item will be then rejected as it lacks expert consensus. As per Bodjanova (2006) as well as Tang & Wu (2010), the  $\alpha$ -cut value needs to surpass 0.5.

## **Results**

The items provided to the experts in this professional competencies' element design construct are listed in Table 4.

Table 4: Items for the Element of Professional Competencies Design Construct

	Traits	Items
C1	Big Picture Thinking	The capacity to comprehend one's role in achieving the workplace's mission and to reflect on the economic, social, as well as environmental consequences of one's actions.
C2	Career And Life Management	The ability to plan, implement, and manage personal and professional growth objectives in areas such as career, education, finances, as well as health.
C3	Continuous Learning And Adaptability	The capacity to handle constructive feedback positively and embrace innovative ideas and methods, continually enhancing professional skills as well as knowledge to meet evolving job demands.
C4	Efficiency And Productivity	The ability to plan, prioritize, and adjust work objectives to manage time and resources efficiently.
C5	Information Literacy	The capability to quickly locate information, assess the credibility and relevance of sources and data, as well as effectively utilize the information to achieve work-related tasks.
C6	Information Security	The capacity to grasp fundamental Internet and email security principles and adhere to workplace procedures to ensure the safety of computers, information, networks, as well as facilities.
C7	Information Technology	The capability to retain a working knowledge of resources, devices, software, hardware, services, systems, applications, as well as IT practices.
C8	Job-Specific Tools And Technologies	The ability to safely select and use technology, tools, as well as machines specific to the industry to effectively complete work tasks.
C9	Mathematics	The ability to apply mathematical skills to fulfill the necessary tasks.
C10	Professionalism	The ability to meet the work schedule, appearance, behavior, as well as communication expectations of the organization.
C11	Reading And Writing	The ability to read and interpret workplace documents as well as write efficiently.
C12	Workplace Safety	The capacity to ensure a secure workplace by adhering to safety protocols and recognizing hazards that could affect oneself and others.

Table 5 shows the threshold value (d), expert consensus percentage, defuzzification, as well as item position for the aforementioned items.

Table 5: Results of Expert Consensus on Professional Competencies Element

Item	Condition of Triangular Fuzzy Numbers		Condition of Defuzzification Process	Position	Experts Consensus
	Threshold Value, d	Percentage of Experts Group Consensus, %	Fuzzy Score (A)		
C1	0.155	90.91%	0.773	12	Accepted
C2	0.076	100.00%	0.879	5	Accepted
C3	0.096	90.91%	0.842	9	Accepted
C4	0.119	90.91%	0.870	8	Accepted
C5	0.181	90.91%	0.815	11	Accepted
C6	0.108	100.00%	0.830	10	Accepted
C7	0.098	100.00%	0.864	6	Accepted
C8	0.076	100.00%	0.912	4	Accepted
C9	0.110	100.00%	0.873	7	Accepted
C10	0.071	100.00%	0.930	2	Accepted
C11	0.071	100.00%	0.930	2	Accepted
C12	0.025	100.00%	0.958	1	Accepted

According to the data presented in Table 5, every item has a Threshold (d) value of  $\leq 0.2$ . This suggests that all these items have achieved expert consensus (Cheng & Lin, 2002). The percentage of expert agreement indicates that all items surpass 75%, and the defuzzification values for each item also exceed the  $\alpha$ -cut value of 0.5. This result demonstrates that the items within the professional competencies element have achieved expert consensus.

### Discussion

The FDM analysis findings in this study produced a list of constructs for professional competencies in career readiness instruments. The initial findings using FDM show high validity and reliability. The analysis results on expert consensus indicate a good level of agreement, showing that FDM can be employed to achieve expert consensus through quantitative methods. The findings from the analysis utilising the fuzzy Delphi technique revealed items that were agreed upon and prioritised by the experts for each construct. Here, the results indicate that all these items should be incorporated into the design and development of the career readiness assessment tool for students with disabilities. Through this FDM analysis, the prioritization of item arrangement begins with the construct (i) workplace safety, (ii) reading & writing, (iii) professionalism, (iv) job-specific tools & technologies, (v) career & life management, (vi) information technology, (vii) mathematics, (viii) efficiency & productivity, (ix) continuous learning & adaptability, (x) information

security, (xi) information literacy and (xii) big picture thinking. All experts agreed that these attributes help students with disabilities build confidence, foster independence, and effectively engage in both educational and social environments. Students with disabilities who focus on their professional competencies are well-positioned to thrive in the workplace. Students are able to develop their full potential even further when they are given the opportunity to embrace diversity, receive training, and receive support from employers.

Professional competencies have a significant impact on employees, influencing various aspects of their performance and development. Research by Rika & Nurhayati (2017) highlighted that individual competencies positively affect employee performance. It emphasized that work-based programs enhance competence, reduce stress, and provide immediate benefits to employees (Lester & Costley, 2010). Moreover, Anderson et al. (2021) demonstrated that targeted training interventions can significantly enhance staff confidence in diversity-related professional competencies. Sinambela et al. (2020) found that work competency and supervision positively influence employee professionalism. Competencies play an essential role in influencing employee abilities, as indicated by research conducted by Bukit et al. (2024). The study findings indicate that the construct of workplace safety is the most important element in professional competencies. Employers prioritize workplace safety for several crucial reasons. Firstly, ensuring workplace safety is a legal obligation for employers to protect the health and well-being of their employees, as highlighted by DEMIRKAYA (2023). Compliance with occupational health and safety regulations not only safeguards employees but also mitigates legal risks for the organization. By prioritizing workplace safety, employers demonstrate their commitment to fulfilling their duty of care toward their workforce. Secondly, workplace safety is closely linked to human rights and diversity in the workplace, as discussed by Adams (2016). Employers who prioritize safety contribute to creating an inclusive environment that respects the rights of all employees. This approach fosters a culture of respect, equality, and dignity within the organization, enhancing employee morale and well-being.

## **Conclusion**

In conclusion, the validation of professional competencies elements in the Career Readiness Instrument for students with disabilities through the FDM represents a significant step towards enhancing career readiness and inclusivity in the workforce. By incorporating validated competencies tailored to match the needs of students with disabilities, educational institutions as well as employers can better prepare and support these individuals in their transition to the professional world. The integration of such validated competencies not only ensures that students with disabilities are equipped with the necessary skills and knowledge for successful career outcomes but also promotes a more diverse and inclusive work environment. By validating professional competencies elements for students with disabilities, tailored support can be provided to ensure their successful integration into the workforce. In essence, the validation of professional competencies elements in the Career Readiness Instrument for students with disabilities is a crucial step towards promoting inclusivity, enhancing work knowledge and fostering a supportive environment that values the diverse talents and contributions of all individuals in the professional realm.

## Recommendations

Based on the research and literature available, several recommendations can be proposed to enhance the validation of professional competencies elements in the Career Readiness Instrument for students with disabilities. Firstly, it is crucial to design tailored training programs that incorporate the validated competencies and address the specific needs and challenges faced by students with disabilities (Rachmawati et al., 2024). Additionally, practitioners should focus on reducing barriers for students with disabilities by designing pre- placement plans, facilitating communication with placement hosts, and ensuring appropriate disability-related accommodations (Gatto et al., 2021). Moreover, educators and practitioners can refer to the Transition Specialist Competencies to guide the development of competencies related to philosophical foundations, learner characteristics, instructional practices, and professionalism (Morgan et al., 2014). Furthermore, it is essential to promote a culture of self-determination and ownership of learning among students with disabilities to enhance their career readiness and decision-making skills (Rowe et al., 2015). By implementing these recommendations, educational institutions and employers can better support the career readiness and success of students with disabilities, fostering inclusivity and empowerment in the professional realm.

## References

- Adams, E. M. (2016). Human rights at work: Physical standards for employment and human rights law. *Applied Physiology, Nutrition, and Metabolism = Physiologie Appliquee, Nutrition et Metabolisme*, 41(6), S63- S73. <https://doi.org/10.1139/apnm-2015-0552>
- Alias, A. (2013). The issues in implementing transition program for special needs students. *Asian Social Science*, 9(16 SPL). <https://doi.org/10.5539/ass.v9n16p9>
- Anderson, A. R., Knee, E., & Ramos, W. D. (2021). Impact of an LGBTQ Campus Recreation Student Employee Training Initiative on Professional Competencies. *Recreational Sports Journal*, 45(2), 139-148. <https://doi.org/10.1177/15588661211010185>
- Bodjanova, S. (2006). Median alpha-levels of a fuzzy number. *Fuzzy Sets and Systems*, 157(7), 879-891. <https://doi.org/10.1016/j.fss.2005.10.015>
- Borg, J., Borg, N., Scott-Young, C. M., & Naderpajouh, N. (2020). The work readiness-career resilience linkage: implications for project talent management. *International Journal of Managing Projects in Business*, 14(4), 917-935. <https://doi.org/10.1108/IJMPB-04-2020-0129>
- Bukit, P., Hapsara, O., & Jahara, S. (2024). The Influence of Incentives, Competencies, and Work Facilities on Professionalism With Implications for Employee Performance at the Regional Revenue Office of Tanjung Jabung Barat District. *Dinasti International Journal of Education Management And Social Science*, 5(4), 443-453. <https://doi.org/10.31933/dijemss.v5i4.2462>
- Cheng, C.-H., & Lin, Y. (2002). Evaluating the Best Main Battle Tank using Fuzzy Decision Theory. *European Journal of Operational Research*, 142, 174-186.
- Choiseul-Praslin, B., & McConnell, A. (2020). Increasing Work Skills for Students With Significant Disabilities: A Six-Step Model for Transition Worksite Programs. *Career Development and Transition for Exceptional Individuals*, 43(3), 180-186. <https://doi.org/10.1177/2165143419893363>
- DEMIRKAYA, S. (2023). The Effect of Natural Disasters on Termination of The Employment Contract. *International Journal of Social Sciences*, 7(3), 35-59.

- Ella Anastasya Sinambela, Rahayu Mardikaningsih, S. Arifin, H. D. A. (2020). Development of Self Competence and Supervision to Achieve Professionalism. *Journal of Islamic Economics Perspectives*.
- Gatto, L. E., Pearce, H., Antonie, L., & Plesca, M. (2021). Work integrated learning resources for students with disabilities: are post-secondary institutions in Canada supporting this demographic to be career ready? *Higher Education, Skills and Work-Based Learning*, 11(1), 125-143. <https://doi.org/10.1108/HESWBL-08-2019-0106>
- J.francois, Debra, P., Henrik, M., Jae, H. C., & Judith, H. (2010). *Disability in the Workplace : Company Practices Disability in the Workplace :* [http://www.businessanddisability.org/images/pdf/disability\\_workplace.pdf](http://www.businessanddisability.org/images/pdf/disability_workplace.pdf)
- Karhina, K., Ineland, J., & Vikström, L. (2022). Stakeholder views on young adults with intellectual disabilities as a workforce: A qualitative study on students' performance in upper secondary education and their employment potential. *Journal of Intellectual Disabilities*, 26(4), 1057-1074. <https://doi.org/10.1177/17446295211026475>
- Lester, S., & Costley, C. (2010). Work-based learning at higher education level: Value, practice and critique. *Studies in Higher Education*, 35(5), 561-575. <https://doi.org/10.1080/03075070903216635>
- Lombardi, A. R., Dougherty, S. M., & Monahan, J. (2018). Students With Intellectual Disabilities and Career and Technical Education Opportunities: A Systematic Literature Review. *Journal of Disability Policy Studies*, 29(2), 82-96. <https://doi.org/10.1177/1044207318764863>
- Lu, W., Oursler, J., Herrick, S., Gao, N., Beninato, J., Durante, A., Gbadamosi, S., & Minor, T. (2022). Asking for Help: Employment-Related Soft Skills Training for Persons With Disabilities. *Journal of Applied Rehabilitation Counseling*, 53(4), 266-278. <https://doi.org/10.1891/JARC-2021-0002>
- Majid, S., Liming, Z., Tong, S., & Raihana, S. (2012). Importance of Soft Skills for Education and Career Success. *International Journal for Cross-Disciplinary Subjects in Education*, 2(Special 2). <https://doi.org/10.20533/ijcdse.2042.6364.2012.0147>
- Mazzotti, V. L., Morningstar, M. E., Lombardi, A., Kwiatek, S., Taconet, A., Buddeke, K., Monahan, J., & Harris, R. (2024). Policy and Practice Considerations to Support College and Career Readiness for Youth With Disabilities: A Systematic Mixed Studies Review. *Journal of Disability Policy Studies*, 34(4), 278-289. <https://doi.org/10.1177/10442073221130528>
- Morgan, R. L., Callow-Heusser, C. A., Horrocks, E. L., Hoffmann, A. N., & Kupferman, S. (2014). Identifying Transition Teacher Competencies Through Literature Review and Surveys of Experts and Practitioners. *Career Development and Transition for Exceptional Individuals*, 37(3), 149-160. <https://doi.org/10.1177/2165143413481379>
- National Association of Colleges and Employers. (2023). Career Readiness, Development, and Validation of the NACE Career Readiness Competencies. *NACE Center for Career Development and Talent Acquisition*.
- Rachmawati, D., Sahid, S., Mahmud, M. I., & Buang, N. A. (2024). Enhancing student career readiness: a two- decade systematic literature review. *International Journal of Evaluation and Research in Education*, 13(3), 1301-1310. <https://doi.org/10.11591/ijere.v13i3.26485>
- Rashed, S., & Snoubar, Y. (2020). Social competence of social workers and its relation to the outcome of professional practice in the field of care for special groups. *Egyptian Journal of Social Work*, 9(1), 103- 122. <https://doi.org/10.21608/ejsw.2020.68761>
- Riesen, T., Trainor, A. A., Traxler, R. E., Padia, L. B., & Remund, C. (2022). Understanding Internships for Transition-Age Students With Disabilities. *Teaching Exceptional Children*, 54(4), 286-294. <https://doi.org/10.1177/00400599211018835>

- Rika, A. M., & Nurhayati, T. (2017). Improving Professional Competence and Knowledge Sharing Based on Organizational Citizenship Behavior Toward Human Resources Performance. *International Journal of Islamic Business Ethics*, 2(2), 314. <https://doi.org/10.30659/ijibe.2.2.314-331>
- Rowe, D. A., Mazzotti, V. L., & Sinclair, J. (2015). Strategies for Teaching Self-Determination Skills in Conjunction With the Common Core. *Intervention in School and Clinic*, 50(3), 131-141. <https://doi.org/10.1177/1053451214542043>
- Sek-yum Ngai, S., Cheung, C. K., Mo, J., Wang, L., Ng, Y. hang, & Wang, P. (2023). Career interventions and social well-being among non-engaged youth: Examining the mediating effects of career competency. *Children and Youth Services Review*, 148(April 2022), 106903. <https://doi.org/10.1016/j.chilyouth.2023.106903>
- Tang, C. W., & Wu, C. T. (2010). Obtaining A Picture of Undergraduate Education Quality: A Voice From Inside The University. *Higher Education*, 60(3), 269-286. <https://doi.org/10.1007/s10734-009-9299-5>
- Thomaidis, N. S., Nikitakos, N., & Dounias, G. D. (2006). The Evaluation of Information Technology Projects: A Fuzzy Multicriteria Decision-Making Approach. *International Journal of Information Technology & Decision Making*, 5(1), 89-122.



**Paper ID:** 1571060639

**Name:** Renny Candradewi Puspitarini, Sartika Soesilowati & Kacung Marijan

**Paper Title:** Does Economic Promote Sustainable Development: Study in Indonesia, Malaysia and Thailand

**E-mail:** renny.candradewi@upm.ac.id

## Introduction

Sustainable development is an urgent and critical area that warrants significant attention from stakeholders, leaders, and researchers across various disciplines. The world is grappling with numerous interconnected challenges, including climate change, biodiversity loss, resource depletion, and social inequalities. The latest data shows that Earth's temperature has increased by 0.26 degrees Celsius in the last decade (Arif, 2024). Fossil fuels account for around 70 percent of all greenhouse gas emissions, followed by cement production, agriculture and deforestation (Ramadhan, 2024). These issues threaten the well-being of current and future generations. Sustainable development is essential due to the multifaceted challenges faced by societies globally.

Sustainable development aims to meet the needs of the present without compromising the ability of future generations to meet their own needs (Rogers et al., 2012). It integrates three core elements: economic growth, social inclusion, and environmental protection (Information Resources Management Association, 2018). These elements are interconnected, and achieving sustainability requires a balanced approach that addresses all three simultaneously.

Sustainable development is monitored globally through various means, involving various actors. In 2015, the UN adopted indicators in its sustainable development goals. This goal contains 17 goals and 169 targets measured by 231 indicators. Each country is responsible for monitoring its own progress against these indicators. States are required to prepare and submit national reports periodically (usually every four years) containing progress in achieving the SDG. To assess the achievement of these development goals, the UN organizes the SDGs High Level Forum (FTT) every four years to review global progress and strengthen commitment to the SDGs. The UN Development Program (UNDP), UN Environment Program (UNEP), and UN Statistics Division (UNSD), play a role in supporting countries in monitoring the SDGs and providing global data. The UN publishes an annual report of and highlights challenges and opportunities. Apart from that, there is the Sustainable Development Index (SDI) compiled by Bertelsmann Stiftung and the Sustainable Earth Institute. SDI measures the performance of countries against 17 SDGs (Bertelsmann, 2024). Most researchers have benefited from understanding the impact of SDGs using the SDI. For instance to link the SDG progress with economic performance. Economic growth is a critical component of sustainable development, as it provides the resources necessary for improving living standards, reducing poverty, and funding public services. The Brundtland Report emphasizes the need for economic growth that meets the needs of present and future generations (Holden et al., 2014). However, unchecked economic growth can lead to environmental degradation, resource depletion, and increased social inequalities (Nebel et al., 2024).

The connection between economic growth and sustainable development has been the subject of research. *Economic Growth and Sustainable Development* by Peter Hess explores the relationship between economic growth and sustainable development (Hess, 2016). Hess uses a blend of formal models, empirical evidence, history, and policy to provide a comprehensive analysis of this complex topic. The book is a valuable resource for students and scholars interested in development economics, sustainable development, and ecological economics. A comparison was made between sustainable development and economic growth (Gaspar et al., 2017). Gaspar (2017) uses energy consumption as an indicator of sustainable development. Meanwhile, to measure economic growth, Gaspar does not employ GDP as a measurable indicator because it is considered less efficient. However, economic growth and sustainable development have different characteristics, which have given rise to doubts about the appropriateness of using GDP to measure both economic growth and sustainable development (Gaspar et al., 2017). Additional research has suggested there is a causal relationship between renewable energy sources and clean environmental economic growth (Anser et al., 2021). also manages to explore the connection of growth and sustainable development by inducing factors such as consumption (Lorek & Fuchs, 2013).

The United Nations' Sustainable Development Goals (SDGs) provide a comprehensive framework for achieving global sustainability. Researchers play a critical role in tracking progress towards these goals, identifying gaps, and proposing solution global agenda for sustainable development and helps ensure that nations stay on track to meet these ambitious targets.

Sustainable development seeks to balance economic growth, social inclusion, and environmental protection. This triad is essential for long-term prosperity and stability. Researchers can help identify the synergies and trade-offs between these dimensions, ensuring that policies and practices do not favor one at the expense of the others. For example, research can reveal how economic policies impact social equity and environmental health, guiding the creation of more holistic and sustainable strategies.

Innovation is key to achieving sustainable development. Researchers drive technological advancements that can lead to more efficient resource use, reduced environmental impact, and improved quality of life. For instance, research in renewable energy technologies, sustainable agriculture, and waste management can lead to breakthroughs that significantly enhance sustainability. By focusing on sustainable development, researchers foster innovation that supports a sustainable future. Particularly to discover strategies properly to ensure that action towards more sustainable goals would sustain the economic growth where many people find pessimism. Sustainable development research helps build resilience to environmental, economic, and social shocks. This includes studying the impacts of climate change on communities, developing strategies for disaster risk reduction, and creating adaptive policies that can respond to changing conditions. Researchers contribute to building resilient societies that can withstand and recover from various stresses and shocks.

Study in South Asian economies emphasized the use of sustainable energy in development has advanced the clean economic growth. Subsequent research tries to link economic growth as the impact of globalization which encourages increasingly massive sustainable development (Leal & Marques, 2022). However, economic growth has not really been explained as an explanatory unit that makes sustainable development increasingly popular in the midst of the globalization process. A study of sustainable development and growth in Southeast Asia such As Southeast Asian States. Kurniawan and Managi (2018) explore the

nexus between sustainability and economic growth in Southeast Asian States between 1990 and 2014, using an inclusive wealth framework that covers the country's unique resources and biodiversity. Southeast Asian States's inclusive wealth growth is considered positive. Other research links sustainable development with economic growth to explain the opportunities for a country to replace fossil fuels (Solarin & Bello, 2019). Sustainability research in Southeast Asian countries, however, does not yet reflect how data can answer the question if sustainability can contribute to economic growth (Juhro, 2016).

Sustainable development should command significant attention from researchers due to its critical importance in addressing global challenges, ensuring balanced progress, informing policy, promoting innovation, raising awareness, building resilience, and contributing to global goals. The insights and solutions developed through sustainable development research are essential for creating a sustainable and equitable future for all. By dedicating their efforts to this field, researchers can make profound and lasting contributions to the well-being of humanity and the planet.

The primary purpose of this research is to identify and analyze the factors influencing the sustainability index in Southeast Asia nations. By employing a pooled Ordinary Least Squares (OLS) regression analysis, this study aims to quantify the impact of various economic and social variables, including the democracy index, inflation, Gross Domestic Product (GDP), and economic growth, on the sustainability index over a specified period. This research seeks to provide a comprehensive understanding of how these factors contribute to or hinder sustainability in Southeast Asian States, thereby offering valuable insights for policymakers to formulate effective strategies to enhance sustainability outcomes. intended to guide policy interventions that can improve democratic processes, economic stability, and overall sustainable development in the country.

## **Theoretical framework**

### **Literature on Democrac**

A country's level of democracy can have a significant influence on the intensity and intensification of sustainable development. Democracy ensures that the voice of everyone who feels environmental injustice due to global warming has an influence on the decision-making process (Lister, 2023). Below are arguments that are related to the notion of sustainability.

First, countries with strong democratic systems usually have better transparency and accountability mechanisms. A government that is transparent and accountable is more likely to implement sustainable development policies that are responsive to the needs and aspirations of society. This responsiveness fosters public trust and encourages citizen participation in governance processes, further enhancing the effectiveness and longevity of sustainable development initiatives. Moreover, democratic institutions often provide checks and balances that prevent the misuse of resources, ensuring that development projects are conducted ethically and equitably. Research by the United Nations indicates that democratic governance enhances social inclusion and equity, which are crucial for sustainable development (UNDP, 2016). Additionally, studies have shown that countries with higher levels of democratic governance tend to have more robust environmental policies and better outcomes in terms of sustainability (World Bank, 2020). Experts also argue that the participatory nature of democratic systems enables more effective monitoring and evaluation of development projects, leading to continuous improvement and innovation in sustainability practices (OECD, 2015).

Second, Democracy allows for greater public participation in the decision-making process. This participation ensures that sustainable development policies reflect the interests of various groups in society, including vulnerable and marginalized groups. By incorporating diverse perspectives, democratic systems can create more inclusive and equitable policies that address the unique needs and challenges of different communities. Furthermore, public participation fosters a sense of ownership and accountability among citizens, which can lead to higher levels of compliance and support for sustainability initiatives. Research shows that when communities are actively involved in policy-making, the resulting policies are more likely to be effective and sustainable in the long term (UNDP, 2016). Additionally, democratic governance, which helps to prevent corruption and ensures that resources are allocated efficiently and fairly (World Bank, 2020).

Third, press freedom and wider access to information in democratic countries enable society to be more aware and involved in environmental issues and sustainable development. This may lead to public pressure on the government to take necessary action. Independent media play a crucial role in educating the public about environmental challenges and sustainability practices, thereby fostering a more informed and engaged citizenry. Furthermore, access to information allows for greater scrutiny of government actions and policies, which can lead to more effective and accountable governance. The ability to freely discuss and debate sustainability issues also encourages innovation and the sharing of best practices. Higher levels of press freedom tend to have better environmental performance and more ambitious sustainability goals (Westminster Foundation for Democracy, 2022). Additionally, the dissemination of information through diverse media channels ensures that a wide range of voices and perspectives are included in the public discourse, promoting more comprehensive and balanced approaches to sustainable development (*World Trends in Freedom of Expression and Media Development* | UNESCO, n.d.).

Fourth, democracy is often associated with stronger protection of human rights, including the right to a clean and healthy environment. These rights can form the basis for more inclusive and equitable sustainable development policies. When governments are committed to upholding human rights, they are more likely to consider the environmental impacts of their policies and ensure that all citizens have access to clean air, water, and land (Gellers & Jeffords, 2018; Parola, 2013). This commitment can drive the implementation of stricter environmental regulations and more rigorous enforcement of sustainability standards. Moreover, the legal frameworks in democratic societies often provide mechanisms for citizens to hold their governments accountable for environmental degradation and demand remedial action. Such protections empower communities to actively participate in the preservation and improvement of their environment, leading to more sustainable and resilient societies. Studies have shown that countries with strong human rights protections are better equipped to manage natural resources sustainably and to mitigate the impacts of climate change (*Americas*, 2018). Furthermore, the emphasis on human rights in democratic systems can help to ensure that the benefits of sustainable development are shared more equitably, reducing social inequalities and enhancing overall well-being (Human Rights Watch, 2019).

Sixth, Democratic countries tend to have more open and competitive economies, which can encourage innovation and investment in green technology and sustainable business practices. The entrepreneurial environment fostered by democracy allows for the development and implementation of cutting-edge technologies that can reduce

environmental footprints and promote sustainability. Moreover, democratic governments are more likely to create favorable conditions for research and development, including funding for sustainable innovations and the establishment of regulatory frameworks that support green businesses.

The competition inherent in open economies also drives companies to adopt more efficient and sustainable practices as a means of gaining a competitive edge. This can lead to the proliferation of environmentally friendly products and services, contributing to broader sustainability goals. Additionally, consumer demand in democratic societies often favors sustainable and ethically produced goods, further incentivizing businesses to adopt green technologies and practices. Furthermore, democratic institutions typically facilitate better collaboration between the public and private sectors, leading to more effective and inclusive sustainability initiatives. Public-private partnerships can leverage the strengths of both sectors to address environmental challenges and promote sustainable development. For instance, governments can provide incentives such as tax breaks and subsidies for companies that invest in renewable energy and sustainable practices, while businesses can bring innovation and efficiency to public sustainability projects.

The transparency and accountability mechanisms in democratic systems also ensure that economic growth does not come at the expense of environmental degradation. Policies aimed at economic development are more likely to be scrutinized for their environmental impact, and there is greater public pressure to ensure that growth is sustainable and benefits all segments of society. Studies have shown that countries with democratic governance are more successful in integrating environmental sustainability with economic policies, leading to more resilient and adaptable economies (OECD, 2015).

**H1** : the level of sustainability increases as the expected democracy increases

### **Literature on Inflation**

The influence of inflation on the SDGs can be seen from the impact of inflation on people's sustainability or standard of living. This can be known by measuring the direct and indirect impact on each SDGs indicator. One of these indicators. First, the impact of inflation on people's purchasing power. High inflation can increase the cost of living and reduce the value of an individual's real income. As a result, this can make certain groups of society, especially those from lower levels of society, fall to a vulnerable economic level. This means that inflation in the quality of the value of an individual's real income results in society seeing development as unfriendly. Higher inflation increases the cost of living, reducing the real income of individuals, thereby increasing poverty levels. Inflation erodes purchasing power, making it harder for people, especially those with fixed incomes, to afford basic necessities. Second, Inflation, particularly in food prices, exacerbates food insecurity and hunger. Rising food prices reduce access to affordable nutrition, increasing malnutrition and hunger. This situation is especially dire for low-income families who already allocate a significant portion of their income to food. As prices rise, they are forced to make difficult choices, often sacrificing nutritional quality for cheaper, less healthy options. This can lead to a cycle of poor health and increased vulnerability to diseases, further straining their limited resources. Moreover, inflation can disrupt supply chains and increase production costs for farmers, leading to decreased agricultural output. This can further drive up food prices and reduce the availability of essential food items in the market. Governments and aid organizations often struggle to keep up with the growing demand for food assistance, leaving many individuals and families without adequate support. The impact

of inflation on food prices also has broader economic and social implications. Increased food insecurity can lead to social unrest, as seen in various parts of the world where food riots have occurred. It can also hinder children's educational outcomes, as malnourished children are less likely to perform well in school, affecting their future opportunities and perpetuating the cycle of poverty. Addressing this issue requires a multifaceted approach, including policies to stabilize food prices, improve food distribution systems, and provide targeted support to vulnerable populations. Investment in sustainable agricultural practices and local food production can also help mitigate the impact of inflation on food security. Additionally, social safety nets and nutrition programs need to be strengthened to ensure that those most at risk receive the support they need to maintain a healthy diet. Inflation in food prices poses a significant threat to food security and overall societal well-being. Combating this issue requires coordinated efforts from governments, international organizations, and communities to ensure that everyone has access to affordable and nutritious food.

**H2** : the level of sustainability increases as the expected inflation decreases

### **Literature on GDP**

Initially, sustainable development was viewed as an exclusive concern for wealthy nations (Mensah, 2019). Despite its widespread use and growing popularity, the concept of sustainable development remains fuzzy for many. People still have questions about its origins, meaning, and how it translates into practical actions for development goals. Traditional development often overlooks the human element. To achieve truly high-quality progress, we need to focus on sustainability, which goes beyond just building the economy. It means empowering people and fostering their well-being, ensuring everyone has a fulfilling life. While the concept may seem broad, sustainable development can be achieved through innovation, technology, and using these tools to create a better future for generations to come.

Sustainable development is not only related to environmental development. Sustainable development has a very broad scope and covers everything. To a certain limit, development has been deterministically synonymous with economic development. Economic experts such as Rostow, Solow and Harrold Domar in the discipline of economics believe that a country's economy is said to be developing if its economic growth increases.

Meanwhile, there is development that targets economic growth but at the same time does not maintain the quality of the development itself. For example, it can easily be found that a development results in the environment being exploited in such a way for the sake of development in urban areas that the environment loses its supporting capacity. As a result, natural disasters such as landslides, former mining and food crises due to land losing its fertility have hit most areas. Such development is not sustainable development because it is not environmentally friendly and damages the surrounding ecology and ecosystem.

Economic performance, particularly measured by Gross Domestic Product (GDP), plays a critical role in understanding and achieving sustainable development. GDP, a comprehensive measure of a country's economic activity, is often used as a key indicator of economic health and growth. Its relevance to sustainable development has been extensively studied, linking economic performance with social and environmental outcomes. GDP represents the total value of all goods and services produced over a

specific period within a nation. It serves as a primary indicator of economic health, growth, and productivity. Economic growth, typically reflected by a rising GDP, provides the resources necessary for improving living standards, reducing poverty, and funding public services. The Brundtland Report (1987) emphasizes the importance of economic growth that meets the needs of present and future generations, laying the foundation for sustainable development.

Sustainable development aims to balance economic growth with social inclusion and environmental protection. GDP growth can facilitate sustainable development by providing the financial means for environmental protection and social programs. However, unchecked economic growth may lead to environmental degradation and resource depletion, potentially compromising sustainability goals (Nebel et al., 2024).

Several studies have found positive correlations between GDP growth and sustainability indicators. For instance, Kurniawan and Managi (2018) explored the nexus between sustainability and economic growth in Southeast Asian States, finding that inclusive wealth, which incorporates natural, human, and produced capital, has grown alongside GDP. This suggests that economic growth can support sustainable development when it includes investments in natural and human capital.

Conversely, other research highlights the potential negative impacts of GDP-centric growth. Gaspar et al. (2017) argue that using GDP as the sole measure of economic performance may overlook critical aspects of sustainability, such as environmental health and social equity. Their study advocates for a broader set of indicators that capture the multifaceted nature of sustainable development.

Studies such as those by Solarin and Bello (2019) link GDP growth to increased environmental pressure, including higher carbon emissions and resource consumption. They suggest that while GDP growth is essential, it must be accompanied by policies promoting environmental sustainability to avoid undermining long-term development goals.

The findings from various studies indicate that policymakers should integrate sustainability considerations into economic planning. This includes adopting measures that promote green technologies, renewable energy, and sustainable practices across industries. For instance, the research by Anser et al. (2021) highlights the potential of renewable energy sources to drive clean economic growth, underscoring the importance of transitioning to a green economy.

There is a growing consensus on the need to redefine economic success beyond GDP. This involves incorporating metrics such as the Sustainable Development Index (SDI), which evaluates countries' performance against the UN's Sustainable Development Goals (SDGs). By using a more holistic set of indicators, nations can better track their progress towards achieving sustainable development.

Economic policies should also focus on enhancing social equity to ensure that the benefits of GDP growth are widely distributed. This includes investing in education, healthcare, and social safety nets, which can help mitigate inequalities and foster inclusive growth. The relationship between GDP and sustainable development is complex and multifaceted. While GDP growth is crucial for providing the resources necessary for development, it must

be pursued in a manner that balances economic, social, and environmental objectives. By integrating sustainability into economic planning and adopting a more comprehensive set of indicators, policymakers can better align economic growth with the goals of sustainable for all. This argument can be summarized by the following hypothesis:

**H3 :** the level of sustainability increases as the expected GDP increases

### **Literature on Economic Growth**

There has been a significant increase in integrating sustainability concepts into economic growth models. This includes incorporating environmental factors, resource constraints, and long-term sustainability considerations into traditional economic growth theories. Researchers are increasingly recognizing that ignoring these elements can lead to incomplete and potentially misleading analyses of economic progress.

For instance, traditional growth models that solely focus on GDP as a measure of prosperity often overlook the depletion of natural resources and the environmental degradation that can accompany rapid economic expansion. By integrating sustainability concepts, these models now account for the finite nature of natural resources, the economic costs of pollution, and the potential for renewable energy sources to sustain long-term growth.

Furthermore, incorporating environmental factors involves using indicators such as carbon emissions, biodiversity loss, and water usage. These indicators help quantify the environmental impact of economic activities and allow for more accurate assessments of a country's overall wellbeing. By including these metrics, models can better reflect the trade-offs between economic growth and environmental preservation.

Resource constraints are another critical aspect integrated into contemporary economic growth models. The concept of "planetary boundaries" has been introduced, defining the limits within which humanity can safely operate without causing irreversible environmental harm. Models that consider these constraints help policymakers design strategies that promote economic growth while staying within ecological limits. Long-term sustainability considerations emphasize the need for intergenerational equity, ensuring that economic development today does not compromise the ability of future generations to meet their needs. This involves promoting practices such as sustainable agriculture, responsible consumption, and investment in green technologies. By focusing on long-term sustainability, economic models encourage a shift from short-term profit maximization to strategies that foster resilience and enduring prosperity.

The integration of sustainability into economic growth models also calls for a reevaluation of policy frameworks. Governments are encouraged to implement policies that promote sustainable practices, such as carbon pricing, subsidies for renewable energy, and stricter environmental regulations. These policies aim to align economic incentives with sustainability goals, driving businesses and consumers towards more sustainable behaviors. Additionally, the concept of sustainable development is increasingly being linked to social equity. Models are now considering how economic growth can be inclusive, providing opportunities and benefits to all segments of society, particularly the marginalized and vulnerable groups. This approach ensures that sustainability is not just an environmental or economic goal but also a social one.

The integration of sustainability concepts into economic growth models represents a paradigm shift in how economic progress is understood and pursued. By accounting for



environmental factors, resource constraints, and long-term sustainability, these models offer a more comprehensive and realistic framework for achieving sustainable development. This holistic approach is essential for addressing the complex challenges of the 21st century and ensuring that economic growth contributes to the well-being of both current and future generations.

**H4 :** the level of sustainability increases as the expected Economic Growth increases

## Method

This study employs a quantitative research design using secondary data to analyze the factors influencing the sustainability index in Southeast Asian States. The study utilizes a pooled Ordinary Least Squares (OLS) regression model to assess the relationship between the sustainability index and several independent variables, including the democracy index, inflation, Gross Domestic Product (GDP), and economic growth. The data used in this study is secondary data obtained from various reliable sources, including government publications, international organizations, and reputable databases. The dataset covers multiple years and includes observations from different regions within Southeast Asia that is Southeast Asian States, Malaysia and Thailand, identified by unique entity IDs. The dataset comprises 72 observations, ensuring a robust analysis of the variables involved. Since this study does not involve primary data collection, the focus is on the methods used to summarize and analyze previously reported data. The data was collected from various secondary sources, including the World Bank, Statista.com, and UNDP. The data was carefully cleaned and preprocessed to ensure consistency and accuracy. Missing values were identified and appropriately handled to maintain the integrity of the dataset. The pooled OLS regression model was employed to estimate the impact of the independent variables on the sustainability index. The general form of the regression model is as follows:

$$Sustainability\ Index_{it} = \beta_0 + \beta_1 Democracy\ Index_{it} + \beta_2 Inflation_{it} + \beta_3 GDP_{it} + \beta_4 Economic\ Growth_{it} + \epsilon_{it} \quad (1)$$

Where:

- $\beta_0$  is the intercept.
- $\beta_1, \beta_2, \beta_3, \beta_4$  are the coefficients for the independent variables.
- $\epsilon$  is the error term.

The regression analysis was conducted using statistical software, and the results were interpreted to understand the significance and direction of the relationships between the variables.

This methodological approach provides a comprehensive analysis of the factors influencing sustainability in Southeast Asian States, leveraging existing data to draw meaningful conclusions and inform policy decisions.

We use data as follow

Variable	Obs	Mean	Std. dev.	Min	Max
sustainabi~x	73	80.18849	10.43039	66.53	100
dem_index	73	6.270137	.366412	5.21	7.29
inflation	73	2.511644	3.207276	-.7	17.1
gdp	73	425.3436	347.1324	63.6	1420
ec_growth	73	5.701233	5.036488	-8.6	19.8

## Results

First we test the sustainable development hypothesis with income growth. To find out how the model can be used to explain the relationship between the level of sustainable development and economic variables, a robust test was carried out. This test produces the following data which is useful for determining the level of accuracy of the model.

**Figure 1** The Linear Regression Results for Sustainability Index as Dependent Variables and Economic Indicators as Independent Variables

sustainabi~x	Coefficient	Robust std. err.	t	P> t	95% conf. interval
dem_index	.2749245	4.493411	0.06	0.951	-8.691530 9.241387
inflation	-1.594545	.3591223	-4.44	0.000	-2.311162 -.8779271
gdp	-.0046032	.0025663	-1.70	0.080	-.0097641 .0005577
ec_growth	.3109447	.2790352	1.11	0.269	-.2458613 .8677506
_cons	82.65478	26.75987	3.09	0.003	29.25628 136.0533

The results of the robust regression carried out show several important points which can be explained as follows. This model uses 73 observations with an F statistic of 9.31. The p-value probability for the F test is 0.0000, which is very small. With this value, we can reject the null hypothesis which states that all regression coefficients are simultaneously equal to zero. This means the model as a whole is statistically significant. In addition, the R-squared value is 0.3051, which indicates that approximately 30.51% of the variation in the dependent variable (sustainabi~x) can be explained by the inde (MSE) is 8.9467, which indicates the average prediction error of the model.

Looking more closely at the coefficient of the independent variable, the democracy index (dem\_index) has a coefficient of 0.2749245 with a p-value of 0.951. This means that even though the democracy index has a positive coefficient, its effect on sustainability is not statistically significant. In other words, there is no strong evidence that the democracy index influences sustainability.

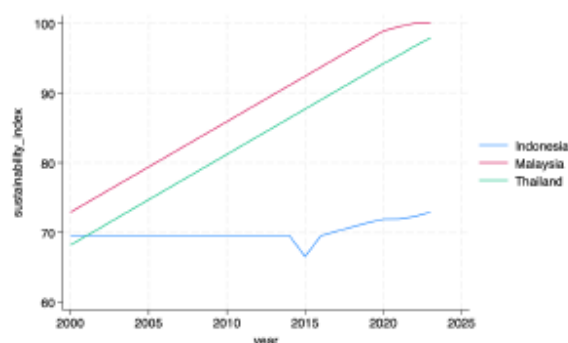
Inflation, on the other hand, has a coefficient of -1.594545 with a p-value of 0.000. This shows that inflation has a negative and statistically significant coefficient. Thus, increasing inflation tends to reduce sustainability significantly. Furthermore, GDP has a coefficient of -0.0046032 with a p-value of 0.080. Even though this coefficient is negative, the relationship between GDP and sustainability is close to statistical significance but is not strong enough to be said to be significant at the 5% level. This shows that there is a tendency for GDP to reduce sustainability, but this evidence is not strong enough.

Economic growth (ec\_growth) has a coefficient of 0.3109447 with a p-value of 0.269. This coefficient is positive but not statistically significant, indicating that there is no strong evidence that economic growth affects sustainability. Finally, the model constant or intercept (\_cons) is 82.65478 with a p-value of 0.003. This constant is statistically significant, indicating the average value of sustainabi~x when all independent variables are zero.

Overall, this robust regression model shows that of the four independent variables tested (dem\_index, inflation, gdp, ec\_growth), only inflation is statistically significant and has a negative impact on sustainability. The R-squared value of 0.3051 shows that this model can explain around 30.51% of the variation in sustainabilityabi~x, which indicates that there are still other factors outside this model that also influence sustainabilityabi~x. The analysis of the

factors influencing the sustainability index in three Southeast Asia Countries using pooled Ordinary Least Squares (OLS) regression produced significant findings. The model demonstrated an R-squared value of 0.607, indicating that approximately 60.7% of the variability in the sustainability index can be explained by the independent variables included in the model. The adjusted R-squared value was 0.584, accounting for the number of predictors in the model.

**Figure 2. The Level of Sustainability Index in Southeast Asian Countries**

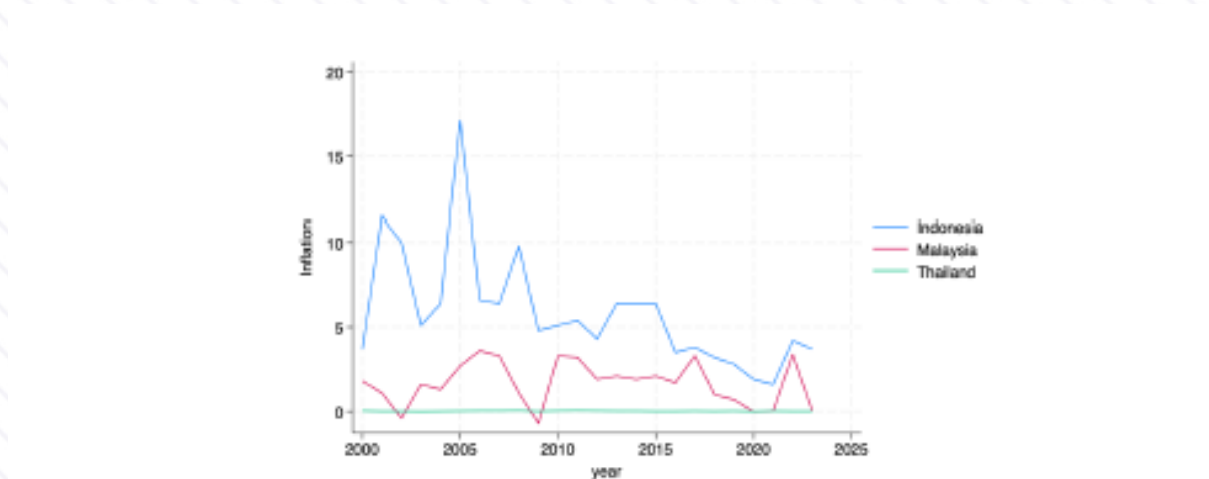


**Figure 2** displayed depicts the development of the sustainability index (sustainability\_index) from 2000 to 2025 for three countries, namely Indonesia, Malaysia and Thailand. The X-axis represents the year, while the Y-axis represents the sustainability index value. This graph shows the trend of each country in achieving the sustainability index during that period. The red line representing Malaysia shows a very positive and consistent trend from 2000 to 2025. Malaysia's sustainability index started from around 75 in 2000 and continued to increase until it reached a value of almost 100 in 2025. This increase shows that Malaysia has made significant efforts in improving sustainability during this period, with steady and consistent improvements every year. The green line representing Thailand also shows a positive trend, although not as strong as Malaysia. Thailand's sustainability index started from around 70 in 2000 and increased gradually to reach around 90 in 2025. Although the increase has been slower than that of Malaysia, Thailand has also demonstrated a strong commitment to improving sustainability, with a fairly steady upward trend. The blue line representing Indonesia shows a trend that is more variable and less stable than Malaysia and Thailand. Indonesia's sustainability index started at around 70 in 2000 and remained relatively stagnant until 2015, with a slight decline in the middle of the period. However, after 2015, there was a more significant increase to reach around 75 in 2025. Although Indonesia has shown improvement in the sustainability index in recent years, the increase has not been as strong or as fast as Malaysia and Thailand. Overall, this graph shows that all three countries have made progress in improving their sustainability index since 2000. Malaysia shows the most significant and consistent improvement, followed by Thailand which also shows a steady positive trend. Indonesia, although showing some improvement in recent years, has had more varied trends and slower improvement than the other two countries. This suggests that Indonesia may face greater challenges in its efforts to improve sustainability compared to Malaysia and Thailand.

### **Inflation on Sustainability**

The regression analysis aimed to investigate the influence of inflation on the sustainability index. The coefficient for inflation was found to be - 0.2365 with a p-value of 0.940. This indicates that inflation does not have a significant effect on the sustainability index. The

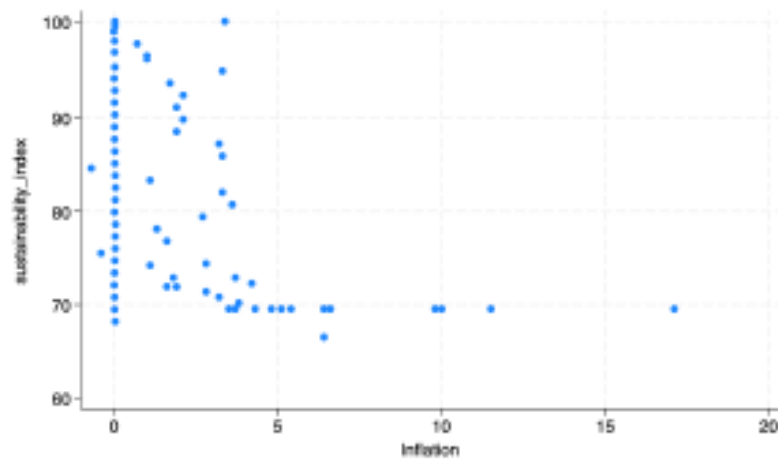
results of the regression analysis reveal that inflation does not have a statistically significant impact on the sustainability index. This finding is indicated by the coefficient of -0.2365 and a p-value of 0.940, which is well above the common significance threshold of 0.05. Therefore, we fail to reject the null hypothesis that inflation does not influence the sustainability index. The lack of a significant relationship between inflation and the sustainability index suggests that other factors may be more critical in determining sustainability outcomes. While inflation can affect various economic aspects, its direct impact on sustainability appears to be minimal in this context. This result aligns with some literature suggesting that structural and governance factors might play more pivotal roles in achieving sustainable development. Previous studies have highlighted the complex relationship between economic variables and sustainability. For instance, research has shown that while inflation can affect purchasing power and food security, its overall influence on long-term sustainability metrics may be less direct. Our findings contribute to this body of literature by providing empirical evidence that inflation, at least in this analysis, does not significantly drive sustainability outcomes.



**Figure 4.** The Rate the Inflation from 2000-2023 from three Southeast Asian Countries

Given that inflation does not significantly influence the sustainability index, policymakers might consider focusing on other areas to enhance sustainability. Emphasizing factors such as democratic governance, transparency, public participation, and innovation in green technologies could be more effective in promoting sustainable development. The results suggest that policies aimed at controlling inflation, while important for economic stability, may not be sufficient alone to advance sustainability goals.

**Figure 3.** Relationship Between Inflation (Inflation) On The X Axis And The Sustainability Index (Sustainability\_index) On The Y Axis

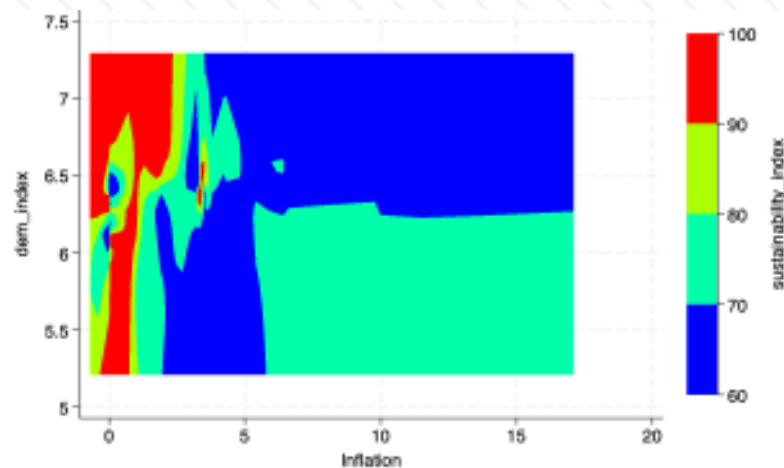


**Figure 3** demonstrates The scatter plot displayed depicts the relationship between inflation (Infla sustainability index (sustainability\_index) on the Y axis. From this graph, we can observe several important patterns.

The data distribution shows that most inflation values range from 0 to around 5, with some data points falling outside this range, up to around 20. Most of the data converges on very low inflation values (close to 0), with a wide range of sustainability\_index values varying from about 60 to nearly 100. When looking at the relationship between inflation and the sustainability index, there is a clear pattern where as inflation increases, the value of the sustainability index tends to decrease. This can be seen especially in inflation values that are close to 0, where the sustainability\_index has more varied values and tends to be higher. On the other hand, when inflation increases, the sustainability\_index value appears to be increasingly concentrated at lower values, below 80. This scatter plot supports the previous regression results which show that inflation has a significant negative impact on the sustainability\_index. This visual pattern shows that with increasing inflation, the sustainability index tends to decrease. This is consistent with statistical findings showing a significant negative relationship between these two variables. There are several outliers at very high inflation (more than 10), but the sustainability\_index value at high inflation remains low. This indicates consistency in the pattern of decreasing sustainability indices with increasing inflation, although there is some variation in the data. Overall, this scatter plot shows a clear negative trend between inflation and sustainability\_index, where increases in inflation tend to be followed by decreases in sustainability\_index. This pattern is quite consistent and clearly visible in the data distribution. This visualization strengthens the findings from the regression analysis that inflation has a significant and negative influence on the sustainability index.

### **Inflation and Democracy on Sustainability**

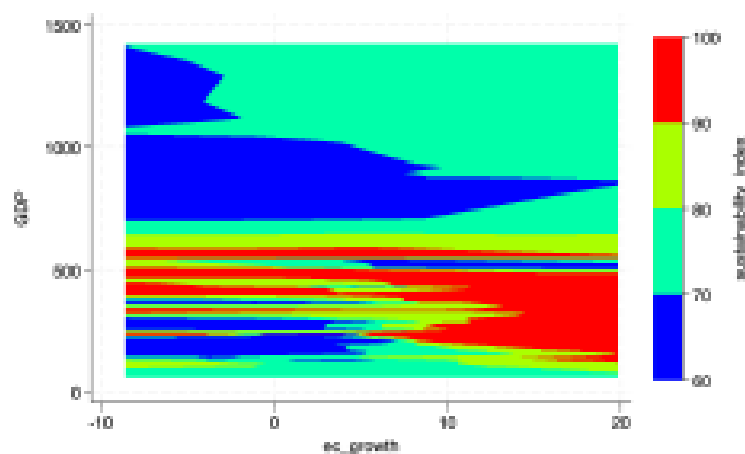
An interesting part of this research is the interaction between inflation and democracy in sustainable development. To find out how this interaction works, a two way test is carried out which produces a contour plot diagram. The diagram can be understood with the following color interactions:



**Figure 5** shows The contour plot displayed depicts the relationship between the democracy index (*dem\_index*), inflation (Inflation), and the sustainability index (*sustainability\_index*). On the X-axis, inflation varies from 0 to 20, while the Y-axis shows the democracy index which ranges from 5 to 7.5. The colors in the plot represent the values of the sustainability index, with a color scale given to the right of the graph. Red indicates a high sustainability index value, close to 100, while blue indicates the lowest value, around 60-70. Observations at low inflation show greater color variations, including red, yellow, green, and blue. This indicates that at very low inflation, the sustainability index can have very variable values, from very high to very low. You can see the area in red where inflation is close to 0 and *dem\_index* is close to 6.5-7, which shows that the sustainability index value tends to be high in conditions of very low inflation and a relatively high democracy index. At high inflation, the dominant colors are green and blue, indicating a decline in the sustainability index. When inflation is above 10, the area is dominated by blue, indicating that the sustainability index tends to be low at high inflation, regardless of the *dem\_index* value. This shows the strong negative influence of high inflation on the sustainability index. Higher *dem\_index* values (around 6.5 to 7.5) tend to correlate with a higher sustainability index at low inflation, as seen from the red and yellow areas. However, at high inflation, the influence of *dem\_index* on the sustainability index becomes less clear, with the dominance of blue indicating that high inflation generally reduces the sustainability index regardless of the *dem\_index* value. Overall, this contour plot shows the complex relationship between inflation, democracy index, and sustainability index. The sustainability index tends to be high at low inflation and can vary greatly depending on the *dem\_index* value. However, when inflation increases, the sustainability index tends to decrease, indicating a strong negative influence of high inflation on sustainability. The effect of the democracy index looks more significant at low inflation, but not so clear at high inflation. This plot supports previous findings from regression analysis and scatter plots that inflation has a significant negative influence on the sustainability index. The democracy index has a more variable influence and appears to only be significant under conditions of low inflation.

### **Economic on Sustainability**

The interesting part of this research is the interaction between GDP and economic growth in sustainable development. To find out how this interaction works, a two way test is carried out which produces a contour plot diagram. The diagram can be understood with the following color interactions:



**Figure 6** The contour plot displayed depicts the relationship between GDP, economic growth (*ec\_growth*), and the sustainability index (*sustainability\_index*). On the X-axis, economic growth varies from -10 to 20, while the Y-axis shows GDP with a range from 0 to 1500. The colors in the plot represent the values of the sustainability index, with a color scale given to the right of the graph. Red indicates a high sustainability index value, close to 100, while blue indicates the lowest value, around 60-70. Observations on economic growth and GDP show that at low GDP (below 500), there is a greater variety of colors, including red, yellow, green, and blue. This shows that at low GDP, the sustainability index can have widely varying values, from very high to very low. The area in red can be seen in low GDP and positive economic growth (around 0 to 10), indicating that the sustainability index value tends to be high in conditions of low GDP and positive economic growth. When GDP increases (above 500), the dominant colors are green and blue, indicating a decrease in the sustainability index. At GDP above 1000, the area is dominated by blue, indicating that the sustainability index tends to be low at high GDP, regardless of the value of economic growth. This shows the strong negative influence of high GDP on the sustainability index.

Higher economic growth scores (around 10 to 20) tend to correlate with higher sustainability indexes at low GDP, as seen from the red and yellow areas. However, at high GDP, the influence of economic growth on the sustainability index becomes less clear, with the dominance of blue indicating that high GDP generally reduces the sustainability index regardless of the value of economic growth. Overall, this contour plot shows the complex relationship between GDP, economic growth, and sustainability indices. The sustainability index tends to be high at low GDP and can vary greatly depending on the value of economic growth. However, when GDP increases, the sustainability index tends to decrease, indicating a strong negative influence of high GDP on sustainability. The effect of economic growth looks more significant at low GDP, but not so clear at high GDP.

This plot supports previous findings from regression analysis and scatter plots that economic growth and GDP have a complex influence on the sustainability index. In general, the sustainability index is higher under conditions of low GDP and positive economic growth, while high GDP tends to reduce the sustainability index. Economic growth has a negative coefficient of -1.6713 and is significant ( $p$ -value = 0.005), indicating that increasing economic growth is negatively correlated with the sustainability index. The result indicates that there is a

statistically significant negative relationship between economic growth and the sustainability index. The coefficient of -1.6713 implies that for each unit increase in economic growth, the sustainability index decreases by 1.6713 units, holding all other factors constant. This finding might suggest that in the context of your study, economic growth is associated with practices or developments that negatively impact sustainability. This could be due to several reasons, such as increased industrial activity leading to environmental degradation, higher resource consumption, or other factors that might adversely affect sustainability metrics.

## Conclusions

The study provides valuable insights into the relationship between key economic indicators and the sustainability index. The regression analysis revealed that inflation has a significant negative impact on the sustainability index, indicating that higher inflation rates are detrimental to sustainability efforts. Conversely, the democracy index, GDP, and economic growth did not show significant effects on the sustainability index in this model. The model explains approximately 30.51% of the variance in the sustainability index, suggesting that while it captures some influential factors, there are likely other variables at play. These findings underscore the critical importance of managing inflation as a strategy to improve sustainability outcomes. Policymakers should consider measures to control inflation to foster a more sustainable economic environment. Additionally, the lack of significant findings for the democracy index, GDP, and economic growth suggests that these factors may not be directly influencing sustainability or that their effects may be mediated by other variables not included in the current model.

By addressing these areas, future research can build on the current findings, offering more robust and comprehensive insights into the complex interplay between economic indicators and sustainability. This will ultimately aid in the development of more effective policies and strategies to enhance sustainability at both national and global levels. This study aimed to identify and analyze the factors influencing the sustainability index in Southeast Asian States using a pooled Ordinary Least Squares (OLS) regression model. The analysis provided significant insights into the roles of various economic and social variables in shaping sustainability outcomes.

Future studies could explore additional variables and use alternative methodological approaches, such as fixed effects or random effects models, to gain deeper insights into the determinants of sustainability. Longitudinal studies with more extensive datasets could also provide a more comprehensive understanding of the dynamics of sustainability over time. In conclusion, this study contributes to the growing body of knowledge on sustainability in Southeast Asian States by identifying key factors that influence the sustainability index. The findings provide a foundation for policymakers to develop informed strategies that promote sustainable development in the country.

## References

- Americas: Treaty to protect environmental human rights defenders is a vital step forward.* (2018). Amnesty International. <https://www.amnesty.org/en/latest/news/2018/03/americas-treaty-to-protect-environmental-human-rights-defenders-is-a-vital-step-forward/>
- Anser, M. K., Shabbir, M. S., Tabash, M. I., Shah, S. H. A., Ahmad, M., Peng, M. Y.-P., & Lopez, L. B. (2021). Do renewable energy sources improve clean environmental-economic



- growth? Empirical investigation from South Asian economies. *Energy Exploration & Exploitation*, 39(5), 1491–1514. <https://doi.org/10.1177/01445987211002278>
- Bertelsmann, S. (2024). *Project description–Sustainable Development Goals Index*. <https://www.bertelsmann-stiftung.de/en/our-projects/sustainable-development-goals-index>
- Gaspar, J. dos S., Marques, A. C., & Fuinhas, J. A. (2017). The traditional energy-growth nexus: A comparison between sustainable development and economic growth approaches. *Ecological Indicators*, 75, 286–296. <https://doi.org/10.1016/j.ecolind.2016.12.048>
- Gellers, J. C., & Jeffords, C. (2018). Toward Environmental Democracy? Procedural Environmental Rights and Environmental Justice. *Global Environmental Politics*, 18(1), 99–121. [https://doi.org/10.1162/GLEP\\_a\\_00445](https://doi.org/10.1162/GLEP_a_00445)
- Hess, P. N. (2016). *Economic Growth and Sustainable Development* (0 ed.). Routledge. <https://doi.org/10.4324/9781315722467>
- Holden, E., Linnerud, K., & Banister, D. (2014). Sustainable development: Our Common Future revisited. *Global Environmental Change*, 26(1), Article 1. <https://doi.org/10.1016/j.gloenvcha.2014.04.006>
- Human Rights Watch. (2019). *World Report 2019 | Human Rights Watch*. <https://www.hrw.org/world-report/2019>
- Information Resources Management Association (Ed.). (2018). *Sustainable development: Concepts, methodologies, tools, and applications. Volume 3*. Information Science Reference.
- Juhro, S. M. (2016). *Pertumbuhan Ekonomi Berkelanjutan: Tantangan dan Strategi Kebijakan (Sustainable Economic Growth: Challenges and Policy Strategies)* (SSRN Scholarly Paper 2945267). <https://doi.org/10.2139/ssrn.2945267>
- Kurniawan, R., & Managi, S. (2018). Economic Growth and Sustainable Development in Indonesia: An Assessment. *Bulletin of Indonesian Economic Studies*, 54(3), 339–361. <https://doi.org/10.1080/00074918.2018.1450962>
- Leal, P. H., & Marques, A. C. (2022). Chapter 11–Is globalization a driver for energy efficiency and sustainable development? In M. Shahbaz, A. K. Tiwari, & A. Sinha (Eds.), *Energy-Growth Nexus in an Era of Globalization* (pp. 257–285). Elsevier. <https://doi.org/10.1016/B978-0-12-824440-1.00004-7>
- Lister, S. (2023). *The role of democracy in sustainable development*. UNDP. <https://www.undp.org/blog/role-democracy-sustainable-development>
- Lopez-Torres, G. C., Schiuma, G., Muñoz-Arteaga, J., & Alvarez-Torres, F. J. (2024). Unveiling the relationships between visibility, information technologies and innovation management for sustainability performance: An empirical study. *European Journal of Innovation Management*. <https://doi.org/10.1108/EJIM-12-2023-1139>
- Lorek, S., & Fuchs, D. (2013). Strong sustainable consumption governance – precondition for a degrowth path? *Journal of Cleaner Production*, 38, 36–43. <https://doi.org/10.1016/j.jclepro.2011.08.008>
- Mensah, J. (2019). Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review. *Cogent Social Sciences*, 5(1), 1653531. <https://doi.org/10.1080/23311886.2019.1653531>
- Nebel, A., Kling, A., Willamowski, R., & Schell, T. (2024). Recalibration of limits to growth: An update of the World3 model. *Journal of Industrial Ecology*, 28(1), Article 1. <https://doi.org/10.1111/jiec.13442>
- OECD. (2015). *Science, technology and innovation*. OECD. <https://www.oecd.org/en/topics/policy-areas/science-technology-and-innovation.html>

- Parola, G. (2013). *Environmental Democracy at the Global Level: Rights and Duties for a New Citizenship*. Versita. <https://doi.org/10.2478/9788376560144>
- Ramadhan, A. (2024). *Bumi Kian Panas, Apa Saja Dampak Perubahan Iklim yang Kita Rasakan?* <https://www.kompas.id/baca/humaniora/2024/06/20/perubahan-iklim>
- Rogers, P. P., Jalal, K. F., & Boyd, J. A. (2012). *An Introduction to Sustainable Development*. Earthscan.
- Solarin, S. A., & Bello, M. O. (2019). Interfuel substitution, biomass consumption, economic growth, and sustainable development: Evidence from Brazil. *Journal of Cleaner Production*, 211, 1357-1366. <https://doi.org/10.1016/j.jclepro.2018.11.268>
- Westminster Foundation for Democracy. (2022, July 18). *Addressing the climate and environmental crises through better governance: The environmental democracy approach in development co-operation*. Westminster Foundation for Democracy. <https://www.wfd.org/what-we-do/resources/addressing-climate-and-environmental-crises-through-better-governance-0>
- World Trends in Freedom of Expression and Media Development* | UNESCO. (n.d.). Retrieved July 7, 2024, from <https://www.unesco.org/en/world-media-trends>
- Wurster, rm Better in Promoting Sustainable Development than Autocracies? *eitschrift Für Staats- Und Europawissenschaften*, 9(4), 538-559. <https://doi.org/10.5771/1610-7780-2011-4-538>

**Paper ID:** 1571056279

**Name:** Wang Ping

**Paper Title:** The Development Prospects and Future Trends of China's Badminton Industry Under the Guidance of Sports Industry Policies

**E-mail:** wangping@graduate.utm.my

## **1. Background of China's Sports Industry Policy**

The concept of industrial organization theory originates from the discussions on market competition mechanisms by the British classical economist Adam Smith. By the late 19th century, the "organization" theory by British economist Marshall already contained the rudiments of industrial organization theory (Ucak, 2015). At the beginning of the 20th century, Harvard University Professor Chamberlin and University of Cambridge economist Robinson conducted in-depth research on competition and monopoly, laying the foundation for the development of industrial organization theory (Arena, 2012.).

In the 21st century, badminton has also become a core component of the national movement in China, permeating into the lives of the masses, and becoming an indispensable part of the Chinese sports industry (Kong et al., 2017). As early as 2016, the badminton population in China had exceeded 200 million. Among numerous sports, apart from running, which is considered the most inclusive sport due to minimal participation restrictions regarding gender, age, income level, venue, time, skill level, team formation, and price, badminton enjoys the widest popularity.

The 2008 Beijing Olympics marked a historic achievement for China, fulfilling long-held national aspirations and elevating various sports to new heights. Hu Jintao and Xi Jinping emphasized transitioning China from a sports power to a sports powerhouse, encouraging social participation and coordinated development within the sports industry. Xi Jinping further linked this ambition to the Chinese Dream, signaling a new stage for China's sports undertakings.

## **5. Characteristics and Analysis of China's Sports Industry and Relevant Policies**

### **5.1 Overview of the Characteristics of China's Sports Industry**

With the progress and development of the nation and society, as well as the improvement of people's living standards, there has been an increasing emphasis on health, leading to the rapid development of the sports industry, particularly the badminton industry. Government departments are continuously increasing investments in sports infrastructure construction to meet the growing demand for sports and fitness. From the perspective of the development of China's sports industry, government-led sports management activities can smoothly operate under China's administrative system. On the other hand, with the deepening of reforms in China's sports system and the maturity of sports market mechanisms, private capital is becoming active within the sports industry, covering areas such as sports training, fitness and entertainment, and sports equipment manufacturing. The stable operation of the sports industry chain relies on both government management and market forces. The importance of the badminton industry in China's sports industry lies in the outstanding performance of the Chinese badminton team in world-class

competitions, the simplicity, entertainment, and fitness value of badminton, as well as its high popularity and broad market potential.

## 5.2 Interpretation of China's Sports Industry Policies

To enhance the physical fitness and health levels of the entire nation and address the continuously growing demand for sports and fitness among the populace, the government has introduced a series of policies related to the sports goods industry, creating a favorable environment for sports and fitness (Ekholm, 2019). For example, the "National Fitness Plan (2021-2025)" aims to increase the supply of fitness facilities for the entire population, including the construction of new or expanded sports parks, national fitness centers, public sports venues, etc., supplementing fitness facilities and equipment in towns and villages, and constructing public skating rinks, digitizing and upgrading public sports venues, etc. The "13th Five-Year Plan for the Development of the Sports Industry" clearly defines the goals of accelerating the cultivation of new formats and models of sports consumption, promoting the deep integration of sports with other industries, and proposes a series of policy measures to support the development of the sports industry (Table 1). These policies and plans provide policy support and guidance for the development of China's sports goods industry, promoting the healthy development of the sports industry.

**Table 1: Summary of China's Sports Industry Policies**

Time	Policy Name	Key Contents
2022	《"14th Five-Year National Health Plan"》	Build a higher-level comprehensive fitness service

		system, promote the opening and sharing of public sports facilities and school sports venues, and increase the coverage of convenient fitness facilities.
2022	《Opinions on Establishing a Higher-Level Public Service System for National Fitness》	Establish standards for facilities and equipment suitable for minors, cultivating their interest in participating in sports activities. Promote free or low-cost access to public sports venues for teenagers. Provide necessary assistance for the elderly to use facilities and equipment, addressing difficulties they face with sports technology. Create an accessible sports environment, facilitating the participation of people with disabilities in nationwide fitness activities.
2021	《National Fitness Plan (2021-2025)》	Increase the supply of public fitness facilities for all citizens. Construct or expand more than 2000 sports parks, national fitness centers, and public sports venues, supplementing equipment for fitness facilities in over 5000 towns and townships, and digitally upgrade and renovate more than 1000 public sports venues.
2020	《Key Points of National Sports Policy and Regulation Planning for 2020》	Drafting policy documents to strengthen the regulation and business guidance of national sports associations nationwide. Organizing and guiding relevant departments and units of the General Administration of Sport to formulate regulations and normative documents regarding mass sports, competitive sports, sports industry, sports associations, and anti-doping education management.
2019	《Opinions on Promoting National Fitness and Sports Consumption to Propel High-Quality Development of the Sports Industry》	Encourage localities to adopt flexible and diverse market-oriented measures to promote sports consumption, enrich mass sports events, and optimize the participant experience. Promote the extension of opening hours for public sports venues, encourage the development of fitness products, and provide sports training services.
2019	《Outline of Building a Sports Power》	Encourage sports equipment research, development, and manufacturing, focusing on high-tech, independent products. Foster globally competitive sports enterprises and brands, supporting them to expand internationally.
2018	《State Council's Opinions on Promoting Comprehensive Revitalization of the Sports Industry by Stimulating Sports Consumption》	To promote sports consumption and drive the development of the sports industry, measures have been proposed including strengthening the construction of sports consumption infrastructure,

		promoting the upgrade of sports goods consumption, and supporting the development of sports tourism.
2017	《 Sports Industry Innovation and Development Plan (2017-2020)》	Promote the innovative development of the sports industry, support its integration with other industries, and enhance its competitiveness and influence.
2016	《National Sports Industry Demonstration Park Construction Plan (2016-2020)》	Establish a number of demonstration zones for the sports industry to promote its transformation and upgrading, and to facilitate its integration with related industries.
2015	《Several Opinions on Deepening Sports System Reform and Improving Club Management System》	A series of measures are proposed to reform the club management system, aiming to promote the healthy development of clubs.
2014	《Several Opinions on Accelerating the Development of the Sports Industry and Promoting Sports Consumption》	The statement identifies challenges in the sports industry like small scale and limited vitality and outlines development objectives and policy actions for 2025 to enhance its prosperity. These measures encompass innovating institutional mechanisms, fostering diverse entities, enhancing industrial layout, fostering integrated development, and other strategies, with the aim of positioning the sports industry as a key driver for the sustainable growth of the economy and society.
2014	《Notice on Promoting Free or Low-Cost Opening of Large Sports Venues》	It calls for large-scale sports venues under the jurisdiction of the Sports Department to be opened to the public for free or at a low cost, with clearly defined management responsibilities and protective measures in place.
2013	《 Regulations on the Management of Licenses for Operating High-Risk Sports Projects》	Operating high-risk sports projects should apply for administrative permits from the sports authorities at or above the county level," and specific regulations should be made regarding applications, approvals, supervision and inspection, legal responsibilities, etc. This is to ensure consumer safety and promote the healthy development of the sports market.
2012	《 Implementation Opinions on Encouraging and Guiding Private Capital to Invest in the Sports Industry》	Supporting, encouraging, and guiding private capital to enter the fields of sports goods production and sales, sports venue construction and operation, sports fitness and leisure, as well as sports competition and performance.
2012	《 Implementation Rules for the Regulations on Lottery Management》	It not only provides more specific operational guidelines for the implementation of the "Regulations on Lottery Management" but also makes clear requirements for new situations and issues arising during the implementation process.

2011	《 National Sports Industry Base Management Measures (Trial)》	Clear regulations have been established regarding the concept and classification of national sports industry bases, principles for establishment, application and approval procedures, base construction, management, and assessment.
2010	《Guiding Opinions on Accelerating the Development of the Sports Industry》	Emphasizing rapid sports industry development is crucial for expanding sports development, enriching lives, fostering talent, enhancing fitness, and promoting balanced development. The policy outlines principles and goals for 2020, with tasks including market development, competitive performance, industry cultivation, service trade promotion, and fostering industry interaction.

The current sports industry policies have three main characteristics. Firstly, they signify that China's sports industry has become an integral part of the national economic development strategy, ushering in a new era of rapid growth. Secondly, several policies are regarded as significant milestones in the history of sports industry development. Scholars view them as "policy dividends benefiting a market worth 5 trillion yuan, and the upgrading of the sports industry will enter a golden new decade." Thirdly, the aforementioned policy documents no longer solely focus on the sports industry itself but elevate it to a new height in terms of national economic development, sports reform, and people's livelihood security. The documents emphasize the importance of the sports industry in expanding domestic demand, increasing employment, and cultivating new economic growth points, and propose a series of policy measures to deepen sports reform, promote nationwide fitness, and stimulate mass participation in sports activities. By accelerating the development of the sports industry, the government aims to further promote economic development, deepen sports reform, and ensure and improve people's livelihoods.

### 3. Current Status of Badminton Industry Development

Badminton, as a popular mass sport, boasts high technicality and low risk, making it suitable for widespread promotion. It not only enhances physical fitness but also contributes to the improvement of mental resilience. As one of the key projects in Chinese sports, badminton has a significant influence both domestically and internationally (Gao & Robinson, 2017.), with the Chinese national team frequently achieving honors in international competitions. Among the general public, badminton is also highly favored, becoming one of the beloved sports activities among Chinese people. According to statistics from the General Administration of Sport of China, as of December 31, 2023, there were a total of 246,100 badminton courts nationwide, including 210,500 outdoor courts and 35,600 indoor badminton halls. The badminton population in China has reached 250 million, with over 500 million badminton enthusiasts. Additionally, table tennis sports participation is also high, reaching 41.1%, ranking fourth among all sports (see Figure 1).

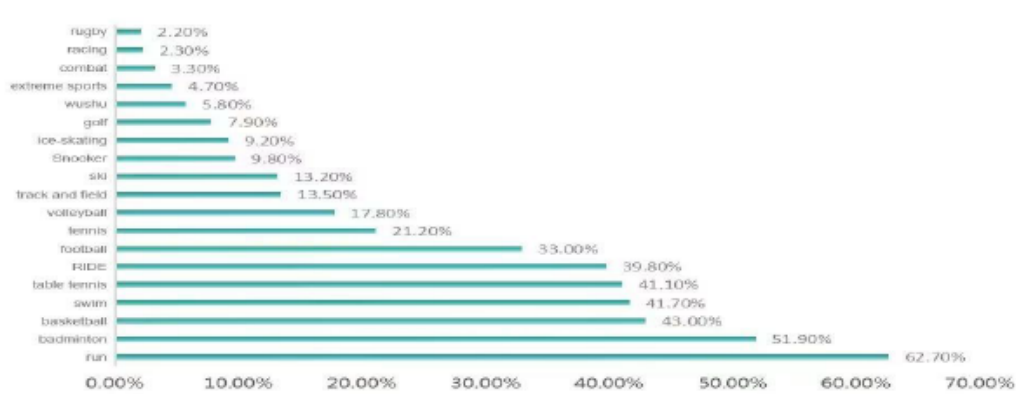


Figure 1. The sports activities participated by the Chinese population and their respective proportions in percentage.

### 3.1 Market Size Situation

Under the strong promotion of the government, badminton, as a widely popular sport, is increasingly favored by more people, promoting the development of China's badminton industry. The industrialization of badminton has become an undeniable fact (Yu & Yu, 2020). According to the "2021 China Badminton Market Analysis Report," the number of participants in badminton sports in China has exceeded 250 million, and the consumption of badminton has been increasing steadily in recent years. In 2014, the market size of China's badminton industry was only 25.7 billion yuan, and by 2019, it had reached 34.8 billion yuan, with a compound growth rate of 6.25%. The badminton industry as a whole has maintained a good development trend of positive growth. Although the market size declined in 2020 due to the impact of the epidemic, it gradually rebounded with the control of the epidemic. By 2022, the market size of China's badminton industry was approximately 7.58 billion yuan, with low-end badminton accounting for about 50.9% and mid-to-high-end badminton accounting for about 49.1% (see Figure 2).

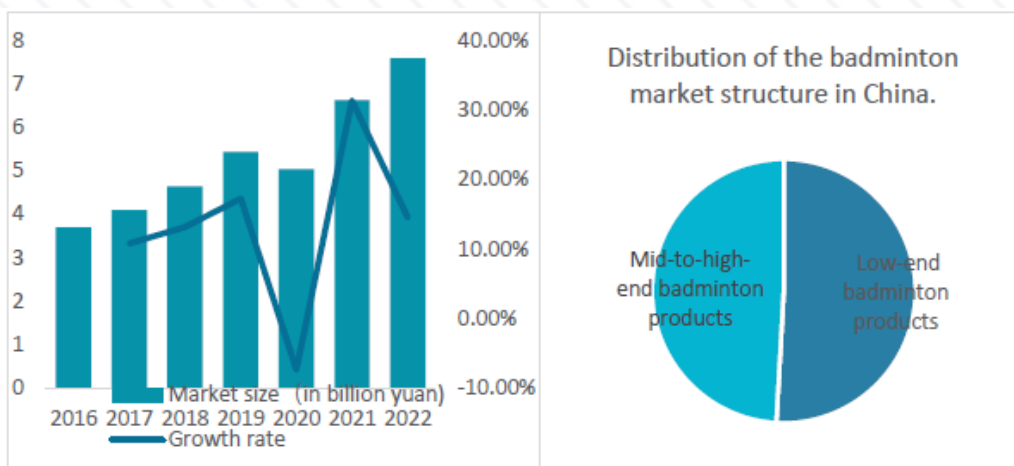


Figure 2 Market scale of the Chinese badminton industry from 2016 to 2022



### 3.2 Badminton Industry Supply and Demand Situation

The rapid growth of the Chinese economy and improved living standards have led to increased popularity and demand for badminton and related products. On the supply side, China boasts numerous manufacturers and brands that offer a diverse range of products, catering to different consumer groups from low-end to high-end. As market competition intensifies, suppliers are enhancing product quality and innovation to meet consumer needs. Overall, the supply and demand in the Chinese badminton industry are relatively balanced, though they may fluctuate with market conditions. Recent data indicates that in 2022, badminton production in China reached approximately 669 million units, an 8.6% increase from the previous year, while demand rose to about 334 million units, up 12.1%. Notably, low-end badminton accounted for approximately 71.5% of demand, while mid-to-high-end products comprised about 28.5%. (see Figure 3).

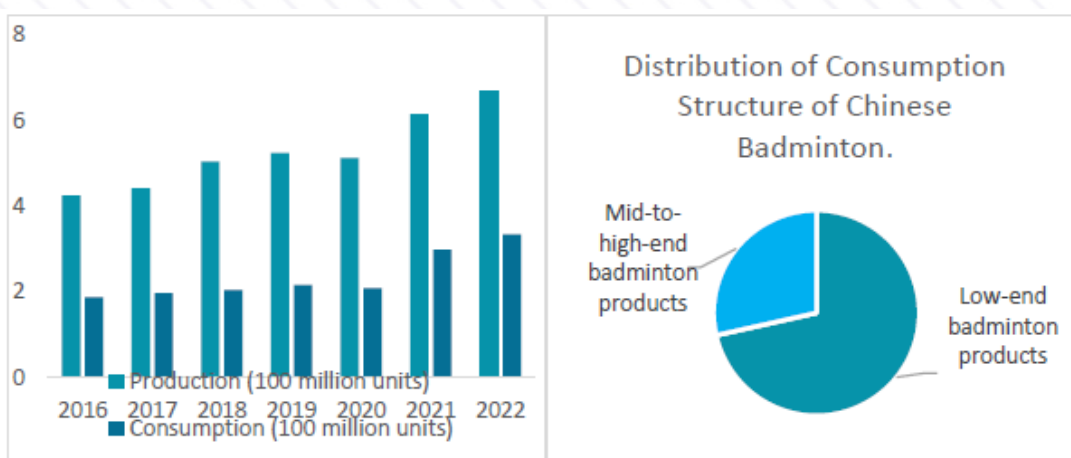


Figure 3 Supply and demand situation in the Chinese badminton industry from 2016 to 2022

### 3.3 Badminton Price Trend Situation

Price strategy is the most fundamental competitive method in China's badminton supplies market. The entry of new badminton supplies companies may reduce the profits of existing companies ("Consumer Behavior on Purchasing Decision in Buying Sports Clothes in Saraburi Province, Thailand", 2017), so existing badminton supplies companies may moderately lower product prices to prevent new companies from entering, or coordinate prices with other companies to share monopoly profits and control the market. After more than a decade of development, the competition in the Chinese badminton supplies market has become increasingly fierce. Due to the relatively low barriers to entry in the badminton supplies market and the increasing number of companies, supply far exceeds demand, leading to inevitable "price wars".

In recent years, with the rise in domestic labor costs and production raw material prices, the overall price of badminton in China has been on the rise. According to data, the average price of badminton in China in 2022 was approximately 2.27 yuan per unit, an increase of 2.3% compared to the previous year, an increase of 0.27 yuan per unit compared to 2015 (see Figure 4).

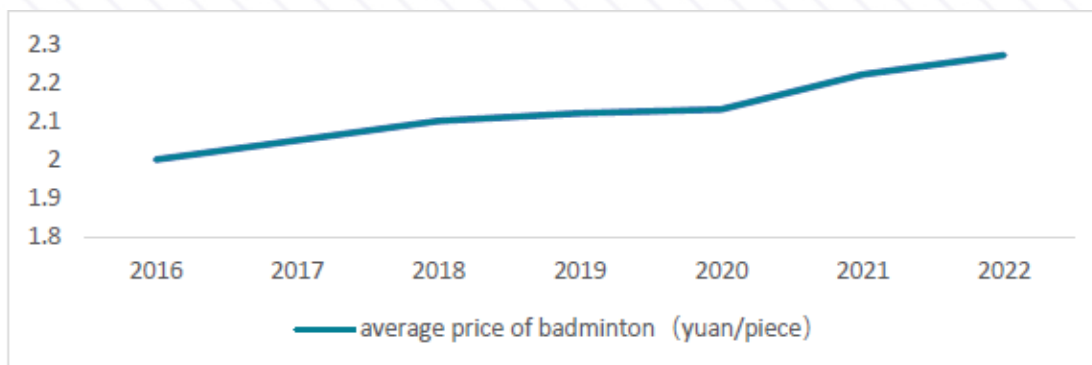


Figure 4 Price trends of Chinese badminton shuttlecocks from 2016 to 2022

### 3.4 Revenue Situation of Famous Enterprises

Li-Ning Limited, established in 1990, is one of China's leading sports brand enterprises, covering the entire process of brand marketing, research and development, design, manufacturing, and sales. It mainly operates professional and casual sports shoes, clothing, equipment, and accessories under the Li-Ning brand, and has established a large retail network and supply chain management system, continuously expanding its e-commerce business. In 2022, its main business revenue reached 25.803 billion yuan, a year-on-year increase of 14.3%. Among them, footwear business accounted for 52.2%, clothing business accounted for 41.5%, and equipment and accessories business accounted for 6.3% (see Figure 5).



Figure 5. Li Ning's main business revenue situation from 2016 to 2022

The Chinese badminton equipment market demonstrates a relatively high level of market concentration and industrialization, with overall maturity and high efficiency in industry competition, providing ample room for enterprises to expand (Dunning et al., 1971). According to data from sports goods expos, China currently has numerous enterprises producing badminton and related products, with nearly a hundred badminton brands. Among them, enterprises in Zhejiang Jiangshan and Anhui Dongqiao have annual output values reaching tens of billions of yuan, with products exported to South Korea, Malaysia, Japan, Thailand, and the Middle East. The badminton equipment market has numerous enterprises, including large-scale leading enterprises and small enterprises focusing on badminton OEM.

The Chinese badminton equipment market is highly differentiated (Zheng & Chen, 2016). Leading brands like Li-Ning, Victor, and YONEX use new technologies and designs to expand their market share, with Li-Ning incorporating traditional Chinese elements and YONEX emphasizing Japanese craftsmanship. Meanwhile, many domestic producers are small-scale, with low-tech, low-value products and limited innovation. Although the simple, low-profit production of ordinary badminton makes market entry easy, new companies face challenges in the related product market due to existing firms' cost advantages and economies of scale, though these do not create significant barriers (Yu & Yu, 2020).

#### **4. Prospects and Future Trends of the Badminton Industry**

The scope of the badminton industry continues to expand, becoming an important trend in the sports industry. The badminton sector covers various areas including leisure entertainment, professional competition, and training education, providing more possibilities for the extension and development of the industry chain, bringing abundant business opportunities and value-added services. Due to the characteristics of badminton, such as low risk, high technicality, and overall physical exercise, it has become one of the widely popular sports. Currently, the popularity of badminton in China has exceeded 200 million people, reflecting the love and demand for this sport. This trend indicates that the badminton industry has broad development prospects, not only in the domestic market with immense potential but also gradually gaining recognition on the international stage.

Enhanced policy guidance is one of the key driving forces for the development of the sports industry (Zakizadeh & Kohandel, 2022). Although in the early years of the founding of the People's Republic of China, the development of mass sports was somewhat restricted due to economic limitations. With the continuous economic growth, mass sports gradually became part of the national development strategy, receiving more attention and support from government policies. The implementation of the National Fitness Plan has further propelled the vigorous development of China's sports industry, becoming one of the important means to boost domestic demand and increase national economic income. In the new economic era, badminton, as a popular sport, has also encountered opportunities for development, becoming a new economic growth point. This policy orientation contributes to the healthy development of the sports industry, promotes national health, and also provides new impetus and opportunities for economic growth.

#### **5. Conclusion**

The Chinese badminton industry has abundant untapped production resources, requiring collaboration between the government and society to foster innovative production mechanisms. Continuous market demand drives innovation, necessitating improvements in product quality and service to gain a competitive edge. Upstream and downstream enterprises should share industry values and target customer groups to enhance competitiveness through information and resource sharing. Badminton companies need to strengthen core competitiveness, leverage domestic advantages, integrate resources, and cultivate international brand awareness to expand into global markets. The restructuring of the national industrial framework presents new opportunities for the tertiary industry, and those in the badminton sector that act swiftly can become industry leaders with global influence. The growing badminton industry in eastern China is expected to expand further into the central and western regions. Additionally, the industry should utilize economies of scale and existing advantages to increase market share and

enhance value-added services related to badminton participation and viewing, creating a more competitive industry chain.

## REFERENCES

- Arena, L. (2012). *From Economics of the Firm to Business Studies at Oxford: An Intellectual History (1890s-1990s)*
- Consumer Behavior on Purchasing Decision in Buying Sports Clothes in Saraburi Province, Thailand. (2017, 1. 8). Higher Education and Innovation Group in Education (HEAIG) Jan. 8-9, 2017 Bali (Indonesia). Higher Education and Innovation Group. <https://doi.org/10.15242/HEAIG.H0117507>
- Dunning, E., Loy, J. W., Kenyon, G. S., & Brailsford, D. (1971). Sport, Culture and Society: A Reader on the Sociology of Sport. *The British Journal of Sociology*, 22(4), 458. <https://doi.org/10.2307/588987>
- Ekholm, D. (2019). Sport as a Means of Governing Social Integration: Discourses on Bridging and Bonding Social Relations. *Sociology of Sport Journal*, 36(2), 152-161. <https://doi.org/10.1123/ssj.2018-0099>
- Gao, R. Y., & Robinson, L. (2017). A comparison between Talent Identification and Development (TID) for badminton in China and the UK.
- Kong, M.-M., Li, Z.-H., & Nie, S.-W. (2017). The Impact of Ecological Imbalance of World Badminton on the Sustainable Development of Chinese Badminton. *DEStech Transactions on Environment, Energy and Earth Science*, icmed. <https://doi.org/10.12783/dteees/icmed2016/6300>
- Ucak, A. (2015). Adam Smith: The Inspirer of Modern Growth Theories. *Procedia - Social and Behavioral Sciences*, 195, 663-672. <https://doi.org/10.1016/j.sbspro.2015.06.258>
- Yu, L., & Yu, L. (2020). Analysis on Developing Dongguan's Badminton Training Market. 2020 16th International Conference on Computational Intelligence and Security (CIS), 174- 178. <https://doi.org/10.1109/CIS52066.2020.00045>
- Zakizadeh, S. B., & Kohandel, M. (2022). Elite Badminton Policy in Iran.
- Zheng, J., & Chen, S. (2016). Exploring China's success at the Olympic Games: A competitive advantage approach. *European Sport Management Quarterly*, 16(2), 148-171. <https://doi.org/10.1080/16184742.2016.1140797>

**Paper ID:** 1571056420

**Name:** Acer Mohamed

**Paper Title:** Impact of Cognitive Psychology and Human Factors Engineering on Mechanical Engineering Product Sustainability

**E-mail:** saber@graduate.utm.my

## 1. INTRODUCTION

Mechanical engineering has traditionally prioritized technical and functional aspects of product design, focusing primarily on performance, durability, and efficiency. However, as products become increasingly sophisticated and user expectations evolve, it is essential to integrate principles from cognitive psychology and human factors engineering into the design process. These disciplines provide valuable insights into how users interact with products, emphasizing the importance of usability, user satisfaction, and overall user experience.

Cognitive psychology helps us understand how users perceive, process, and respond to information presented by a product. It explores the mental processes involved in using a product, such as memory, attention, and problem-solving. For instance, products with complex interfaces can impose a high cognitive load on users, making them difficult to use and leading to user frustration and potential product failure. By applying cognitive psychology principles, designers can create products that are more intuitive and easier to use, reducing cognitive load and enhancing user satisfaction.

Human factors engineering, also known as ergonomics, focuses on optimizing the interaction between users and products to improve comfort, efficiency, and safety. It considers physical, cognitive, and organizational aspects to ensure that products are designed to fit the needs and capabilities of users. Ergonomically designed products can minimize physical strain, reduce the risk of injury, and enhance overall user satisfaction.

Despite the recognized importance of these disciplines, there is limited research on how cognitive psychology and human factors engineering specifically influence the sustainability of mechanical engineering products. Sustainability in this context refers to the ability of a product to remain viable and successful in the market over time. This involves not only technical and functional performance but also user acceptance and satisfaction.

The aim of this study is to bridge this gap by investigating the impact of cognitive psychology and human factors engineering on the sustainability of mechanical engineering products. We adopt a user-centered approach to identify the key factors that influence user satisfaction and product success. Through this approach, we seek to understand how aspects such as mental effort, user interface design, user satisfaction, ergonomic design, and aesthetics contribute to the overall sustainability of products.

This research is structured into two main phases: the pilot phase and the experimental phase. The pilot phase involved analyzing a selection of innovative products to identify common cognitive and ergonomic issues that could lead to product failure. The insights gained from the pilot phase informed the identification of five critical factors for the experimental phase: user satisfaction, mental effort, user interface, ergonomic design, and aesthetics.

In the experimental phase, we collected and analyzed data from users and experts to evaluate the selected products based on these five factors. Users provided ratings for each product aspect, while experts assessed the sustainability potential of the products and identified the primary reasons for their ratings. The data was then analyzed using statistical methods to explore the relationships between user ratings and expert assessments of sustainability.

This study aims to provide actionable insights for product designers and engineers, highlighting the importance of integrating cognitive psychology and human factors engineering principles into the design process. By focusing on enhancing user satisfaction, reducing cognitive load, optimizing ergonomic design, and improving aesthetics, designers can create products that are not only technically proficient but also user-friendly and sustainable in the market. Through this research, we hope to contribute to the development of more effective and sustainable mechanical engineering products that meet the needs and expectations of users.

## **2.0 METHODOLOGY**

The methodology for this study is divided into two main phases: the pilot phase and the experimental phase. Each phase was designed to systematically collect and analyze data to understand the impact of cognitive psychology and human factors engineering on product sustainability.

### **2.1. Pilot Phase**

The pilot phase aimed to identify common cognitive and ergonomic issues that may lead to the failure of products. In the first instance, a selection of innovative products was to be analyzed to identify potential challenges. In-depth interviews have been conducted to gain insights into these products to identify cognitive and ergonomic issues that the user may face. The data collected will be analyzed to identify recurring issues such as high cognitive load, complex interfaces, and poor ergonomic design. These findings led to the identification of five key factors in the experimental phase: user satisfaction, user mental effort, user interface, ergonomic design, and finally, aesthetics.

### **2.2 Experiment Phase**

The experimental phase focused on evaluating the selected products based on the five identified factors. For this phase, master students enrolled in the Product Innovation class at Universiti Teknologi Malaysia were interviewed to gain insights on interesting products for the analysis. Thirty products were selected based on these insights, representing a diverse range of applications and user interactions.

To provide comprehensive ratings, a diverse group of participants was recruited. Thirty-six users were recruited to rate each product, representing a broad demographic spectrum to ensure a wide range of perspectives and experiences. Additionally, seven lecturers from the Design Board at Universiti Teknologi Malaysia were recruited to provide sustainability ratings and the primary reason for their ratings.

Data collection was conducted using structured Google Forms. Users rated each product on a scale of 1 to 5 for mental effort, user interface, user satisfaction, ergonomic design, and aesthetics. Experts rated the sustainability potential of each product on a scale of 1 to 5 and selected the primary reason for their rating from the five user rating aspects.

After collecting the data, it was meticulously compiled into datasheets. All user ratings were gathered into a single datasheet, with each row representing a unique product and columns for the product ID and user ratings. The ratings were aggregated to calculate the mean for each aspect per product. Similarly, expert ratings were compiled into another datasheet with columns for the product ID, expert sustainability rating, and the primary reason for the rating. The user and expert datasheets were then merged based on the Product ID, creating a comprehensive dataset for analysis.

In the detailed data analysis phase, descriptive statistics were calculated to understand the central tendencies and variability of the data. This involved calculating the mean and standard deviation for each aspect of the user ratings and the expert sustainability ratings. Pearson correlation analysis was conducted to identify relationships between user rating aspects and between user ratings and expert sustainability ratings. Multiple linear regression was performed to understand the predictive power of user ratings on sustainability ratings. The ANOVA test was used to assess the overall significance of the regression model, ensuring that the predictors collectively explain a significant portion of the variance in sustainability potential.

Further analysis involved examining the regression coefficients to identify the individual impact of each predictor on sustainability potential. Collinearity diagnostics, using VIF and condition index values, were conducted to assess potential multicollinearity issues. Finally, residuals analysis was performed to check for model assumptions and identify any undue influence from specific observations.

This structured approach provided a comprehensive understanding of the impact of cognitive psychology and human factors engineering on the sustainability of mechanical engineering products. The focus on key factors such as user satisfaction, mental effort, user interface, ergonomic design, and aesthetics aimed to offer actionable insights for improving product design and market sustainability.

### **5.3 RESULTS AND DISCUSSION**

#### **5.4 Descriptive Statistics**

The descriptive statistics provide an overview of the central tendencies and variability in the user and expert ratings. The table below summarizes the mean and standard deviation for each aspect rated by users, as well as the expert sustainability ratings:

Descriptive Statistics			
	Mean	Std. Deviation	N
SUSTAINABILITY POTENTIAL	4.2549923195	.43929242686	31
MENTAL EFFORT	2.4695340502	.46066214414	31
USER INTERFACE	2.7760624680	.24500014970	31
USER SATISFACTION	3.7235535074	.23242890504	31
ERGONOMIC DESIGN	3.5885304659	.23937046844	31
AESTHETICS	3.5562724014	.36618301979	31

*Figure 1: Descriptive statistics of user and expert ratings*  
The mean ratings indicate that:

- **Sustainability Potential:** The average expert sustainability rating is relatively high (mean = 4.255), suggesting that most products are perceived as having good sustainability potential.
- **Mental Effort:** The mean rating for mental effort is moderate (mean = 2.470), indicating that users found some products cognitively demanding.
- **User Interface:** The mean rating for user interface is relatively high (mean = 2.777), reflecting that most products had user-friendly interfaces.
- **User Satisfaction:** The average rating for user satisfaction is high (mean = 3.724), showing general satisfaction with the products.
- **Ergonomic Design:** The mean rating for ergonomic design is also high (mean = 3.589), suggesting that most products were comfortable and easy to use.
- **Aesthetics:** The average rating for aesthetics is high (mean = 3.556), indicating that users found the products visually appealing.

### 3.2 CORRELATION ANALYSIS

The correlation analysis, conducted using two-tailed Pearson correlation coefficients, revealed several significant relationships between user ratings and expert sustainability ratings. The correlation matrix below summarizes these relationships.



		Correlations					
		MENTAL EFFORT	USER INTERFACE	USER SATISFACTION	ERGONOMIC DESIGN	AESTHETICS	SUSTAINABILITY POTENTIAL
MENTAL EFFORT	Pearson Correlation	1	.805**	-.451*	-.436*	-.336	.027
	Sig. (2-tailed)		<.001	.011	.014	.064	.886
	N	31	31	31	31	31	31
USER INTERFACE	Pearson Correlation	.805**	1	-.145	-.109	-.019	.220
	Sig. (2-tailed)	<.001		.438	.560	.920	.235
	N	31	31	31	31	31	31
USER SATISFACTION	Pearson Correlation	-.451*	-.145	1	.830**	.753**	.552**
	Sig. (2-tailed)	.011	.438		<.001	<.001	.001
	N	31	31	31	31	31	31
ERGONOMIC DESIGN	Pearson Correlation	-.436*	-.109	.830**	1	.842**	.650**
	Sig. (2-tailed)	.014	.560	<.001		<.001	<.001
	N	31	31	31	31	31	31
AESTHETICS	Pearson Correlation	-.336	-.019	.753**	.842**	1	.497**
	Sig. (2-tailed)	.064	.920	<.001	<.001		.004
	N	31	31	31	31	31	31
SUSTAINABILITY POTENTIAL	Pearson Correlation	.027	.220	.552**	.650**	.497**	1
	Sig. (2-tailed)	.886	.235	.001	<.001	.004	
	N	31	31	31	31	31	31

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

Figure 2: Correlation Matrix

### Significant Correlations:

- **User Satisfaction and Sustainability Potential:**  $r = 0.552$ ,  $p = 0.001$
- **Ergonomic Design and Sustainability Potential:**  $r = 0.650$ ,  $p < 0.001$
- **Aesthetics and Sustainability Potential:**  $r = 0.497$ ,  $p = 0.004$

These correlations suggest that products with higher user satisfaction, better ergonomic design, and greater aesthetic appeal are more likely to be rated as sustainable by experts.

### 3.3 REGRESSION ANALYSIS

The regression analysis provided insights into the predictive power of user ratings on sustainability ratings. The model summary indicated an R value of 0.753, suggesting a strong correlation between the observed and predicted values of sustainability potential. The R-squared value was 0.567, meaning that approximately 56.7% of the variance in the sustainability ratings can be explained by the user ratings. The adjusted R-squared value was 0.480, confirming the robustness of the model when adjusted for the number of predictors. The standard error of the estimate was 0.317, indicating the average distance that the observed values fall from the regression line.

Model Summary <sup>b</sup>									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.753 <sup>a</sup>	.567	.480	.31679359175	.567	6.537	5	25	<.001

a. Predictors: (Constant), AESTHETICS, USER INTERFACE, USER SATISFACTION, MENTAL EFFORT, ERGONOMIC DESIGN  
b. Dependent Variable: SUSTAINABILITY POTENTIAL

Figure 3: ANOVA Summary Table

The ANOVA results showed an F-value of 6.537 with a significance level of  $p < 0.001$ .

< 0.001, indicating that the regression model is statistically significant and that the predictors collectively explain a significant portion of the variance in sustainability potential.

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.280	5	.656	6.537	<.001 <sup>b</sup>
	Residual	2.509	25	.100		
	Total	5.789	30			

a. Dependent Variable: SUSTAINABILITY POTENTIAL  
b. Predictors: (Constant), AESTHETICS, USER INTERFACE, USER SATISFACTION, MENTAL EFFORT, ERGONOMIC DESIGN

Figure 4: ANOVA Summary Table

**3.4 Coefficients Table**

The coefficients table provided detailed information on the contribution of each predictor. Ergonomic design was the only significant predictor, with a B value of 1.601 (p = 0.007), indicating a significant positive impact on sustainability potential. Other predictors, including mental effort, user interface, user satisfaction, and aesthetics, were not significant, suggesting that variations in these factors do not reliably predict changes in sustainability ratings.

Coefficients <sup>a</sup>												
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics		
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF	
1	(Constant)	-2.855	1.369		-2.096	.047						
	MENTAL EFFORT	.378	.267	.398	1.416	.169	.027	.272	.186	.221	4.517	
	USER INTERFACE	.036	.453	.020	.080	.937	.220	.016	.010	.272	3.875	
	USER SATISFACTION	.382	.464	.202	.824	.418	.552	.163	.109	.288	3.472	
	ERGONOMIC DESIGN	1.601	.547	.872	2.928	.007	.650	.505	.386	.195	5.120	
	AESTHETICS	-.307	.302	-.258	-1.016	.319	.497	-.199	-.134	.274	3.852	

a. Dependent Variable: SUSTAINABILITY POTENTIAL

Figure 5: Regression Coefficients Table

The coefficients table includes the unstandardized coefficients (B), standard errors, standardized coefficients (Beta), t-values, significance levels (p-values), and collinearity statistics (Tolerance and VIF). The significant positive impact of ergonomic design on sustainability potential (B = 1.601, p = 0.007) highlights the importance of ergonomic design in predicting product sustainability. The other predictors (mental effort, user interface, user satisfaction, and aesthetics) did not show a statistically significant impact, indicating that these factors alone do not strongly predict sustainability potential.

**5.5 Collinearity Diagnostics**

Collinearity diagnostics were conducted to assess potential multicollinearity issues. The variance inflation factor (VIF) values for all predictors were below 10 as shown in Figure 5, suggesting that multicollinearity is not a severe issue. The condition index and variance proportions also supported this conclusion, indicating that the predictors are relatively independent of each other.

## 5.6 Residuals Statistics

The residuals statistics provided insights into the quality of the regression model. The mean residual was approximately zero, suggesting that the model's predictions are unbiased. The standard deviation of the residuals indicated a reasonable fit of the model to the data. Cook's Distance and leverage values were within acceptable limits, indicating that no single observation had an undue influence on the model.

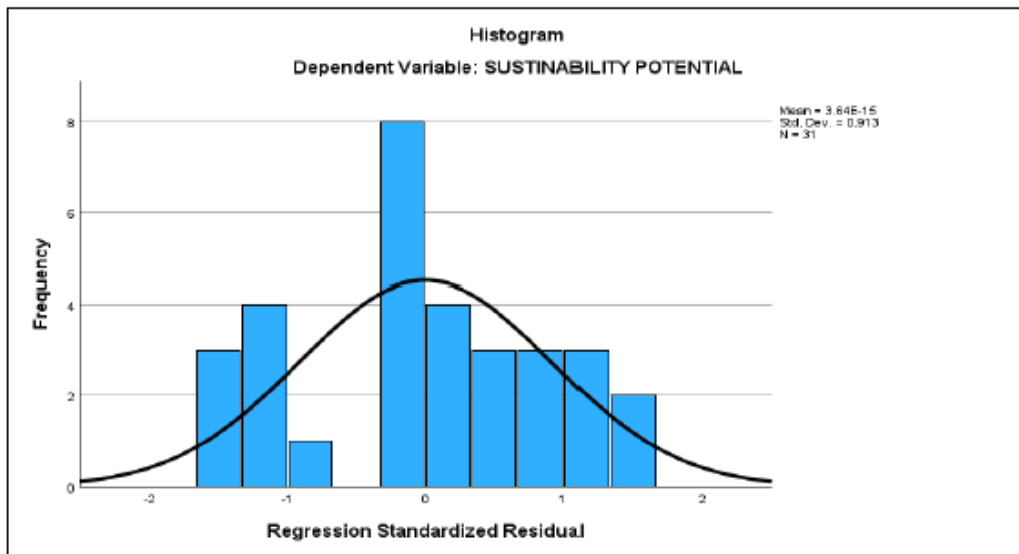


Figure 6: Histogram of Residuals

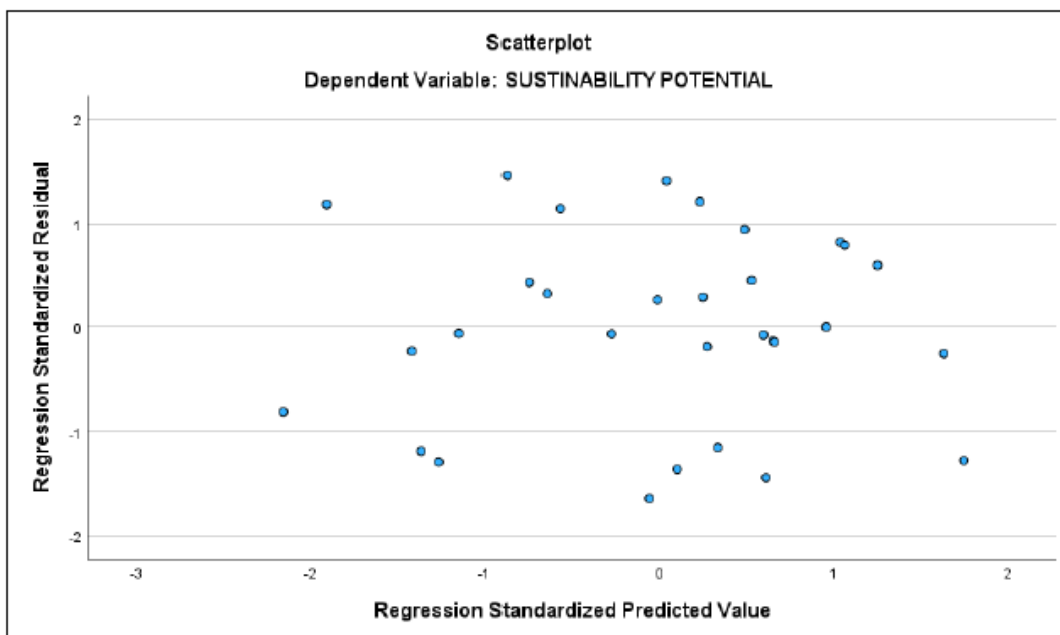


Figure 7: Residuals vs. Predicted Values Plot

### **3.7 Discussion**

These results indicate that ergonomic design, user satisfaction, and aesthetic characteristics play a critical role in determining the sustainability potential of mechanical engineering products. This means that high positive correlations between ergonomic design and sustainability potential suggest that designed products considering user comfort and usability are more likely to achieve marketplace success. This supports including ergonomics at the heart of product design for better user experience and sustainability.

Although user satisfaction and aesthetics are also positive correlates of sustainability potential, in the regression analysis, they became nonsignificant predictors. This would indicate that while those factors remain important, their impact on sustainability potential might be mediated elsewhere or their roles not fully understood.

Those non-significant predictors, including mental effort and user interface, further underscore the complexity of the prediction of product sustainability. Although these variables were relevant to user experience, they did not directly affect sustainability potential in this study. Other research could focus on different variables or contexts to better understand these relationships.

In general, the main findings underline how vital a user-centered approach to design—the process by which ergonomic design, usability, aesthetic appeal, and good user experiences are placed at the very front line—is. About these factors, therefore, designers and engineers stand a chance of coming up with products that are not just technically proficient but also sustainable and able to succeed within a market.

### **4.0 Conclusion**

This study has established that cognitive psychology and human factors engineering play a significant role in the sustainability potential of mechanical engineering products. This research detected the main factors: ergonomic design, user satisfaction, and aesthetic qualities, which are very important in the market success of products.

The ergonomic design emerged as a vital predictive factor of the potential to be sustainable, indicating that the user's comfort and effectiveness of use are essential in the design of products. While user satisfaction and aesthetics were not direct predictors of sustainability, their high positive correlation with the latter indicates that they mainly contribute indirectly to the overall sound experience of use.

The outcomes also showed that mental effort and user interface, while not directly predicting sustainability, raise satisfaction levels and encourage ergonomic design; hence, user interface and mental effort indirectly influence sustainability. This points to the plain concern that a holistic design should take place from the perspective of the subject matter.

Designing products like this toward a user-centered approach, which would include considerations for ergonomic design, user satisfaction, and aesthetics, are ultimately more sustainable for success. Evidence cannot be supported without further evidence from these findings to build upon it. Keeping these design essentials in mind, the designer can design a product that would stand a better chance of making a market impact, fulfilling the needs of the users.

## **Acknowledgment**

In the name of Allah, the most gracious and most merciful, the giver of all knowledge, all praise is to him. I would like to express my sincere gratitude to DR. NOR FASIHA BINTI MOHD YUSOF for her invaluable guidance, support, and encouragement throughout the duration of this project. Her expertise, insightful feedback, and unwavering commitment have been instrumental in shaping the direction and success of this project. I am deeply thankful for her mentorship, which has not only enriched my academic experience but has also inspired personal growth and development. I am truly fortunate to have had the opportunity to work under her supervision, and I am indebted to her for her dedication and assistance.

## **REFERENCES**

- Ausubel, D. P. (1960). The use of advance organizers in the learning and retention of meaningful verbal material. *Journal of Educational Psychology*, 51(1), 243-250.
- Baddeley, A. D. (2007). *Working memory, thought and action*. Oxford University Press.
- Bransford, J. D., & Johnson, M. K. (1972). Contextual prerequisites for understanding and remembering demonstrations of problem solving. *Journal of Educational Psychology*, 63(3), 167-174.
- Barrass, M. J., & Salisbury, K. J. (2003). Auditory cues in product design: Enhancing usability and safety. *Applied Ergonomics*, 34(3), 223-235.
- Brown, P. C. (2009). *Make it stick: The science of successful learning*. Harvard University Press.
- Buxton, B. (2013). *Sketching user experiences: Getting the design right and right from the start*. Morgan Kaufmann.
- Bridger, R. S. (2008). *Introduction to ergonomics*. Taylor & Francis.
- Belforte, G., Galluzzi, S., Sartori, S., & Villa, A. (2011). User-centered design for a new prosthetic arm: A case study. *Journal of Neuroengineering and Rehabilitation*, 7(46).
- Bhuiyan, N. H., Rahman, M. M., & Alam, A. S. (2013). User-centered design for improvement of a maintenance tool. *Procedia Engineering*, 53, 282-289.
- Bilton, N. (2013, May 6). *Google Glass: A year in review*.
- Card, S. K., Moran, T. P., & Newell, A. (1991). *The psychology of human-computer interaction* (2nd ed.). Academic Press.

**Paper ID:** 1571057162

**Name:** Li Li & Shaharuddin Md Salleh Md Salleh

**Paper Title:** The Effects of Blended Learning Environment on University Students' Critical Thinking Dispositions in College English Course

**E-mail:** li20@graduate.utm.my

## **Introduction**

In the context of the 21st century, driven by information technology, critical thinking has emerged as an essential skill for nurturing the workforce (Reffhaug et al., 2024). Society increasingly demands high cognitive workers who are reflective, and employers prefer prospective employees who possess skills that adapt to the ever-changing landscape of their respective fields (Stupple et al., 2017). Despite its importance, the cultivation of critical thinking in Chinese higher education faces numerous challenges. Hu and Sun (2006) emphasized the need for the development of students' critical thinking, extensive knowledge, significant humanistic values, and proficient English language skills. Qu (2013) highlighted that Chinese English learners often lack critical thinking, which is a concern shared by researchers in the field of foreign language teaching in China. These learners frequently exhibit ambiguity in verbal and written expression and demonstrate limited application of logic and critical thinking. Zhang and Fu (2018) noted that the critical thinking of foreign language students do not significantly improve during their college education. A survey conducted by Tian (2020) at a Chinese university revealed that over 26% of students lacked the necessary attitudes and temperament for critical thinking. Furthermore, Liu (2020) identified a negative tendency among students in seven key characteristics of critical thinking dispositions, including truth-seeking, confidence, systematic ability, analytical ability, and intellectual curiosity. Chen and Wang (2021), reflecting on the current talent development model in Chinese institutions, assert that the absence of critical thinking, narrow subject knowledge, and inadequate reading abilities have significantly impacted the quality of graduates. To address these issues, they urge to propose the creation of an innovative, information technology-rich learning environment designed to foster critical thinking in Chinese university students. This paper aims to align with the needs of the nation, society, and the individual to design a learning environment, ensuring that graduates are well-equipped to contribute meaningfully in a rapidly evolving global context.

## **Objective**

The objective of this research is to introduce and scrutinize the impact of blended learning environment on the critical thinking dispositions (CTD) of undergraduate students majoring in business at the North China University of Science and Technology (NCSTU) in China. This study seeks to explore the effectiveness of integrating traditional classroom instruction with online learning modules in fostering the development of CTD among these students. By assessing the influence of blended learning environment on CTD, the study aims to contribute to the body of knowledge on educational strategies that can effectively prepare students for the demands of the modern business environment.

## **Methods and Instruments**

This study involved a cohort of 28 first-year students enrolled in a College English course. The research employed two primary instruments: the Critical Thinking Dispositions

Inventory Chinese Version (CTDI-CV) and the Blended Learning Environment Questionnaire (BLEQ). These tools were utilized to evaluate the participants' critical thinking dispositions at two distinct points in time: initially, to establish a baseline, and at the conclusion of the semester, to ascertain the impact of the blended learning environment. The assessment of critical thinking dispositions was conducted through online questionnaires, which allowed for a seamless and efficient data collection process. This methodology enabled us to gauge the influence of the blended learning environment on the development of critical thinking dispositions over the course of the academic term. Furthermore, the study also aimed to explore the students' attitudes towards the blended learning environment by administering the BLEQ at the end of the term. This component of the research sought to discern the participants' perceptions and experiences within the learning environment, providing valuable insights into the effectiveness of the educational model from the students' perspective.

### **Results and Discussion**

The study's findings indicate that the blended learning environment significantly enhances the critical thinking dispositions (CTD) of Chinese students. Participants demonstrated a high level of engagement in both online and offline learning activities, indicating a willingness to participate actively in the educational process. One of the challenges identified by the students was the comprehension of instructional content delivered in English, which suggests a need for further support in language proficiency to facilitate a more seamless learning experience. Additionally, the study revealed correlations between the dimensions of CTD—open-mindedness, self-confidence, and inquisitiveness—and various student characteristics. Specifically, these dimensions were found to be associated with gender, English scores on the college entrance examination, and academic backgrounds in science and liberal arts, respectively. These correlations highlight the multifaceted nature of critical thinking dispositions and the influence of individual and contextual factors on their development.

### **Conclusion/Implications for Research/Policy**

The research underscores the positive impact of the blended learning environment on the CTD of Chinese students. These students have exhibited a commendable readiness to engage in learning activities across both digital and traditional platforms. However, a notable challenge encountered by the participants was the comprehension of instructional English, highlighting an area that may require additional support to ensure inclusive learning experiences. The study also acknowledges several limitations that provide avenues for future research. Firstly, the relatively small sample size of participants suggests a need for broader studies encompassing a more diverse range of academic disciplines within higher education. Secondly, incorporating qualitative research methods could offer deeper insights into students' perceptions and experiences regarding CTD and blended learning environments. Lastly, extending the research period could facilitate a more comprehensive evaluation of the blended learning environment, potentially leading to further refinements and improvements.

**Paper ID:** 1571060181

**Name:** Othman Zainon, Aimi Musa, Zakiah Mohamad Ashari & Nor Sakinah Mohamad

**Paper Title:** The Role of Astronomy in Early Stem Education: A Case Study of Preschool Teacher Training Programs

**E-mail:** othman08@ic.utm.my

## **Introduction**

Early childhood is an essential stage for cognitive and social development since it establishes foundational abilities and attitudes towards learning. Adding STEM (Science, Technology, Engineering, and Mathematics) in the curriculum of these young children would greatly improve their problem-solving skills; ability to think critically as well as curiosity in natural phenomena. Research has shown that early introduction of STEM concepts leads to better performance in other academic subjects and encourages more interest in careers related to Science, Technology, Engineering or Mathematics later on (Clements & Sarama, 2011). Furthermore, National Research Council states that this can form a strong foundation for continued lifelong learning and adjustment to changes that occur in technology-rich world today (National Research Council, 2012). Due to its captivating and visually stimulating subject matter, astronomy provides a unique and effective avenue for introducing young children to STEM concepts. For instance, the solar system, phases of the moon and the day and night cycle are all fascinating topics that could be used for teaching basic scientific principles to young minds. Astronomy is argued by French (2004) as a way of incorporating various subjects in STEM hence making it suitable for holistic STEM education. When children learn about celestial bodies or basic astronomical phenomena, they get experience in scientific method, become more observant and then develop interest in science throughout their lives. However, there exist some challenges when teaching astronomy to pre-school age children. Most early childhood educators have limited knowledge on this area of study hence not able to teach effectively on it. According to Trundle and Sackes (2015), many early childhood teachers struggle with abstract astronomical ideas due to inadequate science content background knowledge which they find difficult passing over to small kids. In addition, appropriate instructional strategies and resources are crucial in order that preschoolers can understand or engage with these concepts related with astronomy.

## **Objective**

This research aims to investigate the relevance of Astronomy in early STEM education, through the case of specialization teacher training for pre-school teachers. The objective of this study is to:

- I. Evaluate the significance and effectiveness of the training programmed on improving teachers' knowledge and self-esteem.
- II. Identify the teaching strategies employed by the trainers.

## **Methods and Instruments**

This study examines the role of astronomy in early STEM education and evaluates the effectiveness of a teacher training program for preschool teachers using a qualitative case study research design. A case study approach facilitates an in-depth examination of the training program, its implementation, and its impact on teachers and students. In this study, 15 preschool teachers were recruited from a variety of preschools in a metropolitan area.



Purposefully selected teachers were selected in order to ensure a diversity of teaching experience, educational background, and demographic characteristics. It was necessary for participants to have at least three years of teaching experience in preschool as well as a commitment to participate in the entire training program in order to be considered for admission. The teacher training program lasts two days and includes theoretical and practical components. It was developed in collaboration with experts in early childhood education and astronomy. The primary purpose of these surveys is to measure changes in teachers' knowledge, confidence, and attitudes towards teaching astronomy. By conducting these surveys at the beginning and end of the training program, we can gain insights into the effectiveness of the training and identify any areas where improvement is needed. The surveys include multiple-choice and Likert-scale questions to assess various aspects of astronomy content knowledge. These questions are designed to evaluate teachers' understanding of key concepts, theories, and phenomena related to astronomy. Additionally, the surveys ask questions related to teachers' self-efficacy, which is their belief in their own capabilities to teach astronomy effectively. Lastly, the surveys also inquire about teachers' perceptions of STEM education, including their attitudes towards integration of astronomy into other subjects and the broader goals of STEM education. The surveys were given out at the start and finish of the course. This enables us to compare the answers from the teachers both before and after the training. By examining changes in knowledge, confidence, and attitudes, we can evaluate the impact of the training on teachers' understanding and practice. Descriptive statistics were used to analyse the survey data in order to measure changes in attitudes, confidence, and knowledge. The process of combining the data into interpretable patterns and trends is known as descriptive statistics. We can determine where teachers have made progress and where further training might be needed by looking at the mean scores, frequencies, and other statistical metrics.

## **Results and Discussion**

The findings and analyses of this study were divided into two surveys: pre-survey and post-survey. The pre-survey demographics of the workshop training revealed the following characteristics of the participants from the study. Gender distribution: Fifteen in-service preschool teachers attended the workshop, and most of them were females. In fact, 87% (n=13) were females, and 13% (n=2) were males. Every participant has worked as a teacher for longer than three years. To break this down even further, 67% (n=10) of the participants had taught for one to five years, 27% (n=4) for six to ten years, and 6% (n=1) for more than eleven years.

The instrument was divided into sections for readiness, awareness, and understanding in relation to teaching toddlers astronomy. The main conclusions concern astronomical awareness. The primary conclusions concern astronomy awareness. Of the 10 respondents, 66% assessed their knowledge of astronomy as inadequate, whereas 34% of the respondents, or 5 respondents, had an excellent comprehension of the subject. The results showed that, of those who understood that astronomy might be used in daily life, 53% (n=9) of the respondents did so, while 47% did not. In terms of early exposure, 60% of participants (n = 9) agreed that it is crucial to introduce astronomy to preschool-aged children, whereas 40% (n = 6) disagreed. Regarding the curriculum integration, however, 53% (n=8) were unaware of the several ways in which astronomy may be included. Likewise, 61 percent (n=11) did not know how to apply astronomy in a learning environment.

The questionnaire evaluated the participants' thoughts and feelings regarding their readiness to teach astronomy as well as their abilities to teach it. Regarding strategies and

procedures, the results indicate that 9 out of the respondents, or 53%, were unaware that there were methods and approaches available for teaching astronomy. Regarding the astronomical resources, 47% (n=7) of respondents felt that preschoolers needed access to astronomy-related teaching and learning materials, while 53% disagreed. In terms of preschoolers' participation in astronomy-related activities, the final result showed that 53% of respondents (n=8) were unaware of the necessity.

The results of the post-workshop survey show that the preschool instructors' awareness, knowledge, and preparedness to incorporate astronomy into their lesson plans have significantly improved. A positive trend in the comprehension and application of astronomical concepts in early STEM education is evident from the analysis of the responses. The results of the survey show a discernible improvement in the instructors' astronomy expertise. Just 20% of the respondents gave their knowledge a score of 5 (the highest possible) prior to the training. This percentage rose to 40% following the workshop (Score 10). This indicates that the participants' confidence and comprehension of astronomy have significantly improved. The session also made the teachers far more aware of how important astronomy is to daily life. Few participants recognized the significance of astronomy in everyday situations prior to the course. Ninety-three percent of the respondents scored their awareness between six and ten after the training. In particular, 94% agreed that early exposure to astronomy is essential for pre-schoolers, highlighting how well the training works to change people's perspectives.

There was also a noticeable improvement in the participants' preparedness to use astronomy in their teaching methods. Prior to the session, awareness was assessed at the highest level (Score 10) by 13% of the teachers. Afterwards, this percentage increased to 34%. Furthermore, there was an improvement in the awareness ratings for using astronomy across the curriculum. Of the respondents, 40% selected score 10, indicating a high comprehension of how to incorporate these concepts into different topics. Key astronomy topics were significantly improved by the training for the teachers. In a number of categories, the proportion of participants who gave their comprehension the highest rating (Score 10) rose: Application in Teaching and Learning: Up from 7% of respondents, 33% of respondents gave their comprehension a score of 10. Integration Across Curriculum: Up from 7%, 40% of respondents gave their comprehension a score of 10. Classroom Implementation: Up from 20%, 33% of students gave their comprehension a score of 10.

The findings suggest that people are becoming more conscious of the necessity of offering suitable astronomy-related teaching and learning tools. Merely 20% of the participants assessed this necessity as having the highest priority (Score 10) before the course. Following the training, forty percent of the participants agreed that these kinds of materials are essential. The need of assessing pre-schoolers' astronomy knowledge was also emphasized during the session. After the training, 33% of respondents rated their understanding at a score of 10, indicating an increase in awareness of this need from 13% prior to the workshop.

### **Conclusion/Implications for Research/Policy**

The pre-survey results show that preschool teachers generally lack knowledge and comprehension of astronomy, with a significant gap in their preparedness to teach the topic. Even though several participants acknowledged the value of introducing students to astronomy at a young age, many were unsure of how to include it into the curriculum or

daily activities in the classroom. These results underline the necessity of thorough training programs to improve preschool teachers' astronomical teaching knowledge and abilities, which will ultimately lead to the development of a more successful STEM education framework in early childhood settings. The outcomes of the post-workshop survey show how well the training program improved the knowledge, awareness, and preparedness of preschool instructors to incorporate astronomy into early STEM instruction. The noteworthy advancements observed in multiple metrics emphasize the significance of these kinds of professional development initiatives.

**Paper ID:** 1571062000

**Name:** Nur Wahidah Abd Hakim & Corrienna Abdul Talib

**Paper Title:** Exploring the Perception and Understanding of Malaysia Public University Lecturers on Critical Thinking Skills in Chemistry Using Facione's Critical Thinking Model

**E-mail:** nwahidah5@graduate.utm.my

## Introduction

Critical thinking is one of the important learning skills in 21<sup>st</sup> century learning. Cultivating critical thinking enables students to analyze information, evaluate evidence, and construct reasoned arguments. These skills empower students to engage in reflective and independent thinking. The essence of critical thinking lies in questioning rather than accepting information at face value and encourages into the 'why' and 'how' behind facts and ideas, therefore, leads to a deeper understanding of subject matter. Findings by Anggraeni et al. (2023) found that 67% of studies on critical thinking using problem-based learning approach are conducted in higher education. 49.93% lecturers in Indonesia understand the advantages or importance of students' critical thinking skills (Amin & Adiansyah, 2018). A study by Jerome et al., (2019) on Malaysia lecturers' perceptions on teaching strategies that could enhance higher order thinking skills shows that many lecturers believed that lecture and discussion can enhance higher order thinking skills. However, there is no mention of their understanding on what constitutes critical thinking.

Chemistry stands out as a field where critical thinking is not only beneficial but rather essential, giving its reliance on practical application, hypothesis testing, experimental evidence, as well as theoretical application, therefore demands reasoning and evaluation that goes beyond memorization of facts. Critical thinking in chemistry involves the application of logic and reasoning to understand chemical phenomena, solve complex problems, design experiments, and interpret data. For example, understanding the principles of acid and base requires more than memorizing the chemical formulae, but critical thinking allows students to analyze the reason why water is formed when acid reacts with base. In order to prove the reaction, students must conduct an experiment. Again, critical thinking is essential for analyzing results, discerning patterns in titration curve, and drawing conclusions to test hypotheses while controlling the variables. These processes utilize critical thinking skills such as making inference, analyzing, and evaluating which are among the cognitive skills of critical thinking proposed by Facione in 1990 using Delphi method where consensus from experts from various disciplines had been taken place. Facione's critical thinking model encompassed a broad spectrum of critical thinking skills. They are interpretation, analysis, inference, evaluation, explanation, and self-regulation (Facione, 1990, 2015).

These components allow for adaptation to the specific needs of different disciplines, including chemistry. This is because the skills are relevant to scientific methods such as hypothesis testing (inference), experiments (analysis), and data interpretation (evaluation). In short, Facione's framework directly aligns with curricular goals, particularly in chemistry where students are expected to analyze data and suggest improvements, explain the findings from their experiments, interpret relationship between two categories, as explained in *Dokumen Standard Kurikulum dan Pembelajaran, Kimia* (Ministry of Education, 2018). Therefore, this research aimed to explore and understand critical thinking skills in chemistry according to chemistry education lecturers.

## Methodology

This is a qualitative study to explore and understand how lecturers perceive and understand critical thinking in chemistry. Three public university lecturers participated in the study and were chosen by purposive sampling, based on the criteria that they are chemistry education lecturers in public university, have taught for more than five years, and also committed to involve in the study. The details of the respondents are shown in Table 1 below.

**Table 1** Details of the respondents

Code name	Institution	Expertise
R1	Public university A	Chemistry Education – Blended problem-based learning
R2	Public university B	Science Education and Classroom assessment
R3	Public university C	Chemistry Education and Curriculum Development

Data was collected using semi-structured interview conducted in English, with each session lasting for 60 minutes using Google Meet due to demographics of each respondent. Interviews were transcribed, then categorized to form themes using template analysis and sent back to the respondents for member checking process and then to other experts from two different university for peer review process to ensure validity of the findings. Triangulation was used to corroborate findings from other sources and fill gaps in research (Bowen, 2009; Morgan, 2021).

## Results and Discussion

In this section, the findings from the semi-structured interviews with the respondents are presented and analyzed below;

### 1. Perception of critical thinking in education

In order to understand respondents' perception on critical thinking, a question of "What is your perception of critical thinking in education?" was asked. R1 stated, "*Critical thinking, OK, to cut it short, in the layman sense... critical thinking is just the ability of students to give a justification of his or her answer. And then the ability for him to give the justification based on the evidence that he or she has.*" R1's answer shed some light on how some educators perceived critical thinking. "Focus on justification" suggests that within educational context it's not just about arriving at answer but also lies in understanding the 'why' behind the 'what'.

Coincidentally, R2 shared the same sentiment. "*I trained teachers, I trained chemistry teachers. So, I always tell my students, if you can listen to your students and even if they give you a correct answer, always ask why. And the students can reason it out. OK, why I'm getting this answer and if they can simplify things, I think that is critical thinking, you know.*" R2's statement suggests that teaching methods should focus on asking students "why" even after a student has given a correct answer. By asking "why", this encourages students to actively question and explore concepts, thus promoting a culture of inquiry and develops reasoning and justification skills. Moreover, in teaching students to justify their answers, teachers are able to assess the validity of students' assumptions, the strength of their arguments, and the reliability of their evidence, which also mentioned by R1 with this statement, "*to give the justification based on the evidence that he or she has.*" The emphasis of evidence when providing justification shows the need for arguments to be

based in credible information. This elevates the quality of an argument and ensures that conclusions are drawn based on supporting information.

R3 shared the sentiments. *“Well...because we are in science, we need this skill. It’s a skill where the students need to think deeply about something like when we give them a scenario or a situation so they have to think about it and...um...justify, somehow make reasoning... like they have to come up with a scientific reasoning if we look at the sentence, so they don’t just simply accept...the evidence, they can’t simply accept what they hear. They have to perhaps...investigate, they have to investigate and then and then they have to justify, and also they have to give reasons, you know...why? why it is like this...let’s say they are doing an experiment and also they have gather the evidence, they have to somehow justify the findings, they have to provide reasoning. So I think that’s how we have to think critically.”*

R3 began with the acknowledgement that critical thinking is necessary in science (and by extension chemistry), highlighting the need for students to think deeply about something when given a scenario or situation. This shows that learning science is not just about learning facts and figures but involves a deeper engagement with content. Similar to R1, R3 believed that critical thinking is not about taking things at face value but rather emphasis on justification and reasoning with the presence of evidence. Moreover, in chemistry, investigation is a core aspect of scientific inquiry and requires students to design and conduct experiments, observe phenomena, and collect data. Therefore, this process requires students to actively analyze the information or data and making conclusions, which encourage students to actively seek out answers through evidence and reasoning. Based on the discussion above, all three respondents believe that critical thinking is about giving justification to their reasoning, and it should be supported with evidence. The next question is, how to apply critical thinking?

## **2. Application of critical thinking in daily life**

Below diving further into the application of critical thinking in chemistry, let’s dive into the application of critical thinking in daily life to get a general sense of critical thinking skills. R1 described the application of critical thinking in daily life *“We always apply critical thinking in our daily life whether we realize it or not. And then when we are deciding something. OK. For example, I’m deciding to buy something. OK. I want to buy shampoo. So, I did a critical thinking actually when I think the best shampoo for me, OK. For example, I will analyze. One of the elements in critical thinking is analyzing, right? So I had the ingredients of each shampoo that I shortlisted, right? I analyze it. OK. I have compared it, and I will reflect back. OK, which shampoo is the most suitable shampoo for me. For example, I have very sensitive skin. And so I will choose the shampoo that has that kind of ingredient for the sensitive skin and then you have the, what I call that a hair fall problem. OK, maybe I will choose the shampoo that has the ingredient that specifically okay to treat the hair fall problem among the users. OK. This is what they call reflection. OK. You want to reflect it back when you have chosen something or in this case when I chose the shampoo.”*

According to R1, critical thinking is not reserved for complex problems in academic settings, but it is something that humans have been doing in everyday life. The insight from R1 illustrates how critical thinking is being used during everyday decision-making processes, often subconsciously without explicit acknowledgement. A seemingly mundane activity, which is choosing a shampoo, shows how critical thinking can be used in everyday scenarios. The process encompasses various elements of critical thinking such as analysis, evaluation, and reflection. *Analysis:* The act of analyzing the ingredients of each shampoo.

R1 does not only look at the list of each ingredient in the shampoo, but also understand the implications of each ingredient and how it concerns one's specific needs such as sensitive skin or hair fall issues. This step requires data gathering (reading and listing out ingredients) and breaking it down into understandable parts (understanding the implications of each ingredient). *Evaluation*: Comparing each option based on ingredients to determine the effectiveness of the ingredients for the specific conditions.

*Reflection*: Reflecting on the choices, involving reviewing the reasoning process and the evidence considered.

The example above shows the importance of honing critical thinking skills, as it improves decision-making and problem-solving skills across all areas of life. It also serves as a reminder that fostering critical thinking can enhance the quality of decision making and lives.

### **3. Application of critical thinking in chemistry**

In order to explore the cognitive skills of critical thinking in chemistry, this question was asked to the respondent, *"What are the cognitive skills of critical thinking in chemistry?"* Facione's critical thinking model identified six key skills. They are interpretation, analysis, inference, evaluation, explanation, and self-regulation.

#### **2. Interpretation**

R1 believed that interpretation *"portray your understanding towards some concept when you are doing chemistry"* and further elaborated *"Interpretation is a judgement by using experience in one situation. For example, the concept as acid and base concept, right? Interpretation is you show how you understand this kind of concept, what is your understanding about the concept, the criteria of the acid; "Acid is blah blah blah blah," and then what is the use of acid? We just show to others our understanding towards the concept that has been asked."* According to Facione, interpretation involves the ability to comprehend and express the meaning or significance of a wide range of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria. In the context of the excerpt, the process of interpreting a scientific concept (acids and bases) requires students to articulate their understanding of the concept. This includes defining the concept ("Acid is blah blah blah...") and explaining its applications ("what is the use of acid?"). This aligns with Facione's description of interpretation as it involves both understanding the concept's criteria and expressing this understanding in one's own words. Furthermore, by explaining acids and bases, by defining them, discussing their uses, and explaining these ideas to others shows deeper conceptual understanding on the subject matter.

R2 explained the concept of interpretation in chemistry as follows, *You know...when you talk about bondings, you can actually explain why some bonding are weaker and some bondings are...bigger, stronger?"* The focus of "why" in the excerpt encourages a move from surface-level knowledge to a deeper investigation on the principles and causes in bondings, showing a comprehension and understanding with the concept of chemical bonding. At its core, interpretation requires a deep understanding of the subject matter. This phenomenon aligns with the study conducted by Dosinaeng (2019), where the subjects were asked to interpret the given problem in combinatorics problems. Those with the ability to interpret the problem correctly were able to determine the meaning behind the problem and later were able to analyze and evaluate the problem correctly. Likewise, the subject could explain what they know correctly (Mastuti et al., 2022).

### 3. Analysis

Analysis is important in chemistry. R1 described analysis as *“The brief idea of analysis is... where you chunk the information, or... your understanding, from one part to another part. OK, for example, analysis in one problem. You chunk the problem. The first problem, the second problem, the third problem and what will you do to solve the whole problem in a big problem they have been given,”* is aligned with the definition in Dokumen Standard Kurikulum dan Pembelajaran (Kimia). According to the document, Analysis is *“breaking down information into smaller parts to understand more deeply about it as well as the relationships between the parts”* (Ministry of Education, 2018, page 6). This process involves breaking down a complex problem into smaller parts. This approach allows for more detailed examination of the problem’s components, making it easier to understand the overall structure and how the parts relate to each other.

Based on the excerpt above, finding the inferential relationships among ideas, descriptions, or other forms of expression is important especially in chemistry. This means taking a look at experiments or chemical reactions closely. This helps understand the problem better, therefore, finding the best solutions.

Meanwhile, R2 discussed the role of analysis in the context of application; scientific experimentation of reading a thermometer, *“A simple thing I can give you, like reading thermometer for 20 minutes...you know, what gives me the right not to stop at 15 minutes? Why can’t I stop at 25 minutes. So how would I know that my experiment is over already? How do you know that it will not go up for another 5 minutes, or another 10 minutes? Or the students can see, look the temperature is getting higher, and eventually it goes down and reaches the room temperature. You know, they can look for patterns like in that sense, “Oh, the temperature is going down” so they’re analysing the data. I think analysing skills happens a lot when doing experiments and writing a report.*

In the context of the excerpt, R2 believed that Analysis happens during experiments. When students note the temperature decrease and relate it to the experiment’s progressions based on this line, *“Oh, the temperature is going down,”* they are actively engaging in data analysis by recognizing and understanding patterns in data and synthesizing the information in order to draw conclusions. These steps show how analysis is applied in scientific experimentation. Meanwhile, R3 believed that analysis involves an act of determining correctness or incorrectness of something, *“I think when we analyse something, we want to figure out whether this is correct or maybe incorrect.”* This insight is especially important in chemistry because apart from theoretical knowledge, chemistry is inherently experimental, relying on laboratory experiments or scientific inquiry to test hypotheses, observe chemical phenomena, and gather empirical data. By comparing experimental data, chemists can confirm or adjust their models.

### 4. Inference

According to R1, inference is the process of drawing conclusions from available data or observations, *“Inference is just like we did our experiment... OK, we just draw the conclusion, or we just draw a basic conclusion or early conclusion towards the question when asked. And then inference needs to be justified.”* Meanwhile, R3 offered a similar view, *“When we do inference... I think inference is, how you conclude something...how you conclude something based on your evidence, something like that.”* In chemistry, inference is a process in which chemists interpret data, draw conclusions from experiments, and develop hypothesis. R1 and R3’s insights emphasized that inference in chemistry is about



constructing a logical narrative from empirical evidence. R1 described inference as drawing or early conclusions, which then justified. Similarly, R3 viewed inference as drawing conclusion based on evidence. The insight from R1 and R3 shows the need to encourage students to draw and justify conclusions from experimental data to foster a deeper understanding of chemistry.

## 5. Evaluation

When asked about how they understand evaluation, R1 stated that, *“Evaluation is you have to think. You need to think of what you have clarified. I think you need to...you know when there are a lot of solutions, you need to evaluate which solution is the best solution, if it’s better than others, with a certain criterion maybe.”* R1 pointed out that evaluation is all about the effort to thinking and looking at the information at hand. Then, R1 talked about an instance when there are many answers to choose from. In which evaluation would eventually take place when comparing which answers is the best, similar to R2’s insight, *“Solving problems and then looking at the solutions that you have and seeing... OK, which solution is better, in which term it’s better. Sometimes you have two solutions and both of them are equally good. But you might need to recognize in this context (of the problem) this would be a better solution.”*

This is especially true in chemistry where there are multiple hypotheses or methods that might be suitable to use, therefore, the best one needs to be selected based on certain criteria. R3 further added the need for evidence when making an evaluation, *Evaluation is more to umm...kind of judgment... It is like this...usually you evaluate after you already have the results, okay, so you evaluate whether your reasoning...is it correct or not. You know, like you make the evaluation or make a judgment. But there must be evidence.”* The perspectives of the respondents on evaluation enrich the understanding of evaluation in scientific inquiry. After all, chemistry is a discipline that relies on empirical evidence to corroborate knowledge or method, which demands an approach to evaluation.

## 6. Explanation

According to R1, *“Explanation...in my own personal view, when you have analyzed, when you have evaluate, the you will explain it... To explain “why you decide the solution should be A, not B?”* R1 articulated that explanation rooted from critically engaging with the information, through analysis and evaluation. R1 further elaborated by giving an example, *“For example, why do we need to cover the mercury that comes from the thermometer that has been broken? Why we need to cover the mercury with maybe...soil? Why? We need to explain it. Okay, first, we need to analyze mercury, the characteristic of mercury, because it is harmful, it can be absorbed by the vein and so on.... Since the mercury can be absorbed by the vein, so we use soil in order to trap the mercury. In order for us to explain about our solution, we need to involve a lot of thinking skills.”*

In the context of chemistry education, the importance of explanation can be seen by the example above. The scenario shows the rationale for using soil which shows understanding on the properties of the mercury, the risks it possesses, and therefore being able to come up with suitable solution to prevent harm. R2 shared similar perspective regarding explanation by stating that, *“For me, they (students) are able to provide reasons for any explanation they gave... if you ask students and students can give reasons for it, and there’s a flow for it, there is an understanding, the student clearly understands the concept. That’s critical thinking.”*

R3 added another depth to the insight. *“When you explain, you justify...the information. When you explain you also maybe use some reasoning. You want to convince... this is the correct method, so this is the step I get after I’ve done the experiment.”* You can explain verbally, or you can explain using words, graphs...there are a lot of ways when you communicate the result.” The use of various form of explanation suggests that explanation is not bound in one single form, but rather have various forms and ways, for example *“...text? They can change it into a graph, they are able to provide reasons for any explanation they gave.”* A critical thinker is not only able to grasp the information, but also reason and justify it in various forms of communication. Furthermore, the ability to explain shows deeper conceptual understanding of the subject matter (Rodriguez & Towns, 2019).

## 7. Self-regulation

Being aware is the first step of self-regulation, which acknowledging one’s own cognitive strength and limitation (Prather et al., 2020). R1 believed that students with self-regulation will do their best to solve problems well. *“For example, they are investigating a project or a problem. They will list down what they know about the concept, the problem and what they don’t know, they will evaluate, they will analyze the problem in order for them to solve the problem. So when they are able to list down or they are able to detect or they are able to identify something that is lacking, they will look for that kind of thing, at last they will find a solution, the best solution.”* R2 shared the same sentiment by musing that *“... Evaluate, self- evaluate your experiment and think about where your mistakes and can you explain to your friend why you think that this could be a mistake you make...”*

Having self-regulation means that students can identify errors and learn from mistakes. The ability to reflect the mistake would allow the students to correct the mistakes done previously and ensure to solve problem successfully (Mastuti et al., 2022). R3 added depth to self-regulation by stating that honesty is crucial. *“For example, let say I have done some research...you know, I want to report my findings, for example. So, I need to...be honest...I mean like I cannot manipulate my data, something like that. So I think, when you have self- regulation, I think you act appropriately.”* This is especially true in chemistry because data should not be manipulated to ensure the accuracy and truthfulness in the findings. Furthermore, self-regulation in learning involves students taking control of their learning process, including planning, setting goals, monitoring their progress, and evaluating outcomes (Olahanmi & Gumbo, 2017). By engaging in self-regulation, students become more aware of their though processes (metacognition), which helps them to think critically.

Overall, the above responses reveal the depth of critical thinking skills in chemistry perceived by lecturers. Findings by Amin and Adiansyah (2018) shows that 38.90% lecturers in Indonesia understand indicators used to evaluate students’ critical thinking skills, and in average, 27.05%, 31.40%, 42.42%, 25.57%, 53.86%, and 22.88% lecturers help students practice their interpretation skills, analysis skills, inference/conclusion drawing skills, evaluation skills, and self-regulation skills, respectively. Integrating critical thinking skills into the curriculum will ensure that students develop a well-rounded set of cognitive abilities and better prepare students to make informed decisions and navigate complex problems. This is because these critical thinking skills are interrelated, where the ability to interpret problems is the base for critical thinking skills, while students with good ability to interpret problems can analyze, evaluate, and explain problems better. Furthermore, students with good self-regulation can examine and identify their mistakes, therefore they can revisit the problems and improve their problem solving, therefore, producing a better understanding and solution for the problem (Dosinaeng, 2019).

## Conclusion and Limitations

Respondents' perception on cognitive skills of critical thinking shows a deeper view on the application of critical thinking skills in chemistry. The findings show that critical thinking skills such as Interpretation, Analysis, Inference, Evaluation, Explanation, and Self-Regulation are well suited to be taught in chemistry lessons. Furthermore, it shows that Facione's critical thinking model is also well suited to be integrated in chemistry, despite a much more generic critical thinking skill; self-regulation.

While this study provides insights into the perceptions and understanding of three public universities lecturers on critical thinking skills in chemistry, several limitations should be acknowledged. The most significant limitation of this study is the small sample size, therefore the findings may not be generalizable to a broader population. Furthermore, the focus solely on the perceptions of lecturers regarding critical thinking skills in chemistry, without considering the view of students or administrators. Therefore, the findings may not provide a comprehensive understanding of critical thinking skills in a broader context.

## References

- Amin, A.M. & Adiansyah, R. (2018). Lecturers' perception on students' critical thinking skills development and problems faced by students in developing their critical thinking skills. *Indonesian Journal of Biology Education*. 4(1). 1-10.
- Anggraeni, D.M., Prahani, B.K., Suprpto, N., Shofiyah, N. & Jatmiko, B. (2023). Systematic review of problem based learning research in fostering critical thinking skills. *Thinking Skills and Creativity*. 49. 1-12.
- Bowen, G.A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*. 9(2). 27-40.
- Dosinaeng, W.B.N. (2019). Analysis of students' higher order thinking skills in solving basic combinatorics problems. *Math Didactic: Jurnal Pendidikan Matematika*. 5(2). 133-147.
- Facione, P.A. (1990a). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction*. Millbrae, CA: California Academic Press.
- Facione, P.A. (2015). *Critical thinking: What it is and why it counts*. The California Academic Press, Millbrae, CA.
- Jerome, C., Cheng, J.L.A., Hie, T.S. (2019). Undergraduate students' and lecturers' perceptions on teaching strategies that could enhance higher order thinking skills (HOTS). *International Journal of Education, Psychology and Counseling*. 4(30). 60-70.
- Mastuti, A.G., Abdillah., Sehuwaky, N. & Risahondua, R. (2022). Revealing students' critical thinking ability according to Facione's theory. *Al-Jabar: Jurnal Pendidikan Matematika*. 13(2). 261-272.
- Morgan, H. (2021). Conducting a qualitative document analysis. *The Qualitative Report*. 27(1). 64-77.
- Olakanmi, E.E. & Gumbo, M.T. (2017). The effects of self-regulated learning training on students' metacognition and achievement in chemistry. *International Journal of Innovation in Science and Mathematics Education*. 25(2). 34-48.
- Prather, J., Becker, B.A., Craig, M., Denny, P., Loksa, D. & Margulieux, L. (2020). What do we think we think we are doing?: Metacognition and self-regulation in programming. *ICER'20*. 1-12.
- Rodriguez, J-M.G. & Towns, M.H. (2019). Analysis of student reasoning about Michaelis-Menten enzyme kinetics: mixed conceptions of enzyme inhibition. *Chem. Educ. Res. Pract.* 20(2). 1-22.

**Paper ID:** 1571055678

**Name:** Nor Aisyah Che Derasid, Aede H Musta'amal & Nornazira Suhairom

**Paper Title:** A Content Validity of Innovative Behavior Assessment Instrument

**E-mail:** anor5@graduate.utm.my

## **Introduction**

The ability to innovate products, processes, and services continually is one of the vital individuals' actions for continuous innovation and improvement. Beyond anything, students' creativity and innovative thinking are significantly important in education. Skills like "analytical thinking, creative thinking, resilience, flexibility and agility, motivation and self-awareness and curiosity and lifelong learning" among the top list of those deemed to be the greatest importance for workers in 2023 were highlighted in the Future of Jobs Report (World Economic Forum, 2023, p.42). Both analytical thinking and creative thinking represents cognitive skills which considered to be a core skill by more companies than any skill. There are comparable approaches to cultivate innovative thinking abilities. As innovative thinking is a mental process that stimulates the realisation of novel ideas and consequences, it can result in innovative behavior (Barak & Usher, 2019). In fact, it viewed as the cognitive process that results in the application of novel or significantly improved concepts (Barak et al., 2020). Thus, innovative behaviors are the foundation of all innovations, regardless of how or when they emerge.

Therefore, innovation in this study consists of various behaviors involved in generating, promoting, and implementing new ideas. As well as Asurakkody and Shin (2018) argued that these terminologies; innovation, innovativeness, innovative behavior, and innovative work behavior, are used interchangeably or as the personal requirements considering the limitation of specific definitions of innovative behavior in various fields especially in health care.

## **Objective**

This paper aims to validate the constructs and elements through expert validation of the Innovative Behavior Assessment Rubric for Engineering students in polytechnics, a continuous (formative) evaluation method that assesses students' cognitive and psychomotor development progress. Addressing content validity begins with the development of the instrument itself. After identifying items for constructs and elements from metadata analysis, this finding is validated by the experts through expert review. Content validity is essential to address in developing a new measurement instrument. Content validity is the degree to which elements of an assessment instrument are relevant to and representative of the targeted construct for a particular assessment purpose (Yusoff, 2019). Content validity is an assessment for each item to make them appropriate for the instrument development purpose. An instrument with strong content validity should include only relevant and essential items that appropriately address the instrument's construct (Schmitz & Storey, 2020). Upon completion of this study, the rubric will be used by educators as an instrument to test their students' innovative behavior and become aware of their learning needs. Understanding the strengths and weaknesses of innovative behavior will open up new opportunities for professional development.

## **Methods and Instruments**

The instrument was developed to assess how well innovative behavior is possessed among engineering students in polytechnics by using the Innovative Behavior Assessment Rubric. Analytical rubrics, which are scoring systems used by lecturers to assess students' work by specific standards, will be the main instrument developed through this study. This instrument was developed based on Learning Outcomes of *Kompilasi Rujukan Pembangunan Hasil Pembelajaran dan Taksonomi Pembelajaran* (JPPKK, 2019), Malaysian Polytechnic Standards (MyPOLYStandards) developed by Department of Polytechnic Education (DPE), Ministry of Education (MOE) and previous journal articles regarding to innovative behavior.

An in-depth analysis of these documents, as well as a review of the literature, was done to identify the content domain for innovative behavior. The three components of the construct of innovative behavior - problem recognition, idea generation, and idea implementation—are identified by the researcher using metadata analysis and the grounded theory approach.

### **Identification of Validation Panels**

This study's validation expert panels comprise officers from the Ministry of Higher Education as well as polytechnic lecturers. By asking a panel of experts for their opinions on "how relevant they think each item is to what you intend to measure" (DeVellis & Thorpe, 2021), the expert review method aims to maximize the measure's content validity. Purposive sampling was used in this study to select eight expert panels. The panels comprised one Ministry of Higher Education officer and seven lecturers from polytechnics, who participated in validating the instrument. Two weeks were allotted to the expert panels to evaluate and validate the 37 instrument items. All expert panels responded to 100%, demonstrating the effectiveness of the non-face-to-face method when accompanied with a systematic follow-up to increase response rates.

### **Quantification of Content Validity**

For this, the expert panel was asked to give a score of 1 to 3 for each item ranging from essential to *useful but not essential* and *not necessary*. A CVR index is considered acceptable depending on the level of agreement of the panelists regarding an item. The formula for computation of  $CVR = (N_e - N / 2) / (N / 2)$  in which  $N_e$  is the number of panelists indicating "essential" and  $N$  is the total number of experts. CVR is a direct liner transformation from the panelist saying "essential".

#### *Lawshe's CVR Model Modification*

The CVR questionnaire design and analysis followed Lawshe's technique (Lawshe, 1975) as recommended by several authors (Anuar & Sadek, 2018; Romero Jeldres et al., 2023). According to Lawshe (1975), SMEs need to evaluate each item in the instrument using three scales: "Essential," "Useful but not essential," and "Not Essential." Table 1 displays the minimum value of Lawshe's CVR based on the respective number of expert panelists according to Anuar and Sadek (2018) and Lawshe (1975).

Table 1: Minimum Value of Content Validity Ratio

Number of Expert Panelist	Minimum value
5 to 7	0.99
8	0.78
9	0.75
10	0.62
11	0.59
12	0.36

## Results and Discussion

The Content Validity Ratio (CVR) is calculated for each item to assess the essentiality of each question in the questionnaire. A CVR score ranges from -1 to +1, with a higher positive score indicating greater content validity. The table 2 below summarizes the CVR scores for each item.

Table 2: CVR for Items of Each Items Where Ne Represents the Number of Experts Who Rate and Item as "Essential"

Item No	Ne	CVR	Item No	Ne	CVR
1	8	1.000	20	7	0.750
2	7	0.750	21	7	0.750
3	8	1.000	22	3	-0.250
4	7	0.750	23	5	0.250
5	7	0.750	24	2	-0.500
6	3	-0.250	25	7	0.750
7	8	1.000	26	7	0.750
8	7	0.750	27	7	0.750
9	7	0.750	28	5	0.250
10	6	0.500	29	4	0.000
11	5	0.250	30	8	1.000
12	7	0.750	31	8	1.000
13	7	0.750	32	8	1.000
14	7	0.750	33	5	0.250
15	7	0.750	34	8	1.000
16	7	0.750	35	8	1.000
17	5	0.250	36	7	0.750
18	5	0.250	37	7	0.750
19	7	0.750			

Items 1, 3, 7, 30, 31, 32, 34, and 35 have the highest CVR score of 1.000, indicating unanimous agreement among experts on their essentiality. These items are highly valid and crucial for the questionnaire. Items 2, 4, 5, 8, 9, 12, 13, 14, 15, 16, 19, 20, 21, 25, 26, 27, 36, and 37 have a CVR score of 0.750. These items are considered highly valid, with most experts agreeing on their essentiality. Items 10 and 28 have a CVR score of 0.500, indicating that more than half of the experts consider these items essential. While these items are valid, they might require a review for improvement. Items 11, 17, 18, 23, and 33 have a CVR score of 0.250. Many experts consider these items less essential. These items are recommended for further review and potential revision to ensure their relevance. Item 29 has a CVR score of 0.000, indicating a neutral stance among the experts. This item may not be considered essential and should be reviewed for potential modification or elimination. Items

6, 22, and 24 have negative CVR scores, indicating that more experts view them as non-essential rather than essential. To improve the overall validity of the questionnaire, these items should be carefully reviewed and potentially removed or significantly revised.

### **Conclusion/Implications for Research/Policy (max. 300 words)**

This study utilized Lawshe's Content Validity Ratio (CVR) method to assess the content validity of the Innovative Behavior Assessment Rubric designed for engineering students in polytechnics. Through expert panel evaluations, 33 out of the initial 37 items met the necessary content validity criteria, demonstrating the instrument's robustness. The items that did not meet the criteria will be reviewed and potentially revised or eliminated to enhance the overall validity. The use of Lawshe's CVR method proved effective in quantifying expert agreement on item essentiality, contributing significantly to the development of a reliable and valid instrument. Future research should continue to rigorously test the psychometric properties of this and similar instruments to ensure their applicability in educational settings. The validated rubric will serve as a valuable tool for educators to assess and understand their students' innovative behavior, facilitating targeted professional development and continuous improvement in teaching strategies.

### **References**

- Anuar, A., & Sadek, D. M. (2018). Validity test of lean healthcare using Lawshe's method. *International Journal of Supply Chain Management*, 7(6), 197-203.
- Asurakkody, T. A., & Shin, S. Y. (2018). Innovative behavior in nursing context: A concept analysis. *Asian nursing research*, 12(4), 237-244.
- Barak, M., & Usher, M. (2019). The innovation profile of nanotechnology team projects of face-to-face and online learners. *Computers & Education*, 137, 1-11.
- Barak, M., Watted, A., & Haick, H. (2020). Establishing the validity and reliability of a modified tool for assessing innovative thinking of engineering students. *Assessment & Evaluation in Higher Education*, 45(2), 212-223.
- DeVellis, R. F., & Thorpe, C. T. (2021). *Scale development: Theory and applications*: Sage publications.
- Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel psychology*, 28(4).
- Romero Jeldres, M., Díaz Costa, E., & Faouzi Nadim, T. (2023). *A review of Lawshe's method for calculating content validity in the social sciences*. Paper presented at the Frontiers in Education.
- Schmitz, K., & Storey, V. C. (2020). Empirical test guidelines for content validity: Wash, rinse, and repeat until clean. *Communications of the Association for Information Systems*, 47(1), 64.
- Yusoff, M. S. B. (2019). ABC of content validation and content validity index calculation. *Education in Medicine Journal*, 11(2), 49-54.

**Paper ID:** 1571062731

**Name:** Zaipah Ismail, Aede H Musta'amal, Nornazira Suhairom & Rohana Hamzah

**Paper Title:** Pemikiran Inovatif Positif Berteraskan Integrasi Ilmu Spiritual Melalui Mata Pelajaran Reka Bentuk Dan Teknologi

**E-mail:** zaipah2@graduate.utm.my

## **Pengenalan**

Sistem pendidikan masa kini memfokuskan kepada pencapaian murid dari aspek inovatif dan kreativiti, seiring dengan kemenjadian murid dari segi peribadi dan sahsiah. Namun begitu era globalisasi dan digitalisasi juga mendorong murid ke arah inovatif negatif. Oleh itu, terdapat keperluan mendesak untuk meningkatkan pemikiran inovatif positif murid. Mata pelajaran Reka Bentuk dan Teknologi (RBT) merupakan mata pelajaran yang memberi pendedahan awal kepada murid tentang aspek inovatif dan kreatif untuk menghasilkan produk yang bermanfaat. Namun, proses pengajaran dan pembelajaran serta kurikulum sedia ada sering mengabaikan aspek spiritual, yang boleh memainkan peranan penting dalam membentuk pemikiran inovatif positif dan akhlak murid. Penyelidikan ini sejajar dengan Matlamat Pembangunan Mampan (SDG), khususnya SDG 4 (Pendidikan Berkualiti) dan SDG 9 (Industri, Inovasi dan Infrastruktur), dengan menekankan pendidikan integrasi ilmu intelektual dan spiritual untuk melahirkan murid yang berpemikiran inovatif positif dan berakhlak mulia.

## **Objektif**

Kertas konsep ini bertujuan untuk membincangkan kepentingan integrasi ilmu intelektual dan spiritual dalam subjek Reka Bentuk dan Teknologi untuk meningkatkan pemikiran inovatif positif murid.

## **Kaedah dan Instrumen**

Kajian ini merupakan kajian kualitatif menggunakan kaedah sorotan kepustakaan dengan merujuk bahan daripada sumber ilmiah buku dan artikel untuk mendapatkan gambaran yang lebih jelas tentang isu yang dikaji.

## **Keputusan dan Perbincangan**

Hasil penelitian menunjukkan bahawa pendekatan integrasi ilmu intelektual dan spiritual sangat penting untuk melahirkan manusia yang seimbang dalam aspek intelektual, jasmani, emosi, dan rohani untuk menjadi individu yang bertanggung jawab sebagai hamba dan khalifah. Oleh itu, pendekatan integrasi ilmu spiritual perlu dilaksanakan dalam mata pelajaran RBT bagi melahirkan murid yang berpemikiran inovatif positif untuk mencipta produk berkualiti dan manfaat.

## **Kesimpulan/Implikasi untuk Penyelidikan/Dasar**

Kajian ini menunjukkan bahawa proses pengajaran dan pembelajaran dengan menggabungkan elemen spiritual dalam mata pelajaran RBT adalah sangat penting untuk membentuk pemikiran inovatif positif murid. Penyelidikan ini menyumbang kepada literatur sedia ada dengan menyediakan bukti empirikal tentang manfaat integrasi tersebut, sekali gus memberi panduan kepada pendidik untuk menghasilkan pendidikan yang lebih holistik.



**Paper ID:** 1571054926

**Name:** Hafizatun Adnan

**Paper Title:** Spiritual Integrity in the Digital Realm: Sufism and Technology Dilemmas

**E-mail:** hafizahnajahah@gmail.com

## I. INTRODUCTION

The emergence of technological advancement has raised enormous benefits and is remarkably competent in executing cognitively complex tasks. However, it is undeniable that the unrestricted usage of technology comes with adverse circumstances. Significant ethical concerns have been brought up, especially regarding intellectual property, plagiarism, and generative artificial intelligence (AI). The boundless evolution and domination of AI in generating content led to doubt about its genuineness and reliability in its outcomes (Lebovitz, Levina, & Lifshitz-Assaf, 2021), the prevalence of digital copyright infringement (Zandt, 2023) and rampant issues of digital plagiarism (Cyber Plagiarism & Statistics, 2024) necessitate the application of an ethical lens to ensure ethical standards of guidance for this technological practice and development.

The legality landscape of technology is hard to maintain equivalently with the accelerated rate of technological progress. The pretext of "Grey Area" in these digital copyright issues is always stressed in the field of the administration of justice (The Gray Area of Digital Copyright Infringement, 2023) (Ito, 2023) (Greco, 2023). While there are efforts to improve the law, there is still a long way to go as the laws of copyright are filled with uncertainty in discerning right and wrong (Nellis, 2014). To be exact, the Malaysian legal system has made significant progress by declaring digital infringement as a criminal offense (Laws of Malaysia, 2022) but is still behindhand and does not have any specific legislation that regulates and copes with artificial intelligence (Yen & Edhan, 2023).

Besides policymakers, educational institutions are suggested to unfold the pedagogical frameworks in response to adapting technologies transformation, benefits, and drawbacks (Hutson, 2024). Smedley et al., (2015) found that the execution of educational intervention in curtailing plagiarism has boosted students' comprehension of paraphrasing and enhanced their capability in paraphrasing and referencing. Persistence education on technology ethics will forewarn their ethical implications (ChaseC, 2023) thus highlighting the affirmation of the vitality of integrating AI ethics into digital literacy education (Chen, 2024).

Sufism-based ethical education is one of the ethical education options for Muslims especially in Malaysia as Sufism is identified as one of the dimensions of Islamic teachings specified in the Fatwa of States in Malaysia (Shuhairi, 2021; Al-Ghari, 2021). Sufism otherwise acknowledged as Tasawwuf also classified as Fardhu Ain (Al Ghazali, 2018) and promotes Islamic mysticism (Al Attas, 1963), the sciences of morality Al Kattani, n.d (as cited in Al-Qushaiyri, 1989), the purification of the soul, and the improvement of morals Al Anshari, n.d (as cited in Al-Qushaiyri, 1989). By incorporating Sufism principles into the education of Digital Ethics, any futuristic technological breakthrough may be comprehended to be consistent with ethical conduct and respect.

The purpose of this study is to delve into the potential of Sufism parameters as ethical teaching in approaching technological advancement dilemmas of plagiarism, intellectual property, and generative artificial intelligence. Particularly, this research aims to provide an in-depth look at some ethical values toward technology according to Sufism's scope of Tasawwuf Akhlaki and their applicability to modern-day plagiarism issues, intellectual property, and generative artificial intelligence.

## **II. LITERATURE REVIEW**

### **A. Ethical Reasoning and Decision Making**

The basic interpretation of ethical reasoning and decisionmaking is to underline the acts that are beneficial to others' welfare and the acts that attenuate others' welfare (Paul & Elder, 2018) which foster the place's social and cultural set of values (Prasad, 2019) religion and philosophy (Ghillyer, 2012). Recognising ethical arguments in confronting moral issues is ethical reasoning, the decision-making process in contemplating the principles of ethics in solving realistic challenges of moral problems. These principles of ethics are applied as a practical philosophy to adapt to new knowledge in various disciplines such as technologies, business, research, and the medical field (Kuzior, 2021).

Although some researchers argue the relevance of ethical principles influenced by religious beliefs (Paul & Elder, 2018) and mores of the society (Ibiricu & Made, 2020), it is undeniable that religious and philosophical traditions of morality and ethics are vital to society because the ethical orientations of societies differ from one another (Ali, 1996). Studies have demonstrated that religiosity is associated with higher ethical judgments (Vitell, 2010). The integration of spirituality and technology is indispensable to avoiding adversity in utilizing technology (Fernandez-Borsot, 2022). Besides, recent studies emphasised the affluence of cultural ethics diversity and highlighted its need to be addressed and incorporated (Böhm, et al., 2022) including in the scope of the technology as it is momentous to acknowledge the significant role of cultures in ethics and values because the practices and viewpoints from divergent backgrounds enhance the value of any product or system (Hickok, 2020).

The importance of Islamic ethics in fulfilling the spiritual needs of Muslims and cultivating moral values in leveraging technologies, especially in Malaysia, cannot be doubted.

### **B. Sufism**

The origin of Sufism is developed from asceticism from the Prophet's Companions' acknowledgment of the prophet's spiritual experiences (Al Attas, 1963) rooted in the Islamic spiritual value of Ihsan (Zarruq al-Fasi al-Barnusi, 2005). The sciences of Tasawwuf highlighted the knowledge of the attitude or the soul quality (Virtues and Vices) and the knowledge of the apparent form or activity (Modes in manner consideration and worship) (Umaruddin, 2021) (Al Ghazali, 2018). The heart of Sufism teachings revolves around the feature of goodness and may vary according to the needs of the knowledge seeker (Zarruq al-Fasi al-Barnusi, 2005).

Current research on Sufism approached Sufism in three dissects namely Tasawuf Falsafi (Philosophical Sufism), Tasawuf Akhlaki (Moral Sufism), and Tasawuf Amali (Practical Sufism) to facilitate academic research as these attributes of Sufism is indivisible (Kahfi & Nasution, 2023).

### **C. Literature Review**

The rapid expansion of technological breakthroughs in this recent year has been catalysing various ethical issues (Bostrom & Yudkowsky, 2014) besides its profoundly positive impact. These include ethics of copywriting, content creation, and other authenticity quandaries (Abdallah & Salah, 2023). Moreover, the unlimited use of digital applications causes a downside of foregone revenue, the cost of gross plagiarism, and copyright infringement (Bottom-line losses: Counting the cost of copyright abuse, 2024), besides confusion of authorship from the products of deep learning of artificial intelligence (Papadopoulou, 2021). The indecisive nature of technology has yielded the evolvement of various methods for assessing and regulating it ethically. abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

## **III. METHODOLOGY**

A This study is qualitative in approach and library-based in research whereby draws upon primary and secondary sources. Notably, the accumulation of primary data originates from the Quran, hadiths of the prophet, and the books of Turath, the intellectual gem from Islamic scholars and experts, whereas secondary resources are from the articles, journals, books, and other materials relevant to the discussion of Islamic ethic and technology. Data is then analysed through a combination of descriptive and analytical methods.

## **IV. RESULTS AND DISCUSSION**

- A. *The Relevance of Spiritual Integrity in the Digital Age*
- B. *Addressing Intellectual Property and Copyright Dilemmas*
- C. *Integrating Tasawwuf Ethics into Technology*

## **V. CONCLUSION**

Sufism ethic is well known as Islamic mysticism that offers spiritual guidance, rehabilitation, and regulation to guide, improve, and sustain good conduct of ethics.

## **VI. ACKNOWLEDGMENT** (*Heading 5*)

The authors are grateful for the support of the UTM Fundamental Research (UTMFR) Cost Centre No: Q.J130000.3853.22H23

## **VII. REFERENCES**

- [1] S. Lebovitz, N. Levina and H. Lifshitz-Assaf, "Is AI-Ground Truth Really True? The Dangers of Training and Evaluating AI Tools Based on Experts' Know-What," *MIS Quarterly*, vol. 45, no. 3, pp. 1501-1525, 2021.
- [2] F. Zandt, "Copyright Infringement; The Media Industries Most Affected by Piracy," 2023. [Online]. Available: <https://www.statista.com/chart/30784/media-sector-share-of-globalvisits->

to-piracy-websites-in-2022/.

[3] "Cyber Plagiarism & Statistics," 2024. [Online]. Available: <https://www.checkforplagiarism.net/cyber-plagiarism>.

[4] "The Gray Area of Digital Copyright Infringement," 9 August 2023. [Online]. Available: <https://www.lextalk.world/post/the-grayarea-of-digital-copyright-infringement>.

[5] T. Ito, "Copyright Law, AI and the New Gray Area of Content Creation," 2 February 2023. [Online]. Available: <https://marketingniceguys.com/copyright-law-ai-and-the-new-grayarea-of-content-creation/>.

[6] A. Greco, "Intellectual Property & Securities Law: Navigating the Grey Area," 3 March 2023. [Online]. Available: <https://lowey.com/uncategorized/intellectual-property-securities-lawnavigating-the-grey-area/>.

[7] S. Nellis, "Artificial Intelligence's Legal Gray Area," 2014. [Online]. Available: <https://www.theinformation.com/articles/artificial-intelligence-slegal-gray-area>.

[8] "Laws of Malaysia," Percetakan Nasional Malaysia Berhad PERCETAKAN , <https://www.myipo.gov.my/wpcontent/uploads/2022/02/Copyright-Amendment-Act-2022-Act-A1645.pdf>, 2022.

[9] H. W. Yen and N. H. Edhan, "Legal Lanscape of generative Ai Governance in Malaysia," 2023. [Online]. Available: <https://www.azmilaw.com/insights/legal-landscape-of-generative-aigovernance-in-malaysia/>.

[10] J. Hutson, "Rethinking Plagiarism in the Era of Generative AI," *Journal of Intelligent Communication*, 2024.

[11] A. Smedley, T. Crawford and L. Cloete, "An intervention aimed at reducing plagiarism in undergraduate nursing students," *Nurse Education in Practice*, pp. 168-173, 2015.

[12] ChaseC, "AI and Ethics: Navigating the Gray Areas," 15 January 2023. [Online]. Available: <https://medium.com/@chasechaney1515/ai-and-ethics-navigating-thegray-areas7de97448bdfd>.

[13] H. Chen, "The Ethical Challenges of Educational Artificial Intelligence and Coping Measures: A Discussion in the Context of the 2024 World Digital Education Conference," *Science Insights Education Frontiers*, vol. 20, no. 2, 2024.

[14] M. H. Shuhairi, "Memperteguh identiti ASWJ," 2 December 2021. [Online]. Available: <https://www.hmetro.com.my/addin/2021/12/783831/memperteguhidentiti-aswj>.

[15] Z. M. Al-Ghari, "Contohi ketegasan Johor perangi doktrin bercanggah," 2021. [Online]. Available: <https://www.hmetro.com.my/addin/2021/09/756193/contohiketegasan-johor-perangi-doktrin-bercanggah>.

[16] M. Al Ghazali, *Ihya Ulumuddin*, Dār al-Sha‘ab, 2018.

- [17] S. N. Al Attas, *Some Aspects of Sufism: As Understood and Practised Among the Malays*, Malaysian Sociological Research Institute (MSRI), 1963.
- [18] I. A. Al-Qushaiyri, *Ar-Risalah Al-Qushayriah*, Al-Qahera: Dar Al-Shaab, 1989.
- [19] R. Paul and L. Elder, *The Thinker's Guide to Understanding the Foundations of Ethical Reasoning*, Rowman & Littlefield, 2018.
- [20] K. K. Prasad, "Importance of Ethics in Higher Education," *IRE Journals*, pp. 1-4, 2019.
- [21] A. Ghillyer, *Business Ethics Now*, 3rd ed., New York: McGraw-Hill, 2012.
- [22] A. Kuzior, *Applied Ethics*, Lublin: Wydawnictwo Naukowe, 2021.
- [23] B. Ibiricu and M. L. v. d. Made, "Ethics by design: a code of ethics for the digital age," *Records Management Journal*, pp. 395-414, 2020.
- [24] A. Ali, "Islam, Science, And Islamic Social Ethics," *Islamic Studies*, vol. 35, no. 4, pp. 373-408, 1996.
- [25] S. J. Vitell, "The Role of Religiosity in Business and Consumer Ethics: A Review of the Literature," *Journal of Business Ethics*, p. 155- 167, 2010.
- [26] G. Fernandez-Borsot, "Spirituality and Technology: A Threefold," *Journal of Religion and Science*, pp. 6-22, 2022.
- [27] S. Böhm, M. Carrington, N. Cornelius, B. d. Bruin, M. Greenwood, L. Hassan, T. Jain, C. Karam, A. Kourula, L. Romani, S. Riaz and D. Shaw, "Ethics at the Centre of Global and Local Challenges: Thoughts on the Future of Business Ethics," *Journal of Business Ethics*, p. 835-861, 2022.
- [28] M. Hickok, "Lessons learned from AI ethics principles for future actions," *AI and Ethics*, p. 41-47, 2020.
- [29] A. a.-A. A. B. A. B. M. B. I. Zarruq al-Fasi al-Barnusi, *Qawaid Al Tasawwuf*, 2 ed., Dar al Kotob al ilmiah, 2005.
- [30] M. Umaruddin, *The Ethical Philosophy of Al-Ghazali*, Dar Al Wahi Publication, 2021.
- [31] R. A. Kahfi and D. R. Nasution, "Klasifikasi Tasawuf: Amali, Falsafi, Akhlaki," *Jurnal Pendidikan Dan Konseling*, vol. 5, no. 1, 2023.
- [32] N. Bostrom and E. Yudkowsky, "The Ethics of Artificial Intelligence," in *Cambridge Handbook of Artificial Intelligence*, 2014, p. 316.
- [33] M. Abdallah and M. Salah, "Artificial Intelligence and Intellectual Properties: Legal and Ethical Considerations," *International Journal of Intelligent Systems and Applications in Engineering*, pp. 368-376, 2023.

[34] "Bottom-line losses: Counting the cost of copyright abuse," 2024. [Online]. Available: <https://ppa.co.uk/bottom-line-losses-countingthe-cost-of-copyright-abuse>.

[35] A. Papadopoulou, "Creativity in crisis: are the creations of artificial intelligence worth protecting?," *Journal of Intellectual Property, Information Technology and Electronic Commerce*, pp. 408- 418, 2021.

[36] E. G. Browne, *A literary history of Persia*, Thomas Fisher Unwin, 1919.

**Paper ID:** 1571046035

**Name:** Javaria Khalid & Nooraini Othman

**Paper Title:** Enablers to Women Career Advancement in Academics at Management Positions in Pakistani Universities

**E-mail:** khalid-20@graduate.utm.my

## INTRODUCTION

Global statistics reveal a substantial rise in women's enrolment in higher education institutions, surpassing the growth rate of men since 1970 (Ravindran, 2020; UNESCO, 2010). However, this remarkable increase in female enrolment has not translated into proportional representation in university management roles. Management positions predominantly continue to be occupied by male counterparts (Morley, 2006). The underrepresentation of women at elevated academic echelons remains a persistent concern for female academicians (Avin et al., 2015; Howe-Walsh et al., 2014; Taylor-Abdulai et al., 2014; Machado-Taylor & Ozkanli, 2013; Zeng, 2011; Montez et al., 2003).

Researchers have identified various barriers impeding the career advancement of women in academia. These obstacles include limited access to advanced education and financial resources, insufficient support from management for engagement in work/life programs, occupational gender segregation, absence of role models, and pervasive attitudinal biases (Laursen & Austin, 2020; Hannum et al., 2015; Bombuwela & De Alwis, 2013; Vinkenburg et al., 2011). A quantitative study by Batool et al. (2013) aimed to assess the status of women's representation in Higher Education (HE) management in Pakistan. The findings underscored structural barriers faced by women, including a lack of mentoring and interacting opportunities, gender inequality, and biases in the selection and promotion processes, all of which hinder their career progression. The challenges women face in advancing their careers persist as a recurring theme in studies conducted globally, encompassing both northern and southern regions, including research from Pakistan (Patel et al., 2020; Bagilhole & White, 2011; Rab, 2010; Shah, 2001). Considering the distinctive role of women in Pakistan, this study delves into the enablers inducing the career development of women academics and their role in navigating their professional paths.

Empirically, prior studies investigated and concluded that the enablers to women's career advancement in higher educational institutions, mainly in developing countries (Maheshwari & Nayak, 2022). Thus, one primary research gap lies in the lack of comprehensive studies examining the intersectionality of gender with other factors such as ethnicity, socio-economic status, and regional disparities (Codioli & Cook, 2019; Pfister & Radtke, 2009). Understanding how these intersecting identities impact women's academic experiences is crucial for developing targeted interventions to address barriers to their career advancement. Moreover, Rosca et al. (2020) mentioned a scarcity of research focusing on women's experiences in private-sector universities and other higher education sectors beyond the public sector. Given the growing presence of private universities in Pakistan, understanding women's unique challenges in these institutions is essential for promoting gender equality across the academic sector (Nazar et al., 2017). Barriers for women in Pakistan include deeply entrenched societal norms and cultural expectations that prioritize traditional gender roles and limit women's access to education and employment

opportunities. Ma et al. (2022) also advocated that institutional biases, discriminatory policies, and lack of supportive infrastructure further hinder women's career advancement in academia. Addressing these barriers requires concerted efforts from the researchers. Thus, the present study aims to offer a more profound understanding of the trajectory of career progression for women academics by examining the factors that encourage them to reach coveted positions. The study focuses on identifying those enablers which can be helpful for women in their career advancement. Therefore, building on the current research gaps, this research addresses the following question.

1. What are the enablers in women's career advancement at managerial positions in higher education institutions?

The main objective of this study is to identify and analyse the factors that enable women to advance in managerial positions within higher education institutions, focusing on understanding the strategies, support systems, and organizational policies that contribute to their career progression.

The researcher organized this paper as follows: Second, a review of the past studies on the enablers in women's career development, mainly in developing countries; Second, the research method was outlined. Third, the researcher stated in-depth face-to-face semi-structured interviews. Discussion on the results, practical implications, limitations, and future research directions was elaborated in the last sections of this study.

## **LITERATURE REVIEW**

European countries prioritize gender equality more than any other region globally. Still, the reality reveals a notable under-representation of women in university senior academic positions. Similar challenges of women's under-representation persist in various countries worldwide, including Canada, New Zealand, Africa, Australia, and Asia, as documented in the Stanford Report (2014) and also in the work of (Wilson & Thomson, 2021; Wilson et al., 2008). Specifically, within higher education, women have consistently faced underrepresentation in critical positions such as dean, director, and other senior positions (Gallant, 2014). This trend extends globally across various higher education systems. Despite constituting 45% of the workforce in the United States, women occupy less than one-third of management roles in higher educational institutions, as highlighted by data from the Bureau of Labour Statistics (Wroblewski, 2019).

Furthermore, in England, there is a notable lack of women's participation across all levels of university management, particularly evident with approximately 13% representation at the whole professor level (Doherty & Manfredi, 2010). Hong Kong similarly sees women holding fewer than 15% of senior academic positions, with only four out of 34 women serving as pro-vice-chancellors and no woman holding the position of vice-chancellor (Cheung, 2013; Morley, 2014). In Japan, Shirahase (2013) reports that women constitute 20.6% of the academic workforce, with only 9.7% holding professorial positions in the 86 national universities and just two women holding the position of vice-chancellor. Mainland China, on the other hand, shows a comparatively higher representation, with 25.8% of women holding various academic positions (Banker, 2023; Forestier, 2012).



South Asian nations also face the issue of women's under-representation in senior positions in higher education institutions. In India, statistics indicate that female academics constitute less than 40% of university faculty, with a noticeable scarcity of Muslim women in academic roles (Morley & Crossouard, 2015). Despite higher female student participation in higher education, women in India often find themselves absent from top-level positions in educational management, potentially influenced by social and cultural factors (Khokhar, 2018; Chanana, 2011). Bangladesh faces a similar challenge, with a survey revealing that the inclusion of female academicians in universities was less than 5% from 2010 to 2012 (Morley & Crossouard, 2015). In Nepal, Grove (2013) sheds light on the under-representation of women in higher education management levels, attributing this to societal values that limit their decision-making capacities due to their multiple roles as wives, mothers, and family caretakers.

In Pakistan, women comprise 49.2% of the population and have obtained 52% of professional positions across various fields (Afzal, et al., 2021; Catalyst, 2014). However, despite this, women predominantly find themselves in lower-ranking roles. A significant disparity exists between the number of male and female employees at a major public sector university in Pakistan, particularly noticeable across various hierarchical levels. Women are predominantly employed as lecturers in the country's universities, representing the initial rank in university teaching grades (Subbaye & Vithal, 2017). Social and cultural constraints, gender bias, and lack of family support, lack of supportive facilities such as childcare, transportation, and workplace accommodations limit the occupational choices available to Pakistani women. Unfortunately, predetermined views regarding women's primary roles as homemakers contribute to the perception of women as inferior in the workplace (Dankwa, 2018).

Women in Pakistan are increasingly enrolling in higher education institutions for academic pursuits and subsequent employment. Despite their long-standing presence in university academia, women are often underrepresented in senior positions in these institutions. Ghaus (2013) investigated women managers' challenges in Pakistani higher education, highlighting social (family-related) and organizational barriers, particularly prevalent in private sector universities. Previous studies on gender inequality in Pakistani higher education have also highlighted issues such as sexual harassment faced by women (Jamil, 2020; Durrani et al., 2010).

A study highlighted that family support and training in home and institutional training can increase women's representation in higher education (Thomas, 2021). However, numerous research findings consistently report the unwelcoming attitude of higher authorities in the form of a non-supportive workplace culture towards women academics within university settings, which undermines the space for women academics in management roles (Cidlinská, 2019; Vinkenburger et al., 2011). Women in academia confront organizational and cultural barriers as they progress in their careers (Forster, 2001). Institutional male power and biased recruitment and selection policies as significant obstacles to women's academic career advancement (Hill et al., 2016). Additionally, women in academia often bear higher workloads than their male counterparts. However, these duties receive inadequate recognition in the promotion process based on research and publication outputs, as observed by (Laux, 2018).

## METHODOLOGY

This research focused on examining the subjective experiences of respondents during their employment. The study adopted a qualitative, inductive, and interpretive research approach to gain a comprehensive understanding of the professional journeys of women academics. A purposive selection process was employed for data collection, involving ten males and females from public sector universities in Pakistan. Among them, higher management positions such as dean, director, and registrar were part of the interviews as research participants. These academics had accumulated 14 to 27 years of overall work experience and resided with their spouses and children, enjoying a comparatively higher socioeconomic status than other professionals in Pakistan. While these participants were affiliated with public sector universities, they hailed from the same region, representing Punjab, a specific area of Pakistan. In this manner, the selected samples aimed to provide a representative insight into the experiences of female academicians from throughout the province of Punjab.

To gather data, in-depth face-to-face semi-structured interviews were employed, as outlined by (Ruslin et al., 2022; Creswell,2010). This choice was primarily based on the effectiveness of such interviews in delving into respondents' varied insights and opinions, particularly when addressing multifaceted and occasionally sensitive issues (Gavrić & Braje, 2024; Wilson & Hutchinson,1991). The interviewing style adopted was that of an informant, encouraging participants to recollect any significant aspect vividly related to the subject under investigation. Subsequently, these surface features were thoroughly examined through a process of elaboration.

Table 1 Research participants: Designation and length of experience

Participants	Pseudonym	Overall work experience	Current position Work experience	Current position	Gender
WCA-P1	DSA	26 years	5 years	Dean	Female
WCA-P2	DNS	23 years	6 years	Director	Female
WCA-P3	DNR	14 years	10 years	Director	Male
WCA-P4	MBY	25 years	8 years	Additional Registrar	Female
WCA-P5	DHK	18 years	17 years	Additional Registrar	Male
WCA-P6	MS	30 years	13 years	Assistant Registrar	Female
WCA-P7	DNR	20 years	4 years	Deputy Registrar	Female
WCA-P8	DBN	20 years	11 years	Director	Male
WCA-P9	AS	13 years	5 years	Registrar	Male
WCA-P10	DAbS	27 years	7 years	Dean	Male

In line with the researcher's use of probing, an interview protocol was formulated based on the research question (Shah et al., 2020; Cooper & McIntyre, 1996). The primary focus was to investigate the enablers for women in academia to hold management positions. These inquiries were designed to uncover problems, challenges, and critical moments that

restrict academics. These questions constituted the foundational framework for the research methodology employed in the study.

The interviews, encompassing conduct, analysis, and reporting, adhered to established ethical guidelines in the social sciences, emphasizing subjects' rights to anonymity, confidentiality, and informed consent (Bjarsholm et al., 2018; Bryman, 2016). Participants were granted consent by being familiarized with the research questions before the interviews. To safeguard the anonymity of the interviewees, each participant was assigned a pseudonym. Before the interviews, the researcher reassured each interviewee about the information's confidentiality and anonymity, fostering an environment conducive to open and uninhibited expression.

Drawing from this, a probing strategy was employed to clarify specific responses. Participants were prompted to exemplify and explain specific points, with occasional probes used to maintain focus on the research question (Buma & Nyamupangedengu, 2020; Wilson & Hutchinson, 1992). These probing inquiries sought to elicit detailed and explicit views from participants, fostering a deeper understanding of their perspectives. Examples of probing questions included requests for specific examples, reasons behind dislikes, and detailed descriptions of events. Each interview spanned 35 to 45 minutes, and to ensure data validity and reliability, interviews were recorded using tape recordings.

## **DATA ANALYSIS**

Thematic analysis, guided by the deductive approach, outlined and scrutinized the interview data (Castleberry & Nolen, 2018). Following Clarke and Braun's (2017) six-phase guide for thematic analysis, the researchers acknowledged that these phases are not strictly linear, allowing for iterative movement between them. The preliminary data underwent transcription, and the researcher engaged in the repeated reading of each woman's narrative. During this process, brief notes, comments, and questions arising from the reading were marked on the transcribed data.

Each data segment relevant to or containing noteworthy information about the research questions was coded. An open coding system was developed, with codes refined as the researchers progressed through the data. Themes were organized after multiple readings of the transcripts, considering the coherence, truthfulness, and consistency of themes. Comparisons across interviews were made to identify similarities and differences, merging similar themes under one heading (e.g., family support and supposed understanding incorporated into one theme). Distinct themes, such as supportive culture and government initiatives, were identified separately.

Central themes were identified, with various subthemes organized under these main categories: women's experiences regarding enablers in their academic career development. Member checking (respondent validation) by Creswell (2010) was applied to validate the credibility of the results. Literal transcriptions of randomly selected responses from five participants were sent back to them for verification of correctness and resonance with their accounts. Participants were informed about member check verification after the interview, and upon receiving the transcripts, they willingly reviewed and verified the data. One participant even contributed additional details during the verification process. While

this verification process spanned several months due to participants' busy schedules, it actively involved contributors in confirming and endorsing the results, justifying potential researcher bias.

## FINDINGS

The study participants articulated some concerns related to career advancement. Academics shared common concerns about some themes, which were grouped as subthemes under the main themes of enablers. Enablers were those influences that smoothed the academic journey of women's careers.

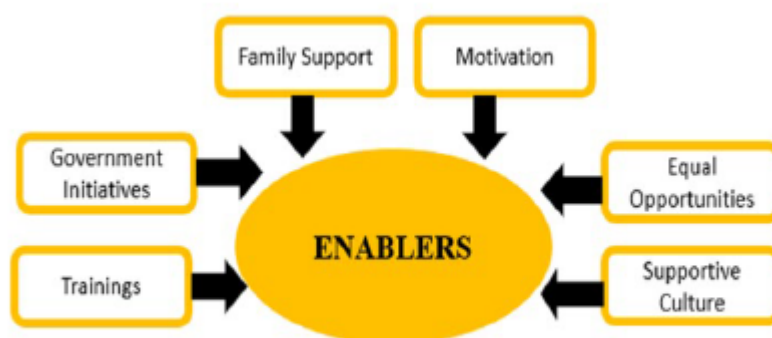


Figure 1 Enablers in Women's Career Advancement

### 5.1 Enablers

Reflecting on their academic journeys, female academicians recognized numerous aspects that played a positive role in advancing their careers. These considerations encompassed family support, motivation, training, supportive culture, government initiatives, and equal opportunities associated with the management positions.

#### 5.1.1 Family Support

It includes encouragement and assistance from parents, siblings, husbands, and in-laws and is a fundamental enabler in women's career advancement. Emotional backing shared responsibilities, and a conducive home environment provided by family members contribute to a woman's ability to navigate challenges confidently and pursue professional goals, fostering a supportive foundation for her career development. WCA-P2 added her view:

"Supportive family environment encourages women to chase their career goals."

DNS

Another research participant, WCA-P1, said that

"In-laws are never much supportive of girl career." DSA

One of the female research participants gave her views:

"Yes, spouse understanding is included. If he's supportive, it is good. Otherwise, he's also the main cause in depressing and stopping the female." DNS

The male registrar stated that:

“Due to less family support, that is why females cannot grow well in their career.” AS  
These statements collectively emphasize the significant impact of a supportive family environment, particularly the role of in-laws and a spouse, on women's pursuit of career goals. The first statement suggests that in-laws may not typically support a girl's career ambitions. The second statement underscores the crucial role of a supportive spouse in positively influencing a woman's career trajectory, indicating that a lack of understanding from the spouse can lead to feelings of depression and hinder female progress. The final statement reinforces the idea that insufficient family support, including from in-laws and spouses, can impede the growth and success of women in their careers. Together, these perspectives highlight the importance of familial encouragement and understanding as critical factors in facilitating women's professional development.

### 5.1.2 Motivation

As a career advancement enabler for women, it involves internal or self-motivation driven by personal aspirations and goals. External motivation comes from exterior sources, such as recognition and encouragement from peers or mentors. Additionally, moral support, provided by family, friends, or colleagues, is critical in supporting a woman's determination and confidence as she routes her professional journey. These combined motivational components contribute significantly to women's success in advancing their careers.

Female assistant registrar as research participant WCA-P6 states her views as:

“There is no training and no encouragement for us. There is no encouragement, no appraisals, no motivation.”MS

Research participant WCA-P10, in the position of dean, shared his views: “There should be motivation in the form of incentives for them.”

DAbS

One female director (WCA-P1) of a higher education institution gave her views regarding motivation: “If she has self-confidence, we can motivate and effort for her, and she would win it.”

DSA

These statements together convey a sense of dissatisfaction and a desire for more support and encouragement within a professional context. The first statement indicates the absence of training, encouragement, appraisals, and motivation, suggesting a lack of recognition and developmental opportunities. The second statement proposes the need for motivation in the form of incentives, highlighting the belief that tangible rewards could serve as effective motivators for individuals. The third statement emphasizes the importance of self-confidence in an individual, suggesting that with internal confidence, external efforts to motivate and support can lead to success. These statements highlight the significance of encouragement, recognition, and motivation in fostering a positive and conducive work environment as an enabler for women.

### 5.1.3 Equal Opportunities

As an enabler for women's career advancement, it entails equitable access to education and job opportunities. It signifies eliminating gender discrimination, ensuring women have the same educational and professional prospects as their male counterparts. By raising an environment where women have equal access to education and employment,

this enabler supports women's career growth and enables them to pursue and achieve their professional aspirations.

Research participant WCA-P10 stated that:

“There should be equal opportunities for education and job, supportive culture for females.”

DAbS

WCA-P3 shared her view:

“We need to give equal opportunities in education, in jobs, in promotions to males and females without any discrimination.” DNR

Female research participant WCA-P2, as a director, said that:

“There should be equal opportunity for males and females in the management setup. We have very few opportunities for females in management setup than males. If they want their professional growth, good opportunities.”

DNS

These statements advocate for equal opportunities for both males and females in education, jobs, and professional growth, emphasizing the importance of a supportive culture for women. The first statement highlights the need for equal opportunities in education and the workplace, highlighting the importance of creating an inclusive and supportive environment for females. The second statement further reinforces the need for equal opportunities in education, jobs, and promotions without discrimination. The third statement focuses explicitly on the scarcity of opportunities for females in management roles compared to males, suggesting that for professional growth, women require more and better opportunities in management positions. These statements emphasize the importance of fostering equality and a supportive culture in organizations to ensure equal access and advancement for both genders.

#### **5.1.4 Government initiatives**

It involves established rules, policies, and structural frameworks to promote gender equality and support women in higher education institutions. These initiatives aim to eliminate difficulties and foster an inclusive environment, ensuring women have equal education and workforce opportunities. By implementing supportive measures, governments create conditions that encourage women to progress and flourish in their careers. WCA-P10, a male research participant serving in the capacity of a dean, expressed that:

“The revolutionary step in this regard means that the government needs to allocate more budget for the females than the males. We need revolutionary steps at the country level in this regard. In HEC funding, there should be the condition that 30% of the budget will be used for female career advancement and their development.”

DAbS

WCA-P8, a male research participant in the role of a director, conveyed that:

"Some more initiatives are necessary, such as some allowances allocations and some more salary/money for their kids and children's marriages. There should be a pick-and-drop service for them. These steps will increase female participation in jobs.

DBN

Moreover, one female deputy registrar WCA-P7 stated that:

"The government should give her facilitations in terms of financial benefits, and then some kind of time and age flexibility and security for her kids. There can be such services where she can take benefits and some schemes where her child and professional life may be protected. The government has certainly taken some initiatives, but there are only a few. For example, service and day-care and then a few credit schemes in the bank, but there is a need to enhance more of things. More things need to be introduced at a national level as well." DNR

These statements collectively promote revolutionary steps and increased government initiatives to support and encourage women in various aspects of their lives. The first statement proposes a revolutionary approach at the national level, urging the government to allocate a higher budget for females and institute conditions in Higher Education Commission (HEC) funding to ensure a significant portion is dedicated to female career advancement and development. The second statement describes additional initiatives, such as allowances, financial support for children's marriages, and transportation services, with the belief that these measures will enhance female participation in the workforce. The third statement emphasizes the need for comprehensive government facilitation, including financial benefits, time and age flexibility, and children's security. While acknowledging existing initiatives, it suggests introducing national schemes to protect the balance between women's professional and personal lives. Together, these statements emphasize the importance of government support and initiatives to create an environment conducive to women's full development and encouragement.

### **5.1.5 Supportive culture**

It involves raising organizational and societal environments that encourage gender equality. Organizational support includes workplace policies, mentorship programs, and a commitment to diversity. Societal support promotes cultural shifts that value and facilitate women's professional growth. Together, these elements create a conducive atmosphere, enabling women to advance in their careers.

WCA-P8 gave her views:

"She needs family support as well as organizational support. However, we are still not ethically so strong that we could promote the culture of working from home if a female worker cannot reach the office every day on time. If it happens, there should be organizational support for a female." DBN

Female research participant WCA-P2 claims that:

"There is a stigma that women cannot do the work. The same attitude is found in her family when they criticize her stand equal to men. In this way, our country is not very supportive in this context."

DNS

These statements highlight the crucial need for family and organizational support for women in the workplace. The first statement suggests that while family support is essential, the organizational culture still lacks the ethical strength to fully embrace and promote flexible work arrangements, such as working from home, which could benefit female employees facing daily commuting challenges. The statement emphasizes the importance of organizational support to accommodate the needs of female workers. The second statement points out the existence of a societal stigma that questions women's capability to perform certain tasks at par with men. This stigma is noted not only in the workplace but also extends to the woman's family, where her efforts are criticized for not aligning with traditional gender norms. The statement implies that the overall societal attitude in the country does not provide sufficient support for women challenging these stereotypes and struggling for equality in the professional sphere. Together, these statements highlight the significance of organizational and societal support in addressing the challenges women face in the workplace.

### **5.1.6 Training**

It encompasses both home-based and institutional training. Home training involves early education and upbringing, instilling skills, values, and confidence. Institutional training includes formal education, workshops, and professional development programs that equip women with the necessary knowledge and skills to excel in their careers. Together, these training components contribute to encouraging women to succeed in their professional journeys.

One research participant, WCA-P6, said:

"We need training and awareness at our homes." "People need training, and there is a lack of training."

MS

Dean of faculty WCA-P10 stated his views as:

"There is another kind of misconception, so these are misconceptions that indicate that something important is lacking in their vision, so the problem is that they have been trained like this way they are not convinced they are intellectually weak to understand that women are as important and as they gather in at several occasions they are more important."

DAbS

Female additional registrar WCA-P4 stated that:

"Our training at home needs to educate men and to make them understand that their daughter is not the only one to do the house chores." MBY

These statements collectively emphasize the importance of training, awareness, and education. The first statement highlights the need for training and awareness within homes, indicating that fostering understanding and awareness should start at the domestic level. The second statement underlines a broader societal need for training, pointing out a general lack of awareness and knowledge. The third statement delves into the idea that misconceptions about the importance and capabilities of women stem from inadequate training and understanding. It suggests that individuals may not be intellectually equipped to recognize the significance of women, indicating a need for comprehensive training to shift these perceptions. The last statement specifically addresses the need for training at home to educate men and change their mindset regarding gender roles. It emphasizes the



importance of dispelling misconceptions about women's household responsibilities, highlighting the role of education in fostering a more equitable perspective. Collectively, these statements stress the necessity of training and awareness initiatives to challenge ingrained misconceptions and promote a more enlightened and equitable view of gender roles at both the individual and societal levels.

Table:2 Overall Findings

Theme	Sub Themes	Results
<b>Enablers to women career</b>	Family Support	Research reveals that family support, including encouragement from parents, siblings, spouses, and in-laws, emerges as a central enabler for women's career advancement, fostering a conducive environment for professional growth.
	Motivation	The research highlights motivation, stemming from self-motivation, external encouragement, and moral support, as a key enabler for women's career advancement. This multifaceted motivation is crucial in creating a dynamic and empowering environment for women to succeed professionally.
	Equal Opportunities	The study identifies equal opportunities, encompassing both education and job sectors, as an essential enabler for women's career advancement. Fostering equal access to education and eliminating gender-based disparities in job opportunities is essential for promoting gender equality in professional spheres.
	Government Initiatives	The study highlights that government initiatives, particularly through systemic measures like rules, policies, and structural frameworks, play a pivotal role as enablers for women's career advancement. These initiatives are important for fostering gender equality and providing support for women's professional development.
	Supportive culture	The research features that a supportive culture, involving both organizational and societal norms, is a key enabler for women's career advancement. A culture that encourages gender equality within the organization and challenges societal norms is essential for raising women's professional growth.
	Trainings	The study identifies training, including home-based and institutional programs, as a critical enabler for women's career advancement. These comprehensive training initiatives, spanning homes and institutions, equip women with essential skills and knowledge for their professional journey.

As mentioned above, the table highlights that this research underscores the pivotal role of family support, encompassing encouragement from parents, siblings, spouses, and in-laws, in facilitating women's career advancement and fostering a conducive environment for their professional growth. Motivation, originating from self-motivation, external encouragement, and moral support, emerges as a crucial enabler for women's career advancement, creating a dynamic environment for their success. Equal opportunities in education and job sectors are essential for women's career advancement, promoting gender equality by ensuring equitable access to education and eliminating gender-based disparities in job opportunities. Government initiatives, including rules, policies, and structural frameworks, are vital for women's career advancement, fostering gender equality and supporting professional development. A supportive culture, within both organizations and society, is a crucial enabler for women's career advancement, encouraging gender equality within the organization and challenging societal norms. Training, encompassing home-based and institutional programs, is identified as a critical enabler for women's career advancement, equipping them with essential skills and knowledge for their professional journey.

## DISCUSSION

The underrepresentation of women in senior management positions within higher education institutions is a pervasive issue globally, including in Pakistan. Despite significant strides in women's enrolment in universities, their ascent to leadership roles remains disproportionately low. This discussion delves into the study's findings investigating the enablers influencing the professional development of women academics in management

positions within Pakistani universities. It explores potential strategies for promoting gender equality in academia.

One of the study's key findings is the importance of family support as a critical enabler for women's career advancement in academia. Pakistani women often face societal expectations regarding their roles as wives and mothers, which can impede their professional aspirations (Sarwar & Imran, 2019; Buddhapriya, 2009). However, the study reveals that women who receive support from their families can better navigate the challenges of balancing work and family responsibilities. Accordingly, Kim (2020) outlined the manifest in various forms, including encouragement to pursue higher education, assistance with childcare, and understanding the demands of academic careers (Kim, 2020). Overall, universities and policymakers can create a more supportive environment for women academics by acknowledging and addressing the role of family support.

Institutional training also emerges as a significant enabler for women's career advancement in Pakistani universities. These trainings provide women academics with essential skills and knowledge needed to excel in leadership roles. Additionally, they help women build confidence and networks within the academic community, which are crucial for career progression. However, the study highlights the need for targeted and accessible training programs tailored to the unique challenges faced by women in academia. By investing in such initiatives, universities can empower women academics to overcome barriers and thrive in management positions.

Furthermore, organizational culture is pivotal in shaping women's academic experiences. The study identifies the importance of fostering an inclusive and equitable work environment that values diversity and promotes gender equality. This involves challenging gender biases and stereotypes and implementing policies and practices that support women's career development. By fostering a culture of inclusivity and respect, universities can attract and retain talented women academics, ultimately enhancing the diversity and effectiveness of their leadership teams. There are several strategies universities and policymakers can adopt to promote gender equality in academia. Offermann and Foley (2020) pointed out a need for targeted recruitment and retention efforts to increase the representation of women in senior management positions. This may involve implementing affirmative action policies, mentoring programs, and leadership development initiatives designed explicitly for women academics. Additionally, Lester and Sallee (2023) suggested that universities should prioritize creating family-friendly policies and support systems that enable women to balance their professional and personal responsibilities effectively. Finally, raising awareness and challenging societal norms regarding gender roles and expectations is crucial for creating a more equitable academic environment.

## **RECOMMENDATIONS**

Based on the study's findings, several recommendations can be proposed to promote gender equality and support women's career advancement in Pakistani universities. Firstly, institutions should prioritize implementing family support programs to assist women academics in balancing their professional and personal responsibilities. These programs should include initiatives such as childcare services, flexible work arrangements, and parental leave policies to lessen the burden on women managing both academic and family commitments. Secondly, designed institutional training initiatives should be developed to equip women academics with the necessary management and

administrative skills to excel in managerial positions. Thirdly, efforts should be made to transform organizational cultures within universities to advance inclusivity, diversity, and gender equality. This could involve implementing gender-sensitive policies, providing bias awareness training, and establishing mentorship programs to support women's career progression. Additionally, government support and policies are important in advancing academic gender equality. The Higher Education Commission (HEC) of Pakistan should prioritize initiatives for supporting women's academics, such as allocating funding for management training programs and enforcing gender equality policies across universities. Furthermore, awareness campaigns and advocacy efforts should be undertaken to challenge societal norms and stereotypes surrounding women's roles in academia and a supportive environment for women academics to succeed.

## CONCLUSION

This study sheds light on the enablers influencing the professional development of women academics in management positions within Pakistani universities. Despite the significant growth in women's enrolment in higher education, their representation in senior management roles remains disproportionately low. Through in-depth interviews with senior management position holders from public sector universities in Islamabad, several key enablers were identified, including family support, institutional training, and organizational culture. The findings underscore the importance of family support as a critical factor in women's career advancement. By receiving encouragement, assistance with childcare, and understanding from their families, women academics are better equipped to navigate the challenges of balancing work and family responsibilities. Additionally, institutional training emerged as essential for providing women with the skills, knowledge, and confidence needed to excel in leadership roles. Universities can invest in targeted training programs to empower women academics and foster a more diverse and inclusive leadership pipeline. Furthermore, the study highlights the significance of organizational culture in shaping women's experiences in academia. By promoting gender equality through initiatives such as diversity training and inclusive leadership practices, universities can create environments where women feel valued, supported, and empowered to thrive. Addressing these enablers is crucial for promoting gender equality and creating more inclusive and equitable academic institutions in Pakistan.

## References

- Afzal, S., Rafi, N. S., & Jabeen, N. (2021). Organizational Attributes as Determinants of Women.
- Avin, C., Keller, B., Lotker, Z., Mathieu, C., Peleg, D., & Pignolet, Y. A. (2015). Homophily and the Glass Ceiling Effect in Social Networks. In Proceedings of the 2015 Conference on Innovations in Theoretical Computer Science, 41-50. ACM.
- Bagilhole, B., & White, K. (2011). Gender, Power, and Management: A Cross-Cultural Analysis of Higher Education. London: Palgrave Macmillan.
- Banker, D. V. (2023). Status of women leadership in the Indian higher education sector. *International Journal of Educational Management*, 37(3), 662-680.
- Batool, S.Q, Sajid, M.A and Shaheen. I. (2013) "Gender and Higher Education in Pakistan" *International Journal of Gender and Women's Studies* 1(1):15-28
- Bjärsholm, D., Gerrevall, P., Linnér, S., Peterson, T., & Schenker, K. (2018). Ethical considerations in researching sport and social entrepreneurship. *European Journal for Sport and Society*, 15(3), 216-233.

- Bombuwela, P.M., & De Alwis, A.C. (2013). Effects of Glass Ceiling on Women Career Development in Private Sector Organizations Case of Sri Lanka. *Journal of Competitiveness*, 5, 3-19.
- Bryman, A. (2016). *Social research methods*. Oxford university press.
- Buddhapriya, S. (2009). Work-family challenges and their impact on career decisions: A study of Indian women professionals. *Vikalpa*, 34(1), 31-46.
- Buma, A., & Nyamupangedengu, E. (2020). Investigating teacher talk moves in lessons on basic genetics concepts in a teacher education classroom. *African journal of research in mathematics, Science and Technology Education*, 24(1), 92-104.
- Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds?. *Currents in pharmacy teaching and learning*, 10(6), 807-815.
- Chanana, K. (2011). Higher education and gender issues in the knowledge economy: Who studies what, why and where?. In *The Emergent Knowledge Society and the Future of Higher Education* (pp. 177-193). Routledge.
- Cheung, F. M., & Halpern, D. F. (2013). Women at the top: Powerful leaders define success as work+ family in a culture of gender. *American psychologist*, 65(3), 182.
- Cidlinská, K. (2019). How not to scare off women: different needs of female early-stage researchers in STEM and SSH fields and the implications for support measures. *Higher Education*, 78(2), 365-388.
- Clarke, V., & Braun, V. (2017). Thematic analysis. *The journal of positive psychology*, 12(3), 297-298.
- Codiroli McMaster, N., & Cook, R. (2019). The contribution of intersectionality to quantitative research into educational inequalities. *Review of Education*, 7(2), 271-292.
- Cooper, P., & McIntyre, D. (1996). *Effective teaching and learning: Teachers' and students' perspectives*. McGraw-Hill Education (UK).
- Creswell, J. W. (2010). Research designs. Qualitative, quantitative, and mixed methods approaches.
- Dankwa, S. (2018). Culture of family ideals and perceived subjugating positions of women in patriarchy society: The way forward. *Culture*, 8(24).
- Doherty, L., & Manfredi, S. (2006). Women's progression to senior positions in English universities. *Employee relations*, 28(6), 553- 572.
- Durrani, A., & Nasir Ali Khan, R. M. (2010). Intruding intimacies: Sexual harassment of women academics in Pakistani universities. *OIDA International Journal of Sustainable Development*, 1(1), 47-56.
- Filipponi-Berardinelli, J. O. (2013). Exploring Efficacy in Negotiating Support: Women Re-Entry Students in Higher Education. *College Quarterly*, 16(2), n2.
- Forestier, K. (2012). Absent talent: A review of the literature on women's participation in the faculty of higher education in East Asia. Paper for EdD Programme, University of Bristol.
- Forster, N. (2001). A case study of women academics' views on equal opportunities, career prospects and work-family conflicts in a UK university. *Career development international*, 6(1), 28-38.
- Gallant, A. (2014). Symbolic interactions and the development of women leaders in higher education. *Gender, Work & Organization*, 21(3), 203-216.
- Gavrić, T., & Braje, I. N. (2024). Managing Cultural Diversity and Conflict in Family Businesses: An Organizational Perspective. *Administrative Sciences*, 14(1), 13.
- Ghaus, B., & Raja, S. (2013, February). Amidst the barricades: Pakistani women as managers in higher education. In *3rd international conference on Business and Management,(ICOBM)* (pp. 27-28).

- Grove, M. L., Yu, B., Cochran, B. J., Haritunians, T., Bis, J. C., Taylor, K. D., ... & Boerwinkle, E. (2013). Best practices and joint calling of the HumanExome BeadChip: the CHARGE Consortium. *PloS one*, 8(7), e68095.
- Hannum, K.M., Muhly, S.M., Shockley-Zalabak, P.S. & White, J.S. (2015). Women Leaders within Higher Education in the United States: Supports, Barriers, and Experiences of Being a Senior Leader. *Advancing Women in Leadership*, 35, 67-77.
- Hill, C., Miller, K., Benson, K., & Handley, G. (2016). Barriers and Bias: The Status of Women in Leadership. *American Association of University Women*.
- Howe-Walsh, L. T., Sarah. (2014). Barriers To Women Leaders In Academia: Tales From Science And Technology. Victoria Management School Working Paper, 9-11 doi:10.1080/03075079.2014.929102
- Jamil, S. (2020). Suffering in silence: The resilience of Pakistan's female journalists to combat sexual harassment, threats and discrimination. *Journalism Practice*, 14(2), 150-170.
- Khokhar, cation in Pakistan: Perspectives of female students enrolled in higher education degrees. *Pakistan Journal of Women's Studies: Alam-e-Niswan*, 25(2), 59-76.
- Kim, M. S. (2020). Concept mapping of career motivation of women with higher education. *Frontiers in Psychology*, 11, 524656.
- Laursen, S., & Austin, A. E. (2020). *Building gender equity in the academy: Institutional strategies for change*. Johns Hopkins University Press.
- Laux, S. E. (2018). *Experiencing the imposter syndrome in academia: Women faculty members' perception of the tenure and promotion process* (Doctoral dissertation, Saint Louis University).
- Lester, J., & Sallee, M. (Eds.). (2023). *Establishing the family-friendly campus: Models for effective practice*. Taylor & Francis.
- Ma, N. F., Rivera, V. A., Yao, Z., & Yoon, D. (2022, April). "Brush it Off": How Women Workers Manage and Cope with Bias and Harassment in Gender-agnostic Gig Platforms. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* (pp. 1-13).
- Machado-Taylor, M., & Özkanli, Ö. (2013). Gender and Academic Careers in Portuguese and Turkish Higher Education Institutions. *Egitim Ve Bilim-Education and Science*, 38(169), 346-356.
- Maheshwari, G., & Nayak, R. (2022). Women leadership in Vietnamese higher education institutions: An exploratory study on barriers and enablers for career enhancement. *Educational Management Administration & Leadership*, 50(5), 758-775.
- Montez, J. M., Wolverton, M., & Gmelch, W. H. (2003). The Roles and Challenges of Deans. *The Review of Higher Education*, 26(2), 241-266.
- Morley, L. (2006). Hidden transcripts: The Micropolitics of Gender in Commonwealth Universities, Pergamon. *Women's Studies International Forum*, 29(6), 543-551.
- Morley, L. (2014). Lost leaders: Women in the global academy. *Higher Education Research & Development*, 33(1), 114-128.
- Morley, L., & Crossouard, B. (2015). Women in higher education leadership in South Asia: Rejection, refusal, reluctance, revisioning. *British Council report*.
- Nazar, N., Österman, K., & Björkqvist, K. (2017). Religious tolerance, gender equality and bellicose attitudes: A comparative study of three educational systems in Pakistan. *European Journal of Social Science Education and Research*, 4(3s), 126-135.
- Offermann, L. R., & Foley, K. (2020). Is there a female leadership advantage?. In *Oxford research encyclopedia of business and management*.
- Patel, P., Meagher, K., El Achi, N., Ekzayez, A., Sullivan, R., & Bowsher, G. (2020). "Having more women humanitarian leaders will help transform the humanitarian system": challenges and opportunities for women leaders in conflict and humanitarian health. *Conflict and health*, 14, 1-15.

- Pfister, G., & Radtke, S. (2009). Sport, women, and leadership: Results of a project on executives in German sports organizations. *European Journal of Sport Science*, 9(4), 229-243.
- Rab, M. (2010). Researching Pakistani Women Academics Life Stories and Feminist Perspectives, paper presented at the 3rd International Conference of Education, Research and Innovation, Madrid, Spain, 15-17 November 2010.
- Ravindran, D. (2020). Enrolment of women in higher education: A comparative study on women's equity in governance and employment status in India. *Journal of International Women's Studies*, 21(5), 65-78.
- Rosca, E., Agarwal, N., & Brem, A. (2020). Women entrepreneurs as agents of change: A comparative analysis of social entrepreneurship processes in emerging markets. *Technological Forecasting and Social Change*, 157, 120067.
- Ruslin, R., Mashuri, S., Rasak, M. S. A., Alhabsyi, F., & Syam, H. (2022). Semi-structured Interview: A methodological reflection on the development of a qualitative research instrument in educational studies. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 12(1), 22-29.
- Sarwar, A., & Imran, M. K. (2019). Exploring Women's multi-level career prospects in Pakistan: Barriers, interventions, and outcomes. *Frontiers in psychology*, 10, 444970.
- Shah, S. (2001). Tertiary Colleges in Pakistan: Gender and Equality. *The School Field*, XII (3/4), 49- 70.
- Shah, S., Bashir, M. S., & Amin, M. (2020). Career progression of women academics in Pakistani Universities: enablers and barriers. *sjesr*, 3(3), 11-21.
- Shirahase, S. (2013, January). The gender gap in higher education: Delays in achieving gender equality in Japanese society. Paper presented at the British Council Seminar Absent Talent: Women in Academic Leadership in East Asia, Tokyo
- Subbaye, R., & Vithal, R. (2017). Gender, teaching and academic promotions in higher education. *Gender and Education*, 29(7), 926- 951.
- Taylor-Abdulai, Hannah Benedicta, Appiah-Kwapong, Lipsey Samuel, Sintim-Adasi1Grace, Sarpong, Emelia, D, Akosua,.(2014). Socio-Cultural Factors to Breaking Through The Glass Ceiling: A Case Study of the University of Ghana, Legon. *Social Sciences*,3(5),170-176. ISSN: 2326-988X (Online)
- Thomas, S. (2021). Women in higher education administration leadership and the role of institutional support. In *Research Anthology on Challenges for Women in Leadership Roles* (pp. 282-297). IGI Global.
- UNESCO Institute of Statistics (2010). *Global Education Digest 2010: Comparing Education Statistics Across the World (A Special Focus on Gender)*. UNESCO, Montreal.
- Vinkenburg, C. J., Van Engen, M. L., Eagly, A. H., & Johannesen-Schmidt, M. C. (2011). An exploration of stereotypical beliefs about leadership styles: Is transformational leadership a route to women's promotion?. *The Leadership Quarterly*, 22(1), 10-21.
- Vinkenburg, C.J., Engen, M.L., Eagly, A.H. & Johannesen-Schmidt, M.C. (2011) An Exploration of Stereotypical Beliefs about Leadership Styles: Is Transformational Leadership a Route to Women's Promotion? *The Leadership Quarterly*, 22, 10-21. <http://dx.doi.org/10.1016/j.leaqua.2010.12.003>.
- Wilson, H. S., & Hutchinson, S. A. (1991). Triangulation of qualitative methods: Heideggerian hermeneutics and grounded theory. *Qualitative health research*, 1(2), 263-276.
- Wilson, M., Gadbois, S., & Nichol, K. (2008). Is Gender Parity Imminent in the Professoriate? Lessons from One Canadian University. *Canadian Journal of Education*, 31(1), 211-228.
- Wilson, N., Jones, A. C., Teng, A., & Thomson, G. (2021). The epidemiology of attacks on statues: New Zealand as a case study. *Plos one*, 16(6), e0252567.

- Wroblewski, A. (2019). Women in higher education management: Agents for cultural and structural change?. *Social Sciences*, 8(6), 172.
- Zeng, Z. th of the Glass Ceiling: Evidence from A Stock-Flow Analysis of Authority Attainment. *Social Science Research*, 40(1), 312-325.

**Paper ID:** 1571062299

**Name:** Dimas Ramadhiansyah

**Paper Title:** Cross-Cultural Impact: How Korean Beauty Brands Shape Consumer Preferences in Indonesia

**E-mail:** dimas.rmdh28@gmail.com

## **Introduction**

The global beauty industry has experienced a significant transformation with the emergence and proliferation of Korean beauty (K-beauty) products. Known for their cutting-edge innovation, unique formulations, and distinctive marketing strategies, K-beauty has carved out a substantial niche in the global market. This phenomenon is particularly evident in Indonesia, a country with a rapidly expanding beauty market and a diverse consumer base that spans various age groups, socioeconomic statuses, and cultural backgrounds.

Indonesia's beauty market is characterized by its dynamic growth and the increasing sophistication of its consumers, who are becoming more discerning and demanding in their beauty product choices. Among these consumers, millennials and Generation Z stand out as the primary drivers of the K-beauty trend. These younger demographics are not only more open to international influences but also highly engaged with digital media, where K-beauty brands have a strong presence.

The growing influence of K-beauty in Indonesia is not merely a matter of product preference; it reflects deeper cultural exchanges and shifts in consumer behavior. The appeal of K-beauty products in Indonesia can be attributed to several factors, including the perceived efficacy of the products, the allure of Korean pop culture (K-pop), and the aspirational lifestyle portrayed by Korean celebrities and influencers. Additionally, the innovative use of social media and e-commerce platforms by K-beauty brands has facilitated their penetration into the Indonesian market, making these products more accessible to a broader audience.

## **Methods**

This study employs qualitative research methods, specifically in-depth interviews and focus group discussions, to explore how Korean beauty brands shape consumer preferences in Indonesia. The qualitative approach provides a nuanced understanding of the factors influencing consumer choices and the cultural dynamics at play. Through this methodology, the research delves into the ways K-beauty brands have successfully resonated with Indonesian consumers.

## **Results and Discussion**

The findings reveal that Korean beauty brands exert a substantial influence on Indonesian consumer preferences through several key mechanisms. Firstly, the emphasis on product innovation—characterized by novel ingredients, advanced formulations, and unique product features—has set K-beauty apart from local competitors. Secondly, effective marketing strategies, including the use of social media, influencer partnerships, and targeted advertising, have played a pivotal role in shaping consumer perceptions and



driving brand engagement. Thirdly, the aspirational appeal of Korean beauty standards, which emphasize flawless skin and youthful appearance, aligns with the beauty ideals of Indonesian consumers, further enhancing the attractiveness of K-beauty products.

Additionally, the study identifies critical factors influencing consumer choices, including product quality, brand reputation, and the pervasive influence of Korean pop culture. These elements contribute to the strong market presence and appeal of K-beauty in Indonesia. However, the research also highlights challenges faced by Korean beauty brands, such as the need for product adaptation to local preferences, issues of inclusivity, and sustainability concerns.

## **Conclusion**

In conclusion, this research underscores the profound cross-cultural impact of Korean beauty brands on Indonesian consumer behavior. It reflects a broader trend of globalization within the beauty sector, where global brands effectively integrate with local markets by aligning with regional tastes and cultural values. While Korean beauty brands have successfully navigated the Indonesian market, ongoing challenges related to adaptation and sustainability remain critical areas for future exploration and development.

**Paper ID:** 1571062335

**Name:** Muhammad Saud, Rahma Sugihartati & Yatun Sastramidjaja

**Paper Title:** Youth Climate Activism in Indonesia; Contributions, Challenges and Propositions

**E-mail:** muhammad.saud@fisip.unair.ac.id

## **Introduction**

On 15th March 2019, around 1.4 million protesters worldwide joined the youth strike for climate change and action. The advocacy on the climate change in Indonesia is one of the core goals in Sustainable Development Goals (SDGs) agenda of the state and equally the interest and concern of youth as future nation builder. Given the enormity of the climate crisis, the transformative activism is often discussed on social media and digital media in various countries including Indonesia.

## **Objectives**

The present study focused on the dialogue regarding the action on the climate changes which is highlighted by the youth in Indonesia. The main argument of the study is to know that; 1) how youth has been contributing as advocate of climate change and crises through the use of social media? 2) Whether the efforts put by youth in sensitizing the public, civil society and government are effective in developing public discourse about climate change and crises? 3) How youth being activists can engage environmentalists and policy makers in devising mitigation strategies for curbing climate crises in Indonesia?

## **Methods and Instruments**

The present study deployed mixed method research design to collect the data through a field survey, compiling the hashtags # from Twitter, Facebook, Instagram, and narratives gathered through workshop with the key informants/activist of climate change. A total of 92 written interviews was gathered from different group of participants. This study was not limited to specific cities, it is entirely focused on the climate actions in Indonesia by youth in recent years. For accuracy of the study, and engagement with other partners, a FDGs was arranged with multiple stakeholders, news agencies, students, NGOs workers and artists, they provided a wonderful opportunity to learn this issue from a diverse a background.

## **Results and Discussion**

A number of youth activists show a concern on climate change with the stakeholders. This research revisits the youth climate action and relevance, gathered youth voices, youth barriers for climate action, and identified green gap in handling climate action concerns.

## **Conclusions**

The study portrayed two major concepts behind the climate action, which is individual awareness to generational consciousness, and ecological habitus among youth in Indonesia. Furthermore, exposure to global examples of youth climate action, generation normalization of climate action as part global youth culture.

**Paper ID:** 1571049834

**Name:** Fahrul Irfan Ishak, Hussin Bin Salamon & Khairul Firdaus Adrutdin

**Paper Title:** The Factors of Deficiencies of Imported Meat in Malaysia: A Proposed Model of Halal Meat Importer

**E-mail:** fahrulirfan@unikl.edu.my

## 1.0 Introduction

The issues surrounding the import of halal meat in Malaysia are increasingly raising awareness among various parties both domestically and internationally. Approximately 90 percent of beef and 79 percent of mutton of Malaysia's meat needs are imported for local consumption (Fatimah:2022). Due to the occurrence of several issues related to imported meat in recent years, a more comprehensive study has to be conducted to identify any weaknesses in the practice of importing halal meat to Malaysia and propose improvements. The objective of this study is to develop a sustainable and capable approach for importing halal meat. The model of importing halal meat is crucial in establishing a benchmark for good practices in meat importation and ensuring benefits for consumers and the country's food industry.

## 2.0 Objective

1. Analysing the practice of importing halal meat in Malaysia.
2. Identifying the issues regarding the importation of halal meat in Malaysia.
3. To propose model of halal meat importer that complying necessary requirements.

## 3.0 Problem Statement

The issue of the Meat Cartel arises after a raid was conducted on a warehouse storing illegally imported meat in large quantities in December 2020. The raid revealed that over 1500 metric tonnes of imported frozen meat had been smuggled into the country and stored in the warehouse. In addition, the raid also discovered the occurrence of repackaging activities, packaging counterfeiting, documents, and labels in the warehouse. The frozen meat is confirmed to be imported from China, Ukraine, Brazil, and Argentina. According to the list of government-recognized slaughterhouses on the MAFI website, out of the four countries mentioned, only Brazil and Argentina have certified slaughterhouses involved in meat production. Based on reports from the media, authorities' briefings, and academic writings, the author concludes that there are several deficiencies and weaknesses in the process of importing halal meat to Malaysia, leading to the occurrence of the meat cartel case in Senai in December 2020. Below are the details:

### 3.1 Legal void

The raid on the warehouse in Senai in December 2020 was a coordinated operation by many government enforcement agencies. The agencies involved in the raid are MAQIS, KPDNHEP, JAIJ, JAKIM, Royal Malaysian Customs Department, and MACC. This integrated operation occurs due to the differences in legal aspects and jurisdiction in these agencies. However, in the case of imported meat, MAQIS has special authority as this agency regulates and enforces agricultural product regulations at the country's entry points. The

jurisdiction of MAQIS, as stated in Act 728, is limited to only entry points, quarantine stations, and authorised quarantine premises. After passing through the port area, the enforcement jurisdiction falls under the authority of KPDNHEP.

According to MAQIS, Act 728 has proposed amendments to the Attorney General's Office and needs to be brought before Parliament for discussion and approval. Hence, the amendment of this legislation needs to be expedited, and all support for the enforcement of the law is crucial in the effort to prevent such cases from occurring in the future.

In addition, the issue of counterfeiting the logo of foreign certification bodies for halal products should also be examined from a legal perspective. This can be achieved by mandating the registration of halal logos with the Intellectual Property Corporation, enabling legal action to be taken against those who counterfeit foreign halal logos.

#### **4. Weaknesses in enforcement and documentation management**

This meat cartel has exposed weaknesses in the enforcement capabilities of the enforcement agency. The enforcement jurisdiction of MAQIS is limited to entry points, quarantine stations, and quarantine premises, allowing importers to use warehouses located outside MAQIS jurisdiction. The KPDNHEP enforcement agency also has limited access to information on the storage warehouse of meat importers. The DVS is responsible for verifying the source of the meat by conducting laboratory analysis. JAKIM is only involved in the verification of halal certification for slaughterhouses and foreign halal certification bodies at the early stage of the meat importation process. The port police are also seen as failing to monitor suspicious activities at the country's entry points, allowing smuggling activities to bypass port area controls and ultimately into the domestic market. This scenario provides an overview of the weaknesses that need to be examined in order to enhance the continuous improvement efforts.

In addition, the management of documentation is seen as successful in identifying genuine and counterfeit documents. Incidents involving imported meat have revealed the occurrence of document forgery to deceive authorities. This can be examined through research on the operations of freight agents both domestically and internationally, who manage import and export documents as well as import certification documents for halal meat.

#### **5. The weaknesses of police agencies at entry points and integrity among personnel.**

The weakness of the police referred to this is the lack of integrity and anti-corruption policies practiced by the agencies involved in the importation of halal meat. An example of commendable action is the development of the 2020-2022 anti-corruption plan by MAQIS, based on the National Anti-Corruption Plan (NACP). However, the occurrence of meat smuggling from the port to the warehouse in Senai indicates a deficiency in the implementation and enforcement aspects. In addition to the practice of giving and accepting bribes, there are weaknesses in terms of standard operating procedures (SOP) that nevertheless allow for the passage of goods out of the port.

#### **3.4 Involvement of foreign workers in the warehousing sector**

The involvement of foreign workers in many sectors of the country's industries is not a new or unfamiliar phenomenon. However, the involvement of foreign workers without systematic monitoring provides an opportunity for certain parties to engage in unlawful activities. The raid on the imported meat warehouse in Senai revealed that the involved company utilised foreign labour in the repackaging process and falsification of documents.

#### 4.0 Research Method

This research based on the interviews with relevant parties such as meat importing companies, Department of Veterinary Services (DVS), Malaysian Quarantine and Inspection Services (MAQIS), Kementerian Perdagangan Dalam Negeri dan Kos Sara Hidup (KPDN), Kementerian Kesihatan Malaysia (KKM), Jabatan Kemajuan Islam Malaysia (JAKIM), Majlis Agama Islam Negeri Johor (MAINJ), and Jabatan Wakaf, Zakat dan Haji (JAWHAR). This interview is crucial for obtaining feedback and necessary information to ensure the achievement of the objectives of developing the halal meat import model.

#### 5.0 Scope Of Research

The researcher is focusing the proposed halal meat importer model which not complying the requirements of halal importer, but also fulfilling the requirement of quality management, wakaf and halal supply chain. This is important to ensure the halal importer not only supply the meat but how wakaf and halal supply chain functionalise sustainability of halal meat in the country.

#### 6. Model Plan For Importing Halal Meat Proposed To Main

The author suggests a halal meat importation model to the Majlis Agama Islam Negeri to accomplish the study's purpose, requesting financing and infrastructure to actualize this proposal. The halal meat importer model consists of four programs that ensure compliance with import rules, management quality, a business consortium, and maintaining relationships with stakeholders and customers. Below is a detailed overview of each strategy.

#### 7. Adherence to Import Procedures

The primary criterion for meat-importing enterprises to obtain approval from the authorities in Malaysia and the exporting countries is strict compliance with import regulations. The processes developed by DVS, JAKIM, and KKM require attention. The import technique is outlined in the import procedures as below.

**Table 1. Compliance with Import Procedures**

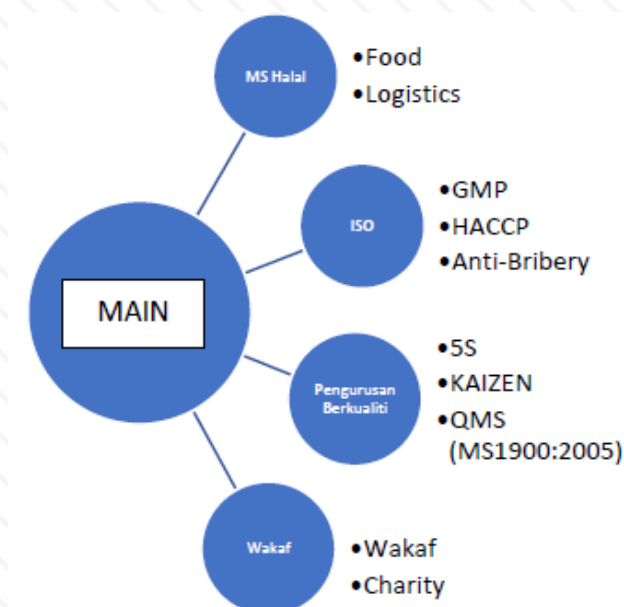
No.	Importation Procedures	Remarks
1.	Questionnaire & Risk Assessment of Exporting Countries	Company, DVS and MAIN
2.	Import Protocol Development	Company, DVS and MAIN
3.	Inspection of Farms/ Abattoirs/ Processing Plants	Company, MAIN, DVS, JAKIM, KKM
4.	Certificate letter to exporting country	Company and DVS
5.	Registration of Malaysian importers	Company and DVS
6.	Import permit application	Company and DVS
7.	Halal Logistics (Warehouse and Transportation)	Company, JAKIM/JAIN

## 6.2 Quality Management

Ensuring high management quality is crucial to ensure that all of the company's activities and endeavours are well-organised and systematic. Aside from the need of being registered as a Sole Proprietorship, the company must also have a strategic plan to acquire ISO 9001:2015, MS1500:2009, MS2400:2019, GMP, and HACCP certifications within a few years of initiating the planning process. Furthermore, it is important to consider elements of integrity, such as the implementation of anti-corruption policy (ISO 37001), the practice of kaizen, the application of 5S methodology, and other essential parts of quality management that are crucial for long-term success.

To be eligible for an Approved Permit (AP), an importing company must possess a starting capital of RM100,000.00, a frozen warehousing facility, transportation trucks, and an adequate number of personnel to manage its activities. The quality management that proposed as diagram below:

Diagram Plan 2: Quality Management



## 6.3 Business Consortium and Supply Chain

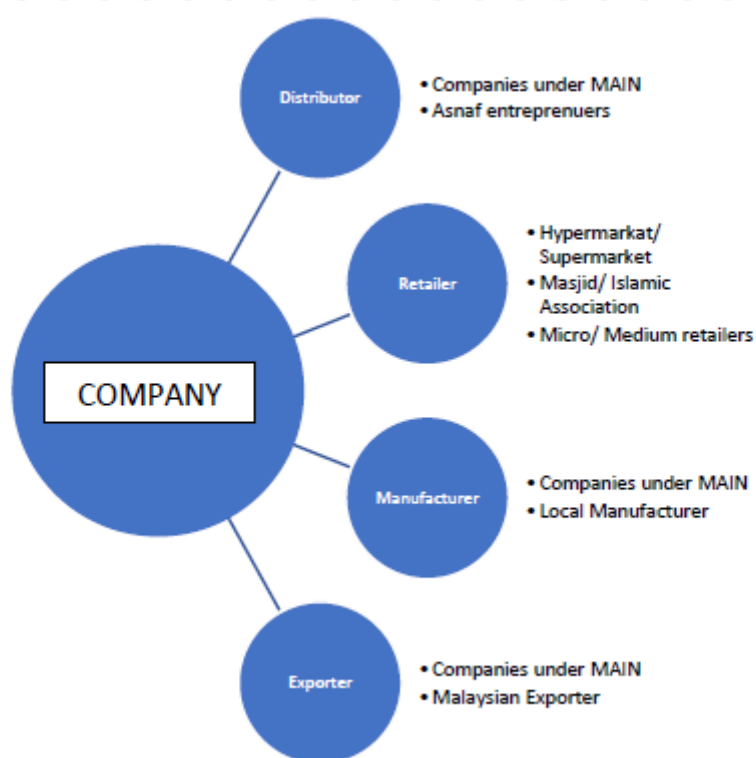
Importing companies, as business entities, must engage in careful and detailed preparation to ensure that imported meat successfully enters the market and can effectively compete with established brands. It is recommended that the importing company establish a business network with distributors and major retailers in the country in order to effectively promote the imported meat in accordance with the company's quotas and strategies. Hence, it is imperative for the company's CEO to formulate an all-encompassing marketing strategy for both the immediate and distant future, ensuring the sustainability and progressive expansion of the meat marketing network within the market.

To ensure uninterrupted distribution of imported meat in the supply chain, MAIN, with specific jurisdiction, can form subsidiary firms that utilise imported meat as their primary raw

material for manufacturing their products and services. Importing companies primarily serve the manufacturing industry, as well as wholesalers and retailers. Importing companies may also consider the option of re-exporting meats to the ASEAN market or setting up subsidiaries to expand their range of meat-based products. The purpose of this is to optimise the development of the meat distribution and marketing chain, resulting in a more strategic approach that enhances the value of the product and increases the company's profitability. The business consortium and supply chain proposed as diagram below:

Diagram Plan 3: Business consortium and supply chain

### 6.4 Stakeholder



### 6.4 Stakeholder and Customer Relations

The company must consider its relationships with stakeholders such as MAIN, state and central government agencies, associated GLCs, the private sector, and the consumer community. This guarantees that stakeholders will prioritise providing ongoing attention, improved chances, and long-term expansion for existing enterprises. Furthermore, MAIN can leverage the pre-existing networks within the state's Islamic religious administration, such as asnaf entrepreneurs, mosques and suraus, zakat asnafs, waqfs, and similar entities, to enhance the growth and functioning of firms under the supervision of MAIN.

In order to guarantee the long-term viability of this company, the stakeholders of the company can use the use of the MAIN framework: Shareholders: WAKAF holding will be split using a ratio of 50%: 25%: 25%. Waqf ownership is a type of sustainable partnership ownership where ownership is not limited to companies and individuals, but is also shared by the waqfs. The proposed stakeholder and customer relations as diagram below:

Diagram Plan 4: Stakeholders and customer relations



## 6. CONCLUSION

In order to ensure the integrity of the halal meat import process into Malaysia and enhance public confidence in imported meat in the country's market, Halal meat players could take the responsibility to comply the model as proposed to ensure the halal meat is fulfil halal, safety and integrity. Furthermore, this import model can serve as a benchmark to ensure that quality management, integrity, and best practices can be implemented in company operations. Therefore, the researchers hope that this investigation can be expanded and implemented in a tangible form with the support of the government and stakeholders.



**Paper ID:** 1571055400

**Name:** Tian Sun & Hamdan Said

**Paper Title:** A Review of Mentoring Programs for New Faculty Members in Malaysian Higher Education Institutions

**E-mail:** suntian@graduate.utm.my

## Introduction

The definitions of mentoring, like the practices themselves, are evolving and expanding. Historically, definitions have often reflected poorly defined roles for mentors and mentees, resulting in unclear expectations (Mullen & Klimaitis, 2021). Despite these inconsistencies, there is a broad consensus that mentoring is “relational and developmental,” encompassing both career and psychosocial functions and involving phases and transitions (Liu et al., 2021). The evolving nature of mentoring necessitates an understanding that adapts to contemporary academic and professional contexts.

Studies in different expertise domains show the importance of mentoring for personal and skills development (Stoeger et al., 2021). Hence, a strong rationale exists for implementing mentoring across diverse contexts and institutions. Hairon et al. (2020) reported the variability of mentoring across institutions, emphasizing the need for consistency. Similarly, new faculty members are vital for higher education institutions, bringing fresh perspectives and knowledge that foster innovation and excellence. Their teaching and research greatly influence student learning and institutional growth (Orland-Barak & Wang, 2021). Supporting them is essential for upholding educational standards and enhancing institutional reputation. Robust mentoring programs will facilitate their transition and ongoing professional development (Cook-Sather, 2020; Cordie et al., 2020).

Previous studies revealed a growing body of literature indicates the benefits of mentoring to the mentor, mentee, and the organization are enormous (Eby & Robertson, 2020; Grocutt et al., 2022; Mullen & Klimaitis, 2021; Schwan et al., 2020). For mentees, it offers valuable guidance and support, significantly enhancing their professional development, job performance, and confidence (Schwan et al., 2020). Mentors, in turn, experience increased job satisfaction and personal growth, as mentoring helps refine their leadership and communication skills while keeping them engaged with new perspectives (Nyanjom, 2020). For organizations, mentoring results in improved retention rates, a more collaborative work environment, and more robust succession planning, collectively enhancing overall performance and boosting the institution’s reputation (Grocutt et al., 2022).

Mentoring programs play a crucial role in the professional development of new faculty members in HEIs. These programs provide new faculty with guidance, support, and resources essential for navigating the challenges of academia (Dahlke et al., 2021), through which they can develop teaching skills, enhance research capabilities, and gain valuable insights into the academic culture and institutional expectations (Davis et al., 2022). Mentors offer personalized advice and feedback, helping them set and achieve their professional goals (Toh et al., 2022). Additionally, mentorship fosters a sense of belonging and community, significantly improving job satisfaction and retention rates. By building strong professional networks and receiving continuous support, new faculty are better equipped

to contribute effectively to their institutions, ultimately leading to higher academic and professional success (Jones et al., 2021).

This literature review explores the challenges, implementation, and effectiveness of mentoring programs for new faculty in Malaysian HEIs. It examines mentoring models and their impact on teaching, research productivity, job satisfaction, and professional development. Challenges like resource constraints, mentor-mentee matching, and cultural factors are discussed. The review synthesizes research to evaluate program effectiveness and offers recommendations to enhance mentorship, aiming to foster the academic and professional growth of new faculty members in Malaysian higher education.

### **Literature Search and Selection**

For this literature review, rigorous methodologies and database selection criteria were employed. Relevant mentoring studies published in English over the past five years were systematically searched in ERIC, Scopus, Web of Science, and Google Scholar databases. The search focused on empirical and theoretical research, identifying 25,100 records, which were narrowed down to 6,036 journal articles after comparison with existing literature. To ensure relevance, non-English publications, theses, dissertations, and conference papers were excluded. Finally, 50 journal articles on mentoring in Malaysia were selected for detailed analysis. The initial step involved defining keywords such as “mentoring,” “new faculty mentoring,” “mentoring in higher education,” “mentoring outcomes,” and “new faculty mentorship in Malaysia.” These were chosen to capture a wide range of literature on mentoring programs for new faculty in Malaysian HEIs. Both quantitative and qualitative studies were considered, focusing on empirical research on professional development impacts and theoretical studies on mentorship mechanisms and best practices. Articles were screened for relevance to new faculty mentorship in Malaysian higher education, a clear focus on mentoring programs, and substantial discussion of outcomes or implications. This methodological approach aims to synthesize current knowledge on mentoring programs, offering insights into effective strategies and identifying areas for further research and improvement.

### **The Evolvement of Mentorship in the Malaysian Higher Education System**

Mentoring in Malaysian higher education has evolved significantly (Sirat & Wan, 2022). Initially informal, relying on senior faculty's willingness to guide juniors (Kamarudin et al., 2021), universities recognized the need for structured support and formalized mentoring programs (Jafar et al., 2021). This shift was driven by the recognition of mentorship's role in academic success and faculty retention (Sarabipour et al., 2023). Research shows that effective mentorship enhances teaching, research productivity, and job satisfaction among new faculty (Abetang et al., 2020). Consequently, Malaysian universities have implemented more structured mentoring programs tailored to new faculty member's needs (Kamarudin et al., 2021).

Formal mentoring programs in Malaysian higher education include clear guidelines, regular meetings, and specific goals for mentors and mentees (Muslim et al., 2021). These programs aim to provide consistent support and promote continuous learning and development. Universities also offer mentor training to ensure effective guidance (Hairon et al., 2020). The impact has been significant, with mentees experiencing increased confidence, better job performance, and higher career satisfaction (Nuel et al., 2021). Mentors gain professional growth and satisfaction from contributing to the development of their colleagues and students (Bäker et al., 2020). Ongoing research and feedback continue

to improve these programs, ensuring mentorship remains vital in Malaysian higher education.

The evolution of mentoring in Malaysian higher education underscores the need to adapt support structures for a dynamic academic environment. The shift from informal to formalized programs highlights the importance of structured support for new faculty's professional development. Continuous evaluation and adaptation are essential to address emerging challenges and maintain the effectiveness of mentoring programs.

### **Challenges Associated with Mentoring in Malaysian HEIs**

In Malaysia, traditional mentoring involves brief meetings with university administrators to discuss teaching and assessment but lacks structured training for mentors (Albakri et al., 2021). Issues include tensions between mentors and new faculty members, feelings of exploitation, and poor-quality feedback (Hairon et al., 2020; Jafar et al., 2021). Professional development activities are often criticized as superficial, inflexible, and needing more follow-through (Kamarudin et al., 2023; Bachkirova et al., 2020). There is a significant gap in understanding new faculty members' specific challenges due to limited, targeted research, highlighting the need for more sustained and context-sensitive support mechanisms.

New faculty members face challenges such as attitude, competency, motivation, stress, emotions, and organizational commitment (Kamaruddin & Boon, 2020). A key issue is whether they effectively implement changes in university and classroom practices or merely document them. Without proactive faculty member involvement, the Ministry of Education Malaysia's national education goals may be disrupted (Sirat & Wan, 2022). The problem is worsened by a limited understanding of new faculty members' unique challenges, which are not resolved by experience alone and require targeted support and induction programs (Voss & Kunter, 2020). They also face challenges such as workload management, adaptation to institutional cultures, attitude, self-efficacy, motivation, and emotional stress (Mohamad et al., 2023; Kamaruddin & Boon, 2020). Balancing research, teaching, administrative duties, and personal commitments under high expectations is difficult (Mukhtar et al., 2023). In Malaysian HEIs, these challenges are intensified by the need to adapt to new teaching methods while maintaining research responsibilities, securing funding, and publishing results (Badiozaman, 2021; Ismail et al., 2022). The pressure to excel in both teaching and research, secure grants, and receive positive evaluations is overwhelming (Ismail et al., 2022; Mohammadi & Karupiah, 2020). In addition, they face challenges in effective student interaction and curriculum design, including creating a positive learning environment, aligning content with industry demands, and integrating technology (Ospina & Medina, 2020). As they become absorbed in their work and isolated in their classrooms, they may lose sight of the rewarding aspects of teaching (Schwan et al., 2020). Addressing these challenges is crucial for implementing effective mentoring programs, including culturally sensitive and contextually relevant support systems (Kamarudin et al., 2023).

Despite mentor support, challenges like resource constraints, limited support, mismatched relationships, and cultural barriers persist (Muslim et al., 2021; Kamarudin et al., 2023). Ineffective mentor-mentee matching often leads to missed opportunities (Ossorno et al., 2021). Clear expectations and well-equipped mentors are essential, especially for diverse student populations (Nuel et al., 2021). Informal mentoring can result in inconsistent experiences due to a lack of structure (Stoeger et al., 2021). Structured, well-

designed mentoring programs are crucial for effective mentor-mentee relationships and sustained faculty success.

To sum up, new faculty members in Malaysian higher education face challenges such as workload management, adapting to institutional cultures and balancing teaching, research, and administrative duties. Stress related to competency, motivation, and emotional management further hinders effective practices. Mentorship programs often struggle with mismatched relationships and cultural barriers. Effective support requires recognizing these issues and implementing structured, culturally sensitive mentoring programs to promote faculty success and align with national education goals.

### **Implementation of Mentoring Programs**

Implementing mentoring programs involves executing the mentoring framework, including delivering activities, following protocols, and adjusting based on feedback (Hairon et al., 2020). It requires effective mentor-mentee pairing, scheduled interactions, and ongoing support. Research in Malaysia highlights strategies and challenges, such as the need for a well-defined structure and ongoing mentor training to ensure consistency and quality (Muslim et al., 2021). In Malaysian HEIs, the effectiveness of mentoring programs often hinges on the degree of alignment between the program design and the actual implementation, and some programs need more training, clearer objectives, and limited resources (Albakri et al., 2021).

Traditionally, mentoring pairs a senior and junior colleague to support career advancement and psychosocial development (Sarabipour et al., 2022). Modern mentoring includes diverse types such as formal, informal, electronic, co-mentoring, group, peer, multilevel, and cultural mentoring (Mullen, 2020; Mullen & Klimaitis, 2021). These approaches emphasize the need for adaptable, inclusive strategies in higher education. Effective mentoring should account for the mentor and mentee's personality, attitude, and background and involve support from specialists and program experts (Deng et al., 2022; Parker et al., 2021).

Effective mentoring programs require continuous improvement and a solid foundation. Well-designed programs boost new faculty retention by enhancing their skills and effectiveness (Hieker & Rushby, 2020). These programs follow a phased process: recruitment, matching, training, implementation, and completion (Treasure et al., 2022). Successful recruitment of suitable mentors and mentees is crucial, as good selection can lead to success (Bachkirova et al., 2020). Effective mentors should be dedicated, experienced, and supportive, considering individual characteristics and expectations (Wexler, 2020). Both mentors and mentees must fulfill their roles and engage actively to achieve program goals (Goldhaber et al., 2020; Sarabipour et al., 2022).

Effective matching in mentoring programs aligns objectives, expectations, interests, and needs to prevent incompatibility (Deng et al., 2022). Key factors include training content, location, objectives, and mentor availability, often assessed through questionnaires and meetings (Hee et al., 2020). Proper implementation according to the design is crucial, with personal contracts outlining responsibilities and expectations (Hairon et al., 2020). Adherence to rules, confidentiality, and evaluation planning are essential for success (Stoeger et al., 2021). The final step, completion, involves evaluating the program's success based on achieved objectives (Hayes & Mahfouz, 2020).

Mentoring programs aim to motivate new faculty members, enhance their effectiveness, and build trust-based relationships with experienced colleagues (Shanks et al., 2022). These relationships boost professional development, improve teaching, and enhance classroom management (Kearney, 2021). They also increase self-confidence and academic growth, ensuring sustained success (Wilcoxon et al., 2020). Both formal and informal mentoring offer critical support, aiding in navigating the educational system and improving academic satisfaction (Ewing, 2021). Effective implementation requires clear guidelines, mentor training, and regular evaluations to adapt to evolving needs (Stelter et al., 2021; Keiler et al., 2023).

Overall, Mentoring programs are crucial for new faculty development and retention but face challenges such as resource constraints, mentor-mentee mismatches, and cultural barriers. Current research often needs longitudinal data, and more empirical studies are needed to assess the long-term impacts and sustainability of these programs. Future research should explore innovative models like virtual mentoring to support diverse, geographically dispersed faculty. By addressing these gaps, studies can enhance mentoring effectiveness and contribute to continuous improvement in higher education. This review underscores the evolving benefits and strategies of mentoring programs and emphasizes the need for ongoing research to ensure their success and relevance.

### **Effectiveness of Mentoring Programs**

Mentoring in higher education is vital for the successful transition of new faculty members (Ismail et al., 2021). It involves mentors and mentees, with mentors providing guidance to address challenges and enhance academic performance, psychosocial development, and career prospects (Popova, 2021; Wang et al., 2022). Effectiveness in mentoring programs is measured by how well they achieve goals like enhancing new faculty development, improving teaching skills, and increasing retention (Bachkirova et al., 2020; Schwan et al., 2020; Shanks et al., 2022). Key aspects include the quality of mentor-mentee relationships, the relevance of support, and its impact on career progression and job satisfaction (Abetang et al., 2020; Deng et al., 2022; Falola et al., 2020). Evaluating these factors provides feedback for improving mentoring initiatives in higher education.

In Malaysia, research shows that effective mentoring programs enhance teaching practices, faculty member satisfaction, and retention (Schwan et al., 2020). Success is linked to well-designed programs with clear objectives, regular feedback, and tailored support. Kamarudin et al. (2021) stressed the need for programs to adapt to new faculty's evolving needs through personalized training, peer support, and regular evaluations. However, Nor et al. (2020) noted that many programs lack structure and resources, recommending improved mentor training, better matching, and ongoing evaluations to address these issues.

Studies on higher education mentoring emphasize that the effectiveness of programs largely depends on the quality of mentoring support rather than mentees' traits or environmental factors (Arslantas & Kocagoz, 2021; Tinoco-Giraldo et al., 2020). Despite this, recent research on the impact of mentoring support is limited (Giacumo et al., 2020). Effective mentoring, both formal and informal, is crucial for achieving program goals (Jones & Smith, 2022). To address gaps and criticisms in current mentoring practices, ongoing efforts aim to develop a sustainable mentor training curriculum by involving mentors in program design and evaluation (Parker et al., 2021).

In brief, enhancing the effectiveness of mentoring programs in higher education requires a strategic focus on mentorship quality, program structure, and stakeholder engagement. The Texas Teacher Mentor Advisory Committee (TTMAC) identified seven critical components of a successful mentoring program: mentor selection, mentor assignment, mentor training, mentor roles and responsibilities, program design and delivery, funding, and accountability (TTMAC, 2015). Specific goals improve program value (Barrera, Austin, et al., 2020), and highly qualified mentors boost retention, achievement, and enthusiasm (Waljee et al., 2020; Jacobson et al., 2020). Strengthening these elements helps institutions support new faculty development and retention, enhancing the program's effectiveness.

### **Recommendations for Improvement**

To enhance mentoring programs, focus on rigorous mentor selection, emphasizing substantial teaching experience, strong interpersonal skills, and a commitment to lifelong learning (Parker et al., 2021). Highly qualified mentors drive mentee success, improving student achievement and faculty member enthusiasm. However, effective matching based on personality traits and professional goals is often overlooked, impacting the mentoring relationship's success. Meanwhile, the structure of mentoring programs is crucial for their success. Programs need clear objectives, defined roles, regular check-ins, and assessments to monitor progress and address challenges (Treasure et al., 2022).

To support the mentoring partnership, mentors also need specific training in communication skills for supporting adult learners. Current research does not sufficiently address the long-term impact of such training on mentoring effectiveness. Parker et al. (2021) recommend that mentor preparation should develop skills like working with adult learners, providing emotional support, engaging in feedback cycles, and scaffolding reflection. These skills are crucial for supporting new faculty member development. However, the lack of standardized training programs leads to inconsistent mentor preparedness across institutions. This preparation is particularly important as mentors need to navigate difficult conversations that may arise when a new faculty member struggles during the internship experience (Albakri et al., 2021). Ongoing professional development for mentors is essential. Workshops, seminars, and peer learning sessions help mentors stay current with educational trends and techniques, fostering continuous improvement (Weimer, 2021). These opportunities refine mentors' skills and promote best practices, enhancing the program's effectiveness. However, many institutions lack the resources to implement these initiatives effectively.

Increasing funding and resources dedicated to mentoring programs is also essential for their sustainability and enhancement. Adequate funding supports comprehensive training, provides necessary materials, and offers incentives for mentors, all of which contribute to the overall quality of the program (Giacumo et al., 2020). Without sufficient resources, mentoring programs risk becoming fragmented and less effective. Further research into the economic benefits of investing in robust mentoring programs is needed, as this could support arguments for increased funding.

Engaging mentors in the design and evaluation of mentoring programs ensures that these initiatives are relevant and impactful (Orland-Barak & Wang, 2021). Collaboration helps to align the goals of educational institutions with the needs of mentors and mentees, creating a cohesive and supportive learning environment. However, there needs to be

more research on the best practices for involving mentors in these processes, highlighting a gap that future studies should address.

In conclusion, effective mentoring programs are crucial for new faculty member development and retention. Key components include rigorous mentor selection, focused preparation, communication skills training, structured programs, ongoing professional development, adequate funding, and collaborative design. However, gaps still need to be in understanding the long-term impacts of mentor training, elements of successful structured programs, and best practices for mentor involvement in design and evaluation. Future research should identify best practices in mentor-mentee matching and address the needs of diverse faculty. Practical recommendations include developing standardized mentor training, establishing ongoing support and evaluation mechanisms, and incorporating mentor and mentee feedback to optimize mentoring programs for better faculty support and retention.

## **Discussion and Conclusion**

Current literature highlights the benefits and challenges of mentoring programs for new faculty members in Malaysian HEIs. A major area for improvement is the consistency in program implementation and evaluation methods, making it difficult to assess their overall effectiveness. Additionally, there is a scarcity of longitudinal studies tracking the long-term impacts of these programs on academic staff development (Mullen & Klimaitis, 2021). This gap suggests the need for comprehensive, long-term studies better to understand the sustained benefits and potential drawbacks of mentoring. The reliance on short-term studies limits the ability to capture mentoring's full impact over time, inhibiting the development of robust, evidence-based practices.

Comparative analysis of various studies reveals both consistent findings and significant differences. Research consistently shows that well-structured mentoring programs improve job satisfaction, teaching practices, and research productivity among new faculty members (Abetang et al., 2020; Khojah & Asif, 2020; Zarghoni & Rasool, 2021). However, effectiveness varies widely based on context and implementation strategies. Studies by Kamaruddin and Boon (2020) and Badiozaman (2021) emphasize the importance of structured support and clear communication. Conversely, other research highlights challenges posed by cultural and institutional differences, which can hinder program effectiveness (Ismail et al., 2022). These variations underscore the need for a nuanced understanding of how different contexts influence mentoring outcomes.

The limitations of current research on mentoring programs for new faculty members in Malaysian HEIs include small sample sizes and a focus on specific institutions or disciplines, limiting generalizability. Moreover, while some studies examine short-term impacts, there needs to be longitudinal data on career trajectories. Additionally, diversity and inclusivity are insufficiently addressed, with little research on cross-cultural mentoring despite its growing importance. Sustainability issues, such as resource constraints, further challenge effective program implementation. Despite these limitations, mentoring programs significantly benefit new faculty members by enhancing their teaching, research skills, and overall job satisfaction (Hakro & Mathew, 2020; Dorner et al., 2021; Redding & Nguyen, 2020).

Future research on mentoring programs for new faculty members in Malaysian HEIs should focus on several key areas: conducting longitudinal studies to assess long-term

effects on career trajectories, comparing different mentoring types (formal vs. informal, peer vs. hierarchical) to identify effective strategies, and exploring cultural and contextual factors to tailor programs for diverse academic environments. Emerging directions include developing digital and hybrid models using online platforms and virtual tools, personalizing mentoring to individual needs and career goals, and fostering interdisciplinary collaboration. Additionally, there is a growing emphasis on mentor training and development to enhance skills and job satisfaction and on examining the impact of mentoring on job satisfaction and psychological well-being. Addressing these areas can bridge the gap between theory and practice, ensuring mentoring programs are effective and contextually relevant.

For policymakers and HEI administrators, this literature review offers insights into optimizing mentoring programs for new faculty members. Understanding the key components of successful programs and common pitfalls can help design more effective support structures, enhance faculty member development, improve educational outcomes, increase staff retention, and foster a positive institutional culture. Practical steps include: (1) Rigorous Mentor Selection: Ensuring mentors have substantial teaching experience, strong interpersonal skills, and a commitment to lifelong learning (Parker et al., 2021); (2) Focused Mentor Preparation: Developing key skills in mentors, such as working with adult learners and providing emotional support (Parker et al., 2021); (3) Communication Training: Equipping mentors with the skills to navigate difficult conversations and support adult learners effectively (Albakri et al., 2021); (4) Structured Programs: Establishing clear objectives, well-defined roles, and regular assessments to ensure consistency and address challenges (Treasure et al., 2022); (5) Ongoing Professional Development: Offering workshops, seminars, and peer learning sessions to foster continuous improvement (Weimer, 2021); (6) Adequate Funding: Ensuring sufficient resources for comprehensive training and incentives for mentors (Giacumo et al., 2020); (7) Collaborative Design and Evaluation: Involving mentors in program design and evaluation to align institutional goals with the needs of mentors and mentees (Orland-Barak & Wang, 2021).

## References

- Abetang, M. A., Oguma, R. N., & Abetang, A. P. (2020). Mentoring and the Difference it Makes in Teachers' Work: A Literature Review. *European Journal of Education Studies*, 7(6), 301-323. <http://dx.doi.org/10.46827/ejes.v7i6.3146>
- Adams, D., & Lok, T. K. (2022). Teacher education in Malaysia: Preparation, practices, and future directions. In *Handbook of research on teacher education: Innovations and practices in Asia* (pp. 95-110). Springer Nature Singapore. [https://doi.org/10.1007/978-981-16-9785-2\\_6](https://doi.org/10.1007/978-981-16-9785-2_6)
- Adi Badiozaman, I. F. B. (2021). Early career academics' identity development in a changing HE landscape: Insights from a Malaysian private university. *Asia Pacific Journal of Education*, 41(3), 424-439. <https://doi.org/10.1080/02188791.2020.1793732>
- Albakri, I. S. M. A., Ismail, N., Hartono, R., Tahir, M. H. M., Abdullah, M. S. H. B., Sarudin, A., & Zulkepli, N. (2021). Mentoring practise during practicum: The perspectives of Malaysian pre-service English language teachers. *Studies in English Language and Education*, 8(2), 642-655. <https://doi.org/10.24815/siele.v8i2.19282>
- Arslantas, T. K., & Kocaoz, O. E. (2021). Examining the mentoring process in collaborative project-based learning of preservice instructional technology teachers. *Education Reform Journal*, 6(1), 47-61.
- Austin, L. J., Parnes, M. F., Jarjoura, G. R., Keller, T. E., Herrera, C., Tanyu, M., & Schwartz, S.



- E. (2020). Connecting youth: The role of mentoring approach. *Journal of Youth and Adolescence*, 49(12), 2409-2428. <https://doi.org/10.1007/s10964-020-01320-z>
- Bachkirova, T., Arthur, L., & Reading, E. (2020). Evaluating a coaching and mentoring program: Challenges and solutions. *Coaching researched: A coaching psychology reader*, 361-378. <https://doi.org/10.1002/9781119656913.ch19>
- Barrera, A., Braley, R. T., & Slate, J. R. (2010). Beginning teacher success: An investigation into the feedback from mentors of formal mentoring programs. *Mentoring & Tutoring: Partnership in Learning*, 18(1), 61-74. <https://doi.org/10.1080/13611260903448383>
- Bäker, A., Muschallik, J., & Pull, K. (2020). Successful mentors in academia: Are they teachers, sponsors and/or collaborators? *Studies in Higher Education*, 45(4), 723-735. <https://doi.org/10.1080/03075079.2018.1544235>
- Cook-Sather, A. (2020). Respecting voices: How the co-creation of teaching and learning can support academic staff, underrepresented students, and equitable practices. *Higher Education*, 79(5), 885-901. <https://doi.org/10.1007/s10734-019-00445-w>
- Cordie, L. A., Brecke, T., Lin, X., & Wooten, M. C. (2020). Co-teaching in higher education: Mentoring as faculty development. *International journal of teaching and learning in higher education*, 32(1), 149-158.
- Dahlke, S., Raymond, C., Penconek, T., & Swaboda, N. (2021). An integrative review of mentoring novice faculty to teach. *Journal of Nursing Education*, 60(4), 203-208. <https://doi.org/10.3928/01484834-20210322-04>
- Davis, T. M., Jones, M. K., Settles, I. H., & Russell, P. G. (2022). Barriers to the successful mentoring of faculty of color. *Journal of Career Development*, 49(5), 1063-1081. <https://doi.org/10.1177/08948453211013375>
- Deng, C., Gulseren, D. B., & Turner, N. (2022). How to match mentors and protégés for successful mentorship programs: A review of the evidence and recommendations for practitioners. *Leadership & Organization Development Journal*, 43(3), 386-403. <https://doi.org/10.1108/LODJ-01-2021-0032>
- De Ossorno Garcia, S., & Doyle, L. (2021). The mentoring relation as an interpersonal process in EDUCATE: A qualitative case study of mentor-mentee perspectives. *Research for All*, 5(1), 19-35. <https://doi.org/10.14324/RFA.05.1.04>
- Dorner, H., Misic, G., & Rymarenko, M. (2021). Online mentoring for academic practice: strategies, implications, and innovations. *Annals of the New York Academy of Sciences*, 1483(1), 98-111. <https://doi.org/10.1111/nyas.14301>
- Eby, L. T., & Robertson, M. M. (2020). The psychology of workplace mentoring relationships. *Annual Review of Organizational Psychology and Organizational Behavior*, 7(1), 75-100. <https://doi.org/10.1146/annurev-orgpsych-012119-044924>
- Ewing, L. A. (2021). Mentoring novice teachers. *Mentoring & Tutoring: Partnership in Learning*, 29(1), 50-69. <https://doi.org/10.1080/13611267.2021.1899585>
- Falola, H. O., Adeniji, A. A., Adeyeye, J. O., Igbinnoba, E. E., & Atolagbe, T. O. (2020). Measuring institutional support strategies and faculty job effectiveness. *Heliyon*, 6(3), 1-6. <https://doi.org/10.1016/j.heliyon.2020.e03461>
- Giacumo, L. A., Chen, J., & Seguinot-Cruz, A. (2020). Evidence on the Use of Mentoring Programs and Practices to Support Workplace Learning: A systematic multiple-studies review. *Performance Improvement Quarterly*, 33(3), 259-303. <https://doi.org/10.1002/piq.21324>

- Grocutt, A., Gulseren, D., Weatherhead, J. G., & Turner, N. (2022). Can mentoring programmes develop leadership? *Human Resource Development International*, 25(4), 404-414. <https://doi.org/10.1080/13678868.2020.1850090>
- Goldhaber, D., Krieg, J., & Theobald, R. (2020). Effective like me? Does having a more productive mentor improve the productivity of mentees? *Labour Economics*, 63, 1-13. <https://doi.org/10.1016/j.labeco.2019.101792>
- Hairon, S., Loh, S. H., Lim, S. P., Govindani, S. N., Tan, J. K. T., & Tay, E. C. J. (2020). Structured mentoring: Principles for effective mentoring. *Educational Research for Policy and Practice*, 19(2), 105-123. <https://doi.org/10.1007/s10671-019-09251-8>
- Hakro, A. N., & Mathew, P. (2020). Coaching and mentoring in higher education institutions: A case study in Oman. *International Journal of Mentoring and Coaching in Education*, 9(3), 307-322. <https://doi.org/10.1108/IJMCE-05-2019-0060>
- Hayes, S. D., & Mahfouz, J. (2020). Principalship and mentoring: A review of perspectives, evidence, and literature 1999-2019. *Research in Educational Administration and Leadership*, 5(3), 722-751. <https://doi.org/10.30828/real/2020.3.4>
- Hee, J., Toh, Y. L., Yap, H. W., Toh, Y. P., Kanesvaran, R., Mason, S., & Krishna, L. K. R. (2020). The development and design of a framework to match mentees and mentors through a systematic review and thematic analysis of mentoring programs between 2000 and 2015. *Mentoring & Tutoring: Partnership in Learning*, 28(3), 340-364. <https://doi.org/10.1080/13611267.2020.1778836>
- Hieker, C., & Rushby, M. (2020). Key Success Factors in Implementing Sustainable Mentor Programmes in Large Organisations. *International Journal of Evidence Based Coaching & Mentoring*, 18(2), 197-208. <https://doi.org/10.24384/sx88-eh86>
- Hudson, P., & Hudson, S. (2010). Mentor educators' understandings of mentoring preservice primary teachers. *International Journal of Learning*, 17(2), 157-170.
- Ismail, A., Ibrahim, N., & Keliwon, K. B. (2021). Mentor-mentee interaction and mentees' psychosocial development: The mediating effect of mentees' self-efficacy. *Eurasian Journal of Educational Research*, 94, 79-100.
- Ismail, A., Rahman, I. A., Erhan, T., Uzunbacak, H. H., & Akçakanat, T. (2022). Relationship between mentoring support, mentees' self-efficacy and mentees' academic achievement: A case of Malaysia. *Resmilitaris*, 12(6), 2294-2308.
- Jacobson, E., Leibel, M., Pitkin, R., & Clifton, H. (2020). Strengthening all educators through mentoring and coaching. *Journal of Higher Education Theory and Practice*, 20(2), 43-54.
- Jafar, M. F., Yaakob, M. F. M., Mustapha, R., Aziz, M. N. A., Yusof, M. R., & Awang, H. (2021). Quality of mentoring of mentor teachers: perspective of the trainee teachers. *International Journal of Evaluation and Research in Education*, 10(2), 632-640.
- Jones, J., & Smith, H. A. (2022). A comparative study of formal coaching and mentoring programmes in higher education. *International Journal of Mentoring and Coaching in Education*, 11(2), 213-231. <https://doi.org/10.1108/IJMCE-03-2021-0054>
- Jones, S. R., Cobb, C., Asaka, J. O., Story, C. R., Stevens, M. C., & Chappell, M. F. (2021). Fostering a sense of community among black faculty through a faculty learning community. *Adult Learning*, 32(4), 165-174. <https://doi.org/10.1177/1045159520977909>
- Kamaruddin, Z., & Boon, Y. (2020). Challenges in integrating new teacher development program in schools: A systematic literature review. *Universal Journal of Educational Research*, 8(5), 81-88. <https://doi.org/10.13189/ujer.2020.081912>
- Kamarudin, M. A., Shah, S. A. M. M., Ismail, N. A. S., Yen, T. P., Shamsul, A. S., Razali, H. I. C., & Salam, A. (2021). Perceptions of mentors and mentees towards the mentoring system

- at the Universiti Kebangsaan Malaysia Medical Centre. *Education in Medicine Journal*, 13(2), 55-70. <https://doi.org/10.21315/eimj2021.13.2.5>
- Kamarudin, M. A. I., Kamarruddin, N. N. A., Ramli, A., & Murad, S. M. A. (2023). The challenges and issues faced by the new appointed academic staffs of the university in the emerging market. *International Journal of Professional Business Review*, 8(1), 1-31. <https://doi.org/10.26668/businessreview/2023.v8i1.1158>
- Kearney, S. (2021). The challenges of beginning teacher induction: A collective case study. *Teaching Education*, 32(2), 142-158. <https://doi.org/10.1080/10476210.2019.1679109>
- Keiler, L. S., Diotti, R., & Hudon, K. (2023). Supporting teachers as they support each other: Lessons concerning mentor teacher feedback to teacher mentees. *Professional Development in Education*, 49(2), 225-242. <https://doi.org/10.1080/19415257.2020.1839781>
- Khojah, A., & Asif, F. (2020). Mentoring matters in workplace: The impact of formal mentoring program on EFL instructors' performance at ELI, King Abdulaziz University, Saudi Arabia. *English Language Teaching*, 13(4), 140-161.
- Kochan, F. K. (2017). The landscape of mentoring: Past, present, and future. *The SAGE Handbook of Mentoring*. Sage, 246-260.
- Liu, Y., Abi Aad, A., Maalouf, J., & Abou Hamdan, O. (2021). Self-vs. other-focused mentoring motives in informal mentoring: conceptualizing the impact of motives on mentoring behaviours and beneficial mentoring outcomes. *Human Resource Development International*, 24(3), 279-303. <https://doi.org/10.1080/13678868.2020.1789401>
- Malaysian Qualifications Agency (MQA) (2014). Guidelines to good practices (GGP): Academic Staff. Available from URL: [www.mqa.gov.my](http://www.mqa.gov.my)
- Mullen, C. A. (2020). Practices of cognitive apprenticeship and peer mentorship in a cross-global STEM lab. *The Wiley international handbook of mentoring: paradigms, practices, programs, and possibilities*, 243-260. <https://doi.org/10.5465/255910>
- Mullen, C. A., & Klimaitis, C. C. (2021). Defining mentoring: A literature review of issues, types, and applications. *Annals of the New York Academy of Sciences*, 1483(1), 19-35. <https://doi.org/10.1111/nyas.14176>
- Mukhtar, K., Usman, J., Malik, K. A., Qasim, M. A., Mukhtar, M., & Shahid, U. (2023). Challenges of mentoring program: Perceived by the stakeholders. *JSMDC*, 9(02), 92-96.
- Muslim, S., Abidin, N. A. Z., Osman, S., & Manaf, H. A. (2021). Exploring senior academicians' perspective on mentoring in Malaysian higher education institutions. *Journal of Language and Linguistic Studies*, 17(2), 1032-1044. <https://doi.org/10.52462/jlls.72>
- Mohamad Nasri, N., Nasri, N., & Abd Talib, M. A. (2023). Understanding university professors' best mentoring practices in undergraduate research. *Innovations in Education and Teaching International*, 60(1), 112-123. <https://doi.org/10.1080/14703297.2021.1988677>
- Mohammadi, S., & Karupiah, P. (2020). Quality of work life and academic staff performance: A comparative study in public and private universities in Malaysia. *Studies in Higher Education*, 45(6), 1093-1107. <https://doi.org/10.1080/03075079.2019.1652808>
- Nuel, O. I. E., Nwakoby, N. P., & Ifechi, A. N. (2021). Mentoring: The way to academic excellence. *Education Quarterly Reviews*, 4(1), 130-140. <https://doi.org/10.31014/aior.1993.04.01.180>

- Nor, M. Z. M., & Mohd Fakri, N. M. R. (2020). The Ideal Mentors from the Universiti Sains Malaysia Medical Students' Perspective: A Case Study. *Education in Medicine Journal*, 12(3). <https://doi.org/10.21315/eimj2020.12.2.4>
- Nyanjom, J. (2020). Calling to mentor: the search for mentor identity through the development of mentor competency. *Educational Action Research*, 28(2), 242-257. <https://doi.org/10.1080/09650792.2018.1559069>
- Orland-Barak, L., & Wang, J. (2021). Teacher mentoring in service of preservice teachers' learning to teach: Conceptual bases, characteristics, and challenges for teacher education reform. *Journal of Teacher Education*, 72(1), 86-99. <https://doi.org/10.1177/0022487119894230>
- Ospina, N. S., & Medina, S. L. (2020). Living and teaching internationally: Teachers talk about personal experiences, benefits, and challenges. *Journal of Research in International Education*, 19(1), 38-53. <https://doi.org/10.1177/1475240920915013>
- Parker, A. K., Zenkov, K., & Glaser, H. (2021). Preparing school-based teacher educators: Mentor teachers' perceptions of mentoring and mentor training. *Peabody Journal of Education*, 96(1), 65-75. <https://doi.org/10.1080/0161956X.2021.1877027>
- Popova, A. V. (2021). Mentoring as a form of teaching activity in the new digital educational environment. *Cherepovets State University Bulletin*, 3, 199-210.
- Redding, C., & Nguyen, T. D. (2020). Recent trends in the characteristics of new teachers, the schools in which they teach, and their turnover rates. *Teachers College Record*, 122(7), 1-36. <https://doi.org/10.1177/016146812012200711>
- Sarabipour, S., Hainer, S. J., Arslan, F. N., De Winde, C. M., Furlong, E., Bielczyk, N., ... & Davla, S. (2022). Building and sustaining mentor interactions as a mentee. *The FEBS journal*, 289(6), 1374-1384. <https://doi.org/10.1111/febs.15823>
- Sarabipour, S., Niemi, N. M., Burgess, S. J., Smith, C. T., Bisson Filho, A. W., Ibrahim, A., & Clark, K. (2023). The faculty-to-faculty mentorship experience: a survey on challenges and recommendations for improvements. *Proceedings of the Royal Society B*, 290(2013), 1-12. <https://doi.org/10.1098/rspb.2023.0983>
- Schwan, A., Wold, C., Moon, A., Neville, A., & Outka, J. (2020). Mentor and new teacher self-perceptions regarding the effectiveness of a statewide mentoring program. *Critical Questions in Education*, 11(3), 190-207.
- Senom, F., Zakaria, A. R., & Ahmad Shah, S. S. (2013). Novice teachers' challenges and survival: Where do Malaysian ESL teachers stand? *American Journal of Educational Research*, 1(4), 119-125. <https://doi.org/10.12691/education-1-4-2>
- Sirat, M., & Wan, C. D. (2022). Higher education in Malaysia. In *International handbook on education in South East Asia* (pp. 1-23). Springer Nature Singapore. [https://doi.org/10.1007/978-981-16-8136-3\\_14-1](https://doi.org/10.1007/978-981-16-8136-3_14-1)
- Shanks, R., Attard Tonna, M., Krøjgaard, F., Annette Paaske, K., Robson, D., & Bjerkholt, E. (2022). A comparative study of mentoring for new teachers. *Professional Development in Education*, 48(5), 751-765. <https://doi.org/10.1080/19415257.2020.1744684>
- Stelter, R. L., Kupersmidt, J. B., & Stump, K. N. (2021). Establishing effective STEM mentoring relationships through mentor training. *Annals of the New York Academy of Sciences*, 1483(1), 224-243. <https://doi.org/10.1111/nyas.14470>
- Stoeger, H., Balestrini, D. P., & Ziegler, A. (2021). Key issues in professionalizing mentoring practices. *Annals of the New York Academy of Sciences*, 1483(1), 5-18. <https://doi.org/10.1111/nyas.14537>
- Tinoco-Giraldo, H., Torrecilla Sanchez, E. M., & García-Peñalvo, F. J. (2020). E-Mentoring in higher education: A structured literature review and implications for future research. *Sustainability*, 12(11), 1-23. <https://doi.org/10.3390/su12114344>

- Toh, R. Q. E., Koh, K. K., Lua, J. K., Wong, R. S. M., Quah, E. L. Y., Panda, A., ... & Krishna, L. K. R. (2022). The role of mentoring, supervision, coaching, teaching and instruction on professional identity formation: a systematic scoping review. *BMC Medical Education*, 22(1), 1-14. <https://doi.org/10.1186/s12909-022-03589-z>
- Treasure, A. M., Hall, S. M., Lesko, I., Moore, D., Sharan, M., van Zaanen, M., ... & van der Walt, A. (2022). Ten simple rules for establishing a mentorship programme. *PLoS Computational Biology*, 18(5), 1-21. <https://doi.org/10.1371/journal.pcbi.1010015>
- Voss, T., & Kunter, M. (2020). "Reality shock" of beginning teachers? Changes in teacher candidates' emotional exhaustion and constructivist-oriented beliefs. *Journal of Teacher Education*, 71(3), 292-306. <https://doi.org/10.1177/0022487119839700>
- Waljee, J. F., Chopra, V., & Saint, S. (2020). Mentoring millennials. *Jama*, 323(17), 1716-1717. <https://doi.org/10.1001/jama.2020.3085>
- Wang, J., Gill, C., & Lee, K. H. (2023). Effective mentoring in a work-integrated learning (WIL) program. *Journal of Teaching in Travel & Tourism*, 23(1), 20-38. <https://doi.org/10.1080/15313220.2022.2056561>
- Weimer, K. R. (2021). Mentor identification, selection, preparation, and development: a literature review. *Update: Applications of Research in Music Education*, 39(3), 20-28. <https://doi.org/10.1177/8755123320965138>
- Wexler, L. J. (2020). 'I would be a completely different teacher if I had been with a different mentor': Ways in which educative mentoring matters as novices learn to teach. *Professional Development in Education*, 46(2), 211-228. <https://doi.org/10.1080/19415257.2019.1573375>
- Wilcoxon, C., Bell, J., & Steiner, A. (2020). Empowerment through induction: Supporting the well-being of beginning teachers. *International Journal of Mentoring and Coaching in Education*, 9(1), 52-70. <https://doi.org/10.1108/IJMCE-02-2019-0022>
- Zarghoni, M. A., & Rasool, A. (2021). Impact of Mentoring on Employees' Performance. *Researchers World*, 12(2), 26-33. <http://dx.doi.org/10.18843/rwjasc/v12>

**Paper ID:** 1571056082

**Name:** Siti Zulaikha Mohd Khalid & Nooraini Othman

**Paper Title:** Servant Leadership and Its Influence on Work-Life Balance in Work from Home Settings

**E-mail:** sitizulaikha.mk@graduate.utm.my

## **Introduction**

The global COVID-19 outbreak has significantly altered traditional work practices, leading organisations around the world to adopt work from home arrangements as a strategic response to ensure business continuity and protect employee health and safety. This rapid shift to work from home has reshaped professional dynamics and masked the boundaries between work responsibilities and personal life (Hoffmann-Burdzińska & Austen, 2020). In this transformative landscape, understanding the impact of work from home on work-life balance has become a crucial area of research. This requires a thorough examination of work from home practices, leadership methods, and employee well-being. The interplay of these factors presents both challenges and opportunities for organisations striving to navigate the complexities of work from home environments while prioritising the overall well-being of their workforce (Sandoval-Reyes et al., 2021).

The purpose of this study is to examine the relationships between work from home and work-life balance within Malaysia's public sector, with a specific focus on the moderating effects of servant leadership. Servant leadership is a leadership approach in which the primary goal of the leader is to serve others. This approach is in contrast to traditional leadership that focusses on the success of the organisation (Rofcanin et al., 2021). Servant leaders prioritise the needs of their employees, fostering a supportive and inclusive work environment. They emphasise empathy, active listening, and the personal and professional growth of their team members. By focussing on serving others, servant leaders can create a positive organisational culture that improves employee satisfaction and well-being, which is particularly important in the context of work from home, where direct supervision and traditional managerial practices are less feasible (Tran & Truong, 2021).

Building on previous literature, this study addresses key knowledge gaps and clarifies the mechanisms by which work from home influences employees' work-life balance (Vyas & Butakhieo, 2021). By examining the role of servant leadership, this research provides insight into how leadership styles can mitigate the challenges posed by work from home and improve overall employee well-being.

## **Work-from-Home and Work-Life Balance**

The COVID-19 pandemic required unprecedented changes in workplace dynamics, and many organisations, including those in the Malaysian public sector, quickly transitioned to work from home arrangements to comply with public health directives. This sudden change, mandated by the government's Movement Control Orders (MCO), was designed to control virus spread while maintaining operational continuity (Director General of Public Service, 2020). Work from home has been both a practical solution and a complex challenge, significantly impacting employees' work-life balance. The implementation of work from home has been recognised as a critical measure to ensure employees' safety and

business continuity during the pandemic. Previous studies have indicated that work from home can offer numerous benefits, such as greater flexibility, reduced commute time, and improved job satisfaction. For example, Subramaniam et al. (2020) found that flexible working arrangements positively impacted work-life balance and reduced stress levels. However, the rapid transition to work from home during MCO also exposed various challenges. Employees faced difficulties in separating work responsibilities from personal life, increasing stress and fatigue related to work (Palumbo, 2020).

### **Servant Leadership**

The leadership style adopted during such crises plays a crucial role in shaping employees' experiences and outcomes. Servant Leadership, characterised by prioritising the growth and well-being of team members, has been posited as a beneficial approach to enhance employee satisfaction and work-life balance. Greenleaf (1970), as cited by Agazu et al. (2022), introduced the concept of Servant Leadership, emphasising the roles of leaders as servants first, focussing on the needs of others and fostering a supportive work environment. In the context of work from home, effective leadership is vital in addressing employees' unique challenges and ensuring their well-being. The effectiveness of Servant Leadership in mitigating the negative impacts of work from home on work-life balance, particularly in the Malaysian public sector, remains underexplored. Although some studies suggest that supportive leadership can improve employee adaptability and satisfaction during work from home (Winston, 2022), others indicate potential cultural and contextual limitations (Charoensukmongkol & Puyod, 2021). This study aims to investigate these dynamics by examining the moderating role of Servant Leadership in the relationship between work from home and work-life balance among Malaysian public sector employees during the COVID-19 pandemic.

### **Research Objectives**

1. To identify the relationship between work from home and employees' work-life balance.
2. To examine the moderating effect of Servant Leadership on the relationship between work from home and employees' work-life balance.

### **Methodology**

This study adopts a correlational research design to examine the relationships between work from home, servant leadership, and work-life balance within the Malaysian public sector. A quantitative research approach is used, using an online survey method to collect data from employees working in various departments and levels within the organisation (Putri & Amran, 2021). The study uses a convenience sampling strategy to recruit participants, targeting employees who have experience working from home during the COVID-19 pandemic within the Malaysian public sector. A total of 264 respondents were included in the study, providing various perspectives on the impact of work from home on work-life balance (Chu et al., 2022).

### **Data Collection Procedures**

Data collection involved the distribution of online surveys to selected participants, capturing their perceptions and experiences related to work from home practices, leadership styles, and work-life balance. The survey questionnaire was designed with a 7-point Likert scale of agreement to obtain responses to key variables of interest, allowing a comprehensive analysis of the research constructs (Ilhan, 2021).

## Data Analysis Techniques

The collected data was analysed using structural equation modelling (SEM) to examine the complex relationships between work from home, servant leadership, and work-life balance. SEM enables the evaluation of both direct and indirect effects between variables, providing a robust framework for understanding the moderating role of Servant Leadership in shaping work-life balance outcomes (Juchnowicz & Kinowska, 2021). For data analysis, SPSS version 27 was used to perform preliminary statistical analyses and data cleaning procedures. Subsequently, SmartPLS version 3.3.9 was used to perform the structural equation modelling (SEM) analysis, allowing testing of research hypotheses and exploration of the moderating effects of Servant Leadership on the relationship between work from home and work-life.

Using these advanced analytical tools and methodologies, this study uncovers valuable insights into the intricate dynamics of work from home practices and leadership influences on employees' work-life balance, contributing to a deeper understanding of organisational well-being in the context of evolving work environments.

## Results

The study surveyed 264 employees of the Department of Polytechnic Education and Community Colleges (JPPKK) in Putrajaya. Among the respondents, 38.3% were male, and 61.7% were female. A significant majority, 87.5%, were married, while 12.5% were single. In terms of service groups, 72.3% belonged to the Management and Professional group, 5.3% were from the Top Management group, and 22.3% were part of the Support Group. The measurement model was evaluated for reliability and validity. All constructs demonstrated high internal consistency, with Cronbach's Alpha values exceeding 0.70: Work from Home (0.934), Work-Life Balance (0.919), and Servant Leadership (0.879). The Composite Reliability (CR) values were also above the threshold of 0.70, indicating good reliability that is Work from Home (0.946), Work-Life Balance (0.941), and Servant Leadership (0.905). The Average Variance Extracted (AVE) values exceeded 0.50, confirming the convergent validity of Work from Home (0.660), Work-Life Balance (0.762), and Servant Leadership (0.580).

The impact of work from home on employees' work-life balance was analysed using SmartPLS version 3.3.9. The results of the structural equation model (SEM) revealed a significant positive relationship between work from home practices and work-life balance among JPPKK employees ( $\beta = 0.225$ ,  $t = 3.587$ ,  $p = 0.000$ ). This finding indicates that work from home significantly improved employee perceptions of work-life balance during the COVID-19 pandemic. These results are aligned with previous studies by Putri & Amran (2021) and Sandoval-Reyes et al. (2021), which also found that work from home can enhance employees' work-life balance. The study also examined the moderating effect of servant leadership on the relationship between work from home and work-life balance. Analysis using SmartPLS showed that servant leadership significantly moderated this relationship. The inclusion of moderating effects increased the  $R^2$  value to 0.275, indicating that 27.5% of the variance in employees' work-life balance was explained by the combined influence of servant leadership and work from home practices. This finding is consistent with İlhan (2021) and Juchnowicz & Kinowska (2021), underscoring the importance of leadership in shaping the work-life balance of remote employees. A slope analysis was performed to better understand the moderating effects of servant leadership on the relationship between work from home and work-life balance. Figure 1 shows the simple slope analysis, which indicates that at the median level, servant leadership had a mild effect on the relationship. At a low level, servant leadership positively influenced the relationship between work from home and work-life balance. However, at a high level, servant leadership negatively affected this



relationship. These findings are in line with those of Vyas & Butakhieo (2021), who also highlighted the complexity of leadership dynamics in work from home settings. Before considering the moderating effects of servant leadership, the initial analysis revealed a significant positive relationship between work from home practices and employees' work-life balance ( $\beta = 0.225$ ,  $t = 3.587$ ,  $p = 0.000$ ). This finding indicated that work from home had a beneficial impact on improving employees' perceptions of work-life balance, consistent with the findings of Hoffmann-Burdzińska & Austen (2020). Introducing the moderating effects of servant leadership into the model led to an increase in the  $R^2$  value from 0.182 to 0.275, indicating a notable improvement in the variance explained in employees' work-life balance as shown in Figure 2 and Figure 3. This change highlighted the significant role of servant leadership in shaping the relationship between work from home practices and work-life balance outcomes. These results are consistent with the findings of Sandoval-Reyes et al. (2021), who also emphasised the role of leadership in work from home settings.

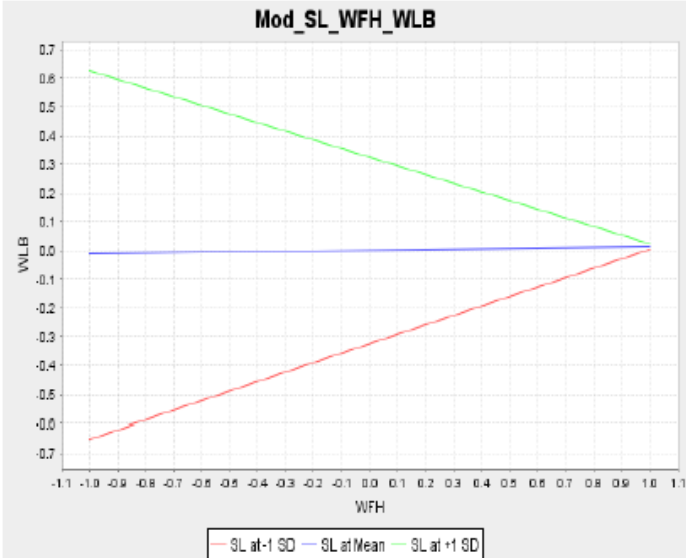


Figure 1 Simple slope analysis of the effect of Servant Leadership (SL) between work from home (WFH) and employees' work-life balance (WLB)

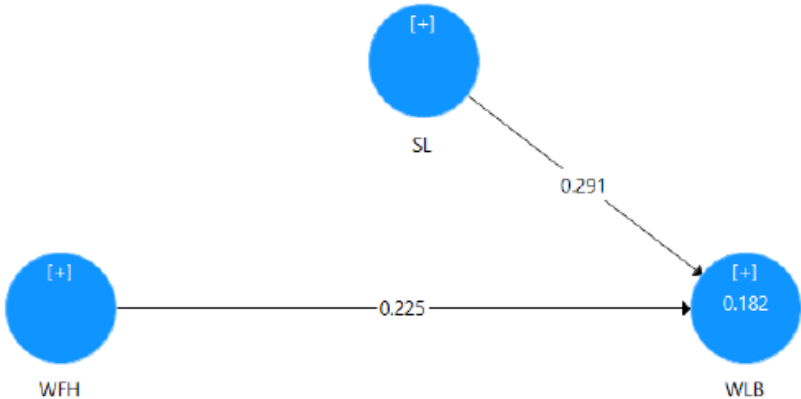


Figure 2 Structural Model indicates the  $R^2$  Value of WLB with the Moderating Effects Excluded

The post-moderation slope analysis revealed the overall effects of servant leadership on the relationship between work from home and work-life balance. At different levels of servant leadership, the impact on the relationship varied: at a median level, the effects were mild; at low levels, servant leadership positively influenced the relationship; and at high levels, it negatively affected the relationship. This detailed examination highlighted how servant leadership altered the dynamics between work from home and employees' work-life balance, emphasising the importance of leadership support in work from home settings. These findings align with the observations of Kacprowska (2021), who pointed out the complex interplay of leadership in work from home environments.

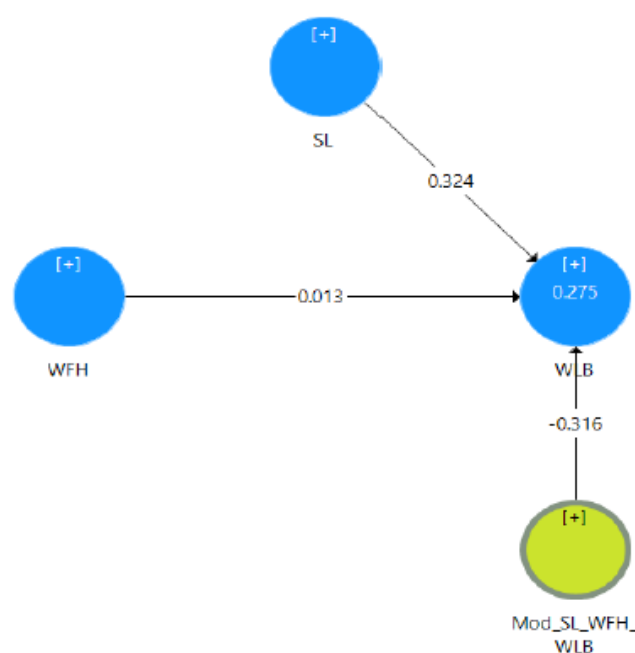


Figure 3 Structural Model indicates the R<sup>2</sup> Value of WLB with the Moderating Effects Included

In summary, the comparison of the relationship results before and after considering the moderating effects of servant leadership demonstrated not only the initial positive association between work from home and work-life balance, but also the significant influence of servant leadership as a moderator. The findings underscore the complex interaction between work from home practices, leadership dynamics, and employees' work-life balance, highlighting the need for customised interventions to support employee well-being in evolving work environments. This is in line with the conclusions drawn by Takami (2023), who also advocated adaptive leadership strategies in work from home contexts.

### Discussion

The findings of this study align with existing research that underscores the positive impact of work from home on employees' work-life balance. This study reaffirms that work from home arrangements promote flexibility and autonomy, key elements to achieving a harmonious integration of work and personal responsibilities. These conclusions are consistent with the observations of Mamatha & Kumar Thoti (2023), who highlighted the essential role of work from home in improving work-life balance through increased flexibility.

Furthermore, the study's findings on the moderating effect of servant leadership align with the principle of supportive leadership styles, which prioritise employee well-being and participation. This is supported by Wong et al. (2020), who emphasised that servant leadership practices positively influence employees' experiences and work-life balance.

However, the study also reveals a divergence from the initial hypothesis that working from home might negatively impact work-life balance. Instead, the data show that working from home can improve work-life balance, highlighting the complexity of work from home dynamics. This discrepancy echoes the insights of Rañeses et al. (2022), who noted the need to consider contextual factors such as leadership and organisational support to understand employee experiences with work from home. Furthermore, the study emphasises the significant role of servant leadership as a moderating factor, which improves the positive outcomes of work from home on employees' work-life balance.

The study also reflects the evolving nature of work from home practices and the need to adapt research frameworks to address contemporary work environments. Palumbo (2020) similarly stressed the importance of adapting research models to capture the nuances of modern work arrangements, which is supported by the findings of this study.

For organisations and policymakers, these findings emphasise the need to develop policies and initiatives that support flexible working arrangements and foster a sustainable work-life balance. Recognising the positive influence of work from home on work-life balance, as supported by Prasad & Satyaprasad (2023), can guide the creation of supportive work environments that improve employee satisfaction and productivity.

Additionally, the role of servant leadership as a moderating factor underscores the importance of leadership practices that focus on empathy, support, and collaboration. This aligns with the work of Gică et al. (2022), who highlighted the critical role of supportive leadership in work from home settings. For policymakers, the study emphasises the need to adapt regulatory frameworks to accommodate the growing prevalence of work from home. García-Salirrosas et al. (2023) also advocate for policies that support employee well-being and address the challenges of work from home, suggesting that such measures can improve organisational performance and employee engagement.

In general, this study contributes valuable information to the debate about work from home, work-life balance, and leadership dynamics. It highlights the interconnection of these factors in shaping employee experiences and organisational outcomes. By considering these findings, organisations and policymakers can foster a culture of well-being and resilience in the evolving landscape of work practices, as supported by Pensar & Rousi (2023).

## **Conclusions**

This study examined the relationship between work from home, servant leadership, and employees' work-life balance within the Malaysian public sector. Contrary to the initial hypothesis, the findings reveal that work from home positively impacts work-life balance, supporting research by Lamprinou et al. (2021) on the benefits of increased flexibility and autonomy. Furthermore, the study highlights the significant moderating role of servant leadership, which enhances the positive effects of remote work on work-life balance, aligning with Abdul Aziz et al. (2023), who emphasised the role of leadership styles in improving employee well-being.

The study contributes to the literature by providing a thorough understanding of how work from home and leadership interact to affect work-life balance, underscoring the importance of supportive leadership. To improve the generalisability of these findings, future research should involve larger and more diverse samples and investigate other leadership styles and organisational factors. Longitudinal studies could offer information on the long-term effects of remote work on employee well-being and organisational performance, as suggested by Aliasah et al. (2020). The findings support recommendations for organisations to adopt flexible work policies and practices that improve employee autonomy and well-being, consistent with Mamatha & Kumar Thoti (2023). Effective communication, continuous learning programmes, and mental health resources are crucial for maintaining engagement and performance, reflecting the insights of Gică et al. (2022), İlhan (2021) and Sharma (2021). Additionally, fostering servant leadership and implementing wellness initiatives can improve job satisfaction and work-life balance, in accordance with Palumbo (2020) and Sharkey & Caska (2020).

Future research may focus on the role of technology in remote work, cross-cultural perspectives, and long-term impacts on well-being and organisational performance. Examining different leadership styles and addressing gender-specific challenges might contribute to a more comprehensive understanding of remote work dynamics, as highlighted by Elizabeth Eniola (2023), Malik (2023), Shirmohammadi et al. (2022), Vaidya et al. (2023) and Wong et al. (2020). Implementing these recommendations and exploring these research areas can improve work-life balance and provide more detailed insight into remote work experiences and employee well-being, as noted by Sandoval-Reyes et al. (2021).

**Paper ID:** 1571061010

**Name:** Mohammad Shahril Bin Zaini, Nooraini Othman & Norfatmazura Binti Che Wil

**Paper Title:** Compulsive Pornography Behaviour and Religiosity of Malaysian Teenagers in Juvenile Rehabilitation Institution

**E-mail:** mohammadshahril@graduate.utm.my

## Introduction

The rapid innovations in information technologies, including the internet allow for faster and more accessible information to the public. Unfortunately, this is also true for malicious content which can be detrimental to society, including online pornography in which online pornography engagement has been shown to increase significantly in recent years (Lewczuk et al., 2022). Especially in this post-pandemic era, society is forced to adapt to new norms and more young generations have access to the worldwide web and can be easily exposed to pornography (Mesce et al., 2022). Various local studies in Malaysia shows that the prevalence of exposure to pornography is in the range of 70% - 90% (Goh et al., 2023; Zohor Ali et al., 2021) and Malaysia is among the top countries to surf pornographic website (Malik, 2021; Stoops, 2018). More alarming, pornography behaviour may lead to social problems and other problematic behaviours in teenagers as well as their psychological well-being (Adarsh & Sahoo, 2023; George et al., 2019; Jhe et al., 2023). In recent years, mental health issues have received the attention they deserve. Without good mental health, individuals are not able to connect, function, cope or thrive. Currently, about one in eight people in the world live with a mental disorder (World Health Organization; WHO, 2022). Mental health disorders also include behavioral disorders including impulse control disorder (Kraus et al., 2018). In recent years, compulsive sexual behaviour has been added to the International statistical classification of diseases and related health problems (11th ed.), ICD 11 and this includes problematic sexual behaviour through online media (WHO, 2021). Globally, as published in the Global Burden Disease Study 2019 it was reported that the prevalence of mental health issues in teenagers is as high as 14% according to the Institute for Health Metrics and Evaluation (2019). This is worrying as the mental health issues in teenagers will hinder individuals potential and thus decrease the potential contribution to the society and the world at large. Although the issues are prevalent for many years in Malaysia and global in nature, the number of young teenagers involved keeps on increasing. The previous measures proposed might not be as effective to cater the issue. Pornography is illegal in Malaysia with owning any kind of obscene materials is punishable (Sulistyanta et al., 2023) and there are efforts to block the distribution by blocking access to several pornography websites but this measure had proven to be ineffective by the high access from this country (Malik, 2021). Different preventive measure such as psychological or developmental approaches (Jodi et al., 2023) need to be further explored to suit the current generations. Previous studies on pornography suggested that one of the major factor teenagers was exposed to pornography is to learn about sexual behaviour (Andrie et al., 2021; Farre et al., 2020; Goh et al., 2023; Jhe et al., 2023; Setyawati et al., 2020; Sudin & Loganathan, 2022). Jodi et al. (2023) suggested Islamic-based human development approach be integrated into comprehensive sexual health education can help reduce pornography issue among teenagers which can build the internal resistance of teenagers themselves. Development of psychological internal strength through strengthening of the personality, creating awareness towards influencing factors and religiosity level among the teenagers will be able to enhance the resilience level. (Che Wil & Othman, 2021). Therefore, religiosity is something worthwhile to be examined

among teenagers with pornography behaviours, especially in the local context both in terms of protective factor against the behaviour or the behaviour having effects towards their connection with their religious values.

In the Malaysia context itself, Tan, Goh, et al. (2022) found contrasting results from Zohor Ali et al. (2021) in which the authors suggest the majority Muslim Malaysian sample in the latter research is a factor in why the degree of problematic pornography behaviour is found to be lower as compared to former research which sampled the majority Chinese Malaysian sample. In a study among Malaysian TVET students with a majority Malay Muslim sample, it was also found that samples that perceive themselves as religious have lower permissive feelings towards pornography (Sudin & Loganathan, 2022). This suggests that being Muslim reduces the frequency of pornography behaviour and this is in line with the research by Farre et al. (2020) in which it was found that in Spanish samples being a Muslim decreases the odds of using pornography. For other religions and samples, other research found that the frequency of engaging in pornography behaviour is lower in the religious sample (Grubbs, Lee, et al., 2020; Hotchkiss, 2021). Hotchkiss (2021) suggested that this happens because it is a lesser sin as compared to extramarital sexual relationships. Religious practice is negatively correlated with the frequency of engaging in pornography behaviour suggesting that moral reasons are effective inhibition towards pornography behaviour. In contrast, Klein and Cooper (2019) have shown that undergraduate samples that identify as Christian in their research showed more engagement in pornography. Other than the frequency of engagement with pornography behaviour, religiosity can affect the severity of the pornography behaviour. For example positive correlation between religiosity and severity of compulsive sexual behaviour (CSBD) disorder which includes pornography behaviour has been found (Efrati, 2023). The researcher inferred that the correlation may be due to repressed sexual desires that were brought from their religiosity. The results are also supported by other research in which although the religious sample spent less time with pornography behaviour, the religious sample exhibited higher compulsive pornography behaviour symptoms disregarding the actual time spent engaging in the behaviour (Grubbs, Lee, et al., 2020; Hotchkiss, 2021). This phenomenon can be explained by the feelings of shame and guilt that arise from engaging with pornography while being religious which may facilitate the progress of the severity of the behaviour to a compulsive level (Hotchkiss, 2021). This is speculated to happen due to the negative perception towards pornography perpetuated by religious groups (Grubbs, Lee, et al., 2020). This is supported by De Jong and Cook (2021) which found that shame is a moderating factor that causes the findings of positive correlation of religiosity and self perceived compulsive pornography behaviour. This phenomenon is called moral incongruence. These may be due to them feeling guilty and sinful as engaging in pornography is against most religion teaching in the samples. Furthermore, the teenagers that continue to engage with pornography become less religious as they get older (Alexandraki et al., 2018) probably to avoid these negative feelings due to moral incongruence.

It is important to note that religiosity could be a spectrum by the degree of faith and belief and also engagement with the religious activities. The existing research mainly utilizes self-reported religiosity on a scale and while some uses the dichotomy of "yes or no" or what religion the samples identify as. In a multicultural country like Malaysia, this is further complicated by the different religions that different individuals identify as and therefore may view pornography and sexual desires differently. For example, Tan, Goh, et al. (2022) speculated that their research found differing prevalence due to the demographic of

sample population. This shown that being Malay and Muslim, reduces frequency of pornography as it is viewed as sinful and immoral (Jodi et al., 2023). Meanwhile, Malaysian Chinese with more liberal belief and faith find pornography behaviour more permissive.

Thus it is more important to view the aspects of religiosity more openly in qualitative design research with careful open-ended questions to view the relationship between religiosity and pornography behaviour as subjectively experienced by the teenagers in Malaysia.

### **Objectives**

The objective of this research is to examine the relationship between compulsive pornography behaviour and religiosity of teenagers in a juvenile detention institution which can be a guidance towards developing pornography behaviour prevention policies. The current study focuses on teenagers' compulsive pornography behaviour and religiosity to obtain data about the common lived experiences of the participants within this aspect. Thus the objective of this research are:

- 1.To examine the influence of religiosity on pornography behaviour
- 2.To examine the influence of pornography behaviour on religiosity

### **Methods and Instruments**

This study is a qualitative research design focused on teenagers in juvenile institution's compulsive pornography behaviour and religiosity to obtain data about the common lived experiences of the participants within this aspect. The study will be descriptive and will not attempt to explain or have an in-depth understanding or the "why" of the behaviour..

The chosen site is a rehabilitation institution for juvenile delinquents. The institution houses troubled adolescents with experience in engaging with pornography (Habidin et al., 2023; Mohammad & Nooraini, 2020). The experts and caretakers such as the social worker or correctional officer who handle the teenagers were interviewed as well to get a different set of data based on secondary observation. Purposeful sampling was used where participants consisted of teenagers in the juvenile rehabilitation institution who had a history of pornography behaviour based on the recommendations from the caretaker or experts. 10 teenagers currently in a juvenile institution with a history of pornography interview were interviewed. Their age ranged from 13-19, all male, with 8 identifying as Malay and Muslim, and 2 Indian race and of Hindu religion. For the secondary observatory participant interview, 3 caretakers were interviewed, 2 of them correctional officers and one religious teacher (ustaz).

This research employed interviews with open-ended semi-structured questions. The interview sets of questions were validated by experts in psychology and counselling research to confirm the validity of the questions were relevant to the research objectives. Among the questions asked included questions about how religiosity was related to their pornography behaviour during the onset of the behaviour and how their religiosity was affected by the pornography behaviour after the behaviour started. One by one interview sessions were conducted by a registered counsellor after consents were obtained. The interviews were recorded. The verbatim from the interviews were analysed thematically. Inductive open coding was used. This research was approved by the University Technology Malaysia (UTM) Ethics Committee. (Approval no: UTMREC-2024-77).

## Results and Discussion

The themes that emerged from interviews for the influence of religiosity towards pornography behaviour are *'irrelevant'*, *'discomfort'*, *'knows sinful but no effects'* and *'easier rehabilitation'*. Meanwhile, themes that emerged for the influence of pornography behaviour towards religiosity are *'no consequences'*, *'reduced worship'* and *'reduced faith'*.

For the influence of religiosity on pornography behaviour among 10 teenagers interviewed, 6 of them shared that their religiosity was *irrelevant* or has no effect towards pornography behaviour. They shared that their amount of worship and strength of faith did not reduce or increase the frequency of them engaging in pornography behaviour and did not also alter their emotional state while or directly after engaging pornography. This was also agreed universally by all 3 caretakers interviewed. For example; P1 mentioned *"only now (there's regret). At the time any regret etc is not there. Then when came in here, I don't regret getting inside..."* Similarly P5 shared *"no I don't think so (there any relationship between pornography behaviour and religiosity)"*. Similarly, E1 shared that *"In my opinion, in this world there are only two things that cannot be how to say, change or difficult to change or can relate it to religiosity. What is the cause? One sexual, two drugs. It does not matter who you are, poor or rich, high religiosity or low, because of these two things, they can lose. They will still do it"*.

Other than that, 4 of the participants shared that due to religiosity, they experienced *discomfort* because of pornography behaviour. They feel regret and sinful. For example P4 said *"it is like we are muslim, but we still do things that are prohibited. Like that I felt some regret"*.

3 of the participants shared that they *know sinful/wrong but does not affect pornography behaviour*. P7 shared, *"I know it sinful, but when I am bored, I do it anyways"* Similarly a Hindu teenager, P8 shared *"it is a sin, but I don't care"*.

Additionally, although the religious teacher agreed that religiosity does not reduce or prevent pornography behaviour, the religiosity allows *easier rehabilitation*. He shared *"The difference is obvious, between those with high religiosity and low religiosity. Like I said earlier, they will still do it. But the difference is for those who have understanding of religion and those without is, the ones who understand religion, when we give advice, they will start to change, because they understand. While the other one, what we say will go in one ear and out of the other"*

Meanwhile for the influence of pornography behaviour towards religiosity, half (5) of the participants shared that there are *no consequences* or they noticed no changes in their religiosity after pornography behaviour. For example, P3 further elaborated, *"After doing that (engaging in pornography), settled(satisfied)... I would go out, do prayers etc. Even though I do watch and do that, I still do my prayers. And thought about it, do it again. And still, go out, do my prayers."*

There are also shared experiences of *reduced worship* where 3 of them shared that their act of worship had lessened since they started engaging in pornography behaviour. For example, P1 shared that *"prayers becoming less, not reciting the Quran, something like that"*.



*Reduced worship* is also a theme that emerged. P4 shared that he became less interested in his religion. He shared, *'Well before I watched, I was starting to learn more about religion, but afterwards I feel like I got further away.'*

The findings in this study show that there are little direct relationship between religiosity and pornography behaviour for teenagers in the juvenile rehabilitation institution. Although as discussed before in other research, religion have contrasting correlation in the frequency of engaging in pornography (Farre et al., 2020; Grubbs, Lee, et al., 2020; Hotchkiss, 2021; Klein & Cooper, 2019; Sudin & Loganathan, 2022; Tan, Goh, et al., 2022; Zohor Ali et al., 2021) the results were found in quantitative studies. This means the correlation between pornography behaviour and religiosity found in those research were not causation or direct relation and may be explained by other factors such as social factors (Gallagher & Tierney, 2013)

Similar findings were found where religiosity brings discomfort to teenagers with pornography behaviour. Pornography behaviour concerning religiosity brings shame and moral incongruence (De Jong & Cook, 2021; Grubbs & Kraus, 2021; Hotchkiss, 2021). This is brought upon by negative perception towards pornography by religious group (Grubbs, Lee, et al., 2020). It is also viewed as sinful and immoral in Islam (Jodi et al., 2023). Although religiosity has shown no direct influence on pornography behaviour, pornography behaviour may reduce their religiosity.

The findings from this research mean that religion may not be the most directly effective preventive factor against pornography behaviour. However, a religion-based human development approach integrated into prevention and intervention means is still worth exploring to reduce pornography issues among teenagers (Jodi et al., 2023) as developing teenagers' personalities through religion helps enhance resilience levels which will help them make better choices (Che Wil & Othman, 2021).

This research findings add to the limited body of knowledge about pornography in which the previous research is done quantitatively and in a cross-sectional design to get a reliable correlation and generalizability, but unable to prove cause and effect relationships. (Bothe et al., 2021; De Jong & Cook, 2021; Dwulit & Rzymiski, 2019b; Efrati, 2023; Farre et al., 2020; George et al., 2019; Goh et al., 2023; Grubbs & Kraus, 2021). This research presents the subjective experience of participants about religiosity and pornography. This research can also be a precursor for more research in this topic in the future.

The findings may help develop a more efficient preventive measure and intervention to be planned by the stakeholders. Adopting a religious-based intervention and prevention may be helpful, but focusing on the morals of pornography regarding religion is not the right focus and perhaps focusing on the personality development and social aspects of religion in this program could be more effective (Setyawati et al., 2020).

Finally, the findings in this research have limitations. The limited sample makes these research findings not generalizable to the teenagers population in Malaysia. However, this research could help in guiding further research in this field in the future.

**Conclusion**

The findings of this research show that there is not much influence between religiosity and pornography behaviour and vice versa in teenagers currently in juvenile rehabilitation institutions. However, incorporating religion in preventive and intervention measures could still be helpful by focusing more on the personality development and social aspects instead of the moral aspects of religion. Although this research is not generalizable to the entire teenage population in Malaysia, the insights from the findings of this research could potentially generate more research in this field in the future and serve as a guide for preventive and intervention programmes by stakeholders.

**Acknowledgement**

Funded by UTM Fundamental Research Grant (Vot No: 22H28)

**Paper ID:** 1571042828

**Name:** Muhammad Nurjihadi & Othman Ibrahim

**Paper Title:** The Role of Education on Digital Payment Acceptance Among Agricultural Society in Indonesia

**E-mail:** muhammadnurjihadi@graduate.utm.my

## **Introduction**

Digital payment systems are developing rapidly across the globe, transforming how transactions are conducted in various sectors. In Indonesia, the digital payment ecosystem has shown significant growth and development, supported by government initiatives, technological advancements, and increasing internet penetration (World Bank, 2022). This ecosystem provides an opportunity for various sectors, including agriculture, to enhance their operational efficiency and financial inclusion.

Agriculture remains a cornerstone of the Indonesian economy, employing a substantial portion of the population and contributing significantly to GDP (World Bank, 2023). However, the sector is also characterized by high levels of poverty, with many farmers struggling to achieve financial stability (BPS, 2023). Addressing this challenge requires innovative approaches that can enhance productivity and improve the livelihoods of farmers.

Education is widely recognized as a powerful tool for breaking the cycle of poverty. It equips individuals with the knowledge and skills necessary to adapt to changing economic landscapes and leverage new technologies (Alnoor *et al.*, 2022). In the context of agriculture, education can play a crucial role in enabling farmers to adopt modern practices and technologies, including digital payment systems.

Digital payment adoption among farmers can lead to several benefits, such as improved efficiency in transactions, better access to financial services, and enhanced ability to participate in broader economic activities (APEC, 2017). However, the extent to which farmers embrace digital payments can be influenced by various factors, including their level of education.

This research is based on the Technology Acceptance Model (TAM), which provides a robust framework for understanding how users come to accept and use a technology. According to TAM, perceived usefulness and perceived ease of use are primary factors influencing an individual's decision to adopt a new technology. In this study, higher education is considered a moderating variable that may influence the relationship between these factors and the acceptance of digital payment systems among farmers.

## **Objective**

The objective of this research is to investigate the role of higher education in influencing the acceptance and use of digital payment systems among farmers in Indonesia. Specifically, the study aims to:

3. Examine the impact of perceived usefulness and perceived ease of use on digital payment acceptance among Indonesian farmers.

4. Assess how higher education moderates the relationship between these TAM factors (perceived usefulness and perceived ease of use) and the acceptance of digital payments.

## **Methods and Instruments**

This research employs a survey-based methodology targeting farmers who have experience using digital payment systems. The study focuses on understanding the factors influencing their acceptance and use of these systems.

### **1. Population and Sampling:**

- a. The population for this study consists of farmers across various regions in Indonesia who have experience using digital payment systems.
- b. A self-registration sampling method was used to recruit respondents. Farmers were invited to participate in the survey through various channels.
- c. A total of 396 farmers from different regions of Indonesia participated in the survey, providing a diverse and representative sample.

### **2. Instrument Development:**

- a. The survey instrument was developed based on a thorough review of relevant literature to ensure it adequately captures the constructs of interest, such as perceived usefulness, perceived ease of use, and education level.
- b. The instrument was validated by a panel of experts to ensure its content validity and reliability.

### **5. Data Collection:**

1. The survey was distributed online using Allcounted.com, a platform that facilitates data collection and management.
2. Enumerators were employed in certain regions to assist with data collection, ensuring that farmers with limited internet access or digital literacy could also participate.

### **6. Data Analysis:**

1. The collected data were analyzed using Structural Equation Modelling (SEM) with the SmartPLS application. SEM allows for the examination of complex relationships between variables and the assessment of the moderating effects of higher education on digital payment acceptance.
2. The analysis focused on testing the hypothesized relationships derived from the Technology Acceptance Model and evaluating the moderating role of education.

## **Results and Discussion**

To ensure the robustness of our findings, we conducted tests for convergent validity and reliability on our measurement instruments. Cronbach's Alpha (CA) assessed internal

consistency, showing values above 0.7, indicating reliable measurement. Composite reliability (CR), also exceeding 0.7, provided a more precise reliability estimate by considering item loadings. Average variance extracted (AVE) values, all above 0.5, confirmed strong convergent validity, indicating that constructs explain more than 50% of item variance. Additionally, all items showed outer loadings greater than 0.7, reinforcing their strong representation within their respective constructs (Hair *et al.*, 2014).

Table 1. Model validity and reliability

		Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Perceived Usefulness	PU1	0.929	0.946	0.959	0.824
	PU2	0.929			
	PU3	0.880			
	PU4	0.868			
	PU5	0.930			
Perceived Ease of Use	PEOU1	0.900	0.926	0.953	0.871
	PEOU2	0.949			
	PEOU3	0.950			
Behavioral Intention	BI1	0.911	0.943	0.957	0.815
	BI2	0.906			
	BI3	0.920			
	BI4	0.911			
	BI5	0.864			
Actual Usage	AU1	0.907	0.909	0.937	0.787
	AU2	0.917			
	AU3	0.888			
	AU4	0.834			

All items in the questionnaires had the outer loading value of more than 0.8, indicating its strong representation of each construct. Cronbach Alpha and Composite Reliability value of all constructs are more than 0.7, indicating the model's reliability. In addition, the AVE value of all constructs are more than 0,5, indicating strong convergent validity.

Table 2. Fornier-Lurcker Criterion

	Perceived Usefulness	Perceived Ease of Use	Behavioral Intention	Actual Usage
<b>Perceived Usefulness</b>	<b>0.908</b>			
<b>Perceived Ease of Use</b>	0.812	<b>0.933</b>		
<b>Behavioral Intention</b>	0.814	0.844	<b>0.903</b>	
<b>Actual Usage</b>	0.555	0.596	0.616	<b>0.887</b>

All of the cross value among selected constructs are higher than its cross value with other constructs, indicating strong discriminant validity of the model.

Table 3. Bootstrapping result

	Secondary Education		Higher Education	
	Path Coefficient	P Values	Path Coefficient	P Values
<b>PU--&gt;BI</b>	0.560	<b>0.000</b>	0.188	<b>0.096</b>
<b>PEOU --&gt; BI</b>	0.336	<b>0.001</b>	0.678	<b>0.000</b>
<b>BI --&gt; AU</b>	0.700	<b>0.000</b>	0.496	<b>0.000</b>

All relationship of the model were significant among famers with secondary education (P value > 0.05), while the relationship between Perceived usefulness and behavioral intention among farmers were not significant in the higher educated farmers with p value of (o.096 > 0.05). farmers with higher education concerns more about Perceived ease of use compare to those farmers with secondary education. This result also confirmed using Multigroup analysis:

Table 4. Multigroup analysis result

	Path Coefficient	p-Value
<b>PU--&gt;BI</b>	0.372	<b>0.016</b>
<b>PEOU --&gt; BI</b>	-0.341	<b>0.031</b>
<b>BI --&gt; AU</b>	0.204	<b>0.033</b>

There were significant differences in all relationship between farmers with secondary education and farmers who obtained higher education degree. The effect of PU on BI and the effect of BI on AU were higher in farmers with secondary education while the effect of PEOU on BI was higher among farmers that hold higher education.

Table 5. R square value

	R Square	R Square Adjusted
<b>Behavioral Intention</b>	0.761	0.760
<b>Actual Usage</b>	0.380	0.378

The R-square value of 0.76 in the BI constructs indicates the high contribution of constructs in this model to explain the issue. This result confirms that TAM is indeed a powerful and strong model to predict people behavior toward accepting digital payment innovation. In addition, the R-Square value of 0.378 on the AU construct indicates its medium strength and that other variables are more crucial in explaining the farmers actual use of digital payment.

### **Conclusion/Implications for Research/Policy**

The study confirms that there were significant differences of the digital payment acceptance between farmers who hold higher education degree and those who only received secondary education. However, the effect of overall relationship in the model was higher among farmers with secondary education. Farmers with higher education was only more concern on the relationship between perceived ease of use and behavioral intention. The implication of this result signifies that in the context of encouraging digital payment adoption among agricultural society, higher education is not necessary. However, this does not mean that higher education is not important to improve farmers overall skill, network and quality of life. Further research is needed to elaborate this issue more specially to understand how education plays its role in society, especially in the context of adopting and spreading new innovations.

**Paper ID:** 1571047681

**Name:** Farrah Aminuddin & Fifi Nurfatihah Md Sani

**Paper Title:** The Architecture, Engineering and Construction (AEC) Companies' Preferences on Digital Literacy Among Fresh Graduates

**E-mail:** farrahazwanee@utm.my

## 1. Introduction

The Architecture, Engineering, and Construction (AEC) services sector provides a wide range of services related to the planning and building of commercial and residential projects that use design and construction professionals in the planning and implementation of a project. This industry actively uses ICT (information, communication, and technology). Additionally, this industry is extremely competitive on a global scale (Gerrard et al., 2010). A relatively recent idea, digital literacy first surfaced in the 1990s during the height of the internet revolution. Prior to that, "computer literacy" was a term that was used more often. However, the phrase "digital literacy" was originally used in 1997 by historian and educator Paul Gilster (1997), who contended that it encompassed more than just technological proficiency. He defined it as the capacity to apply data from a range of digital sources and how people interact with information. Considering how quickly digital technology is developing, there is need to apply an increasing range of technical, cognitive, and sociological abilities to complete tasks and find solutions in digital settings. However, believe it or not, in this social media era, the capability to fully utilize digital opportunities in construction industry is restricted by the low level of digital literacy among construction workers (Siddiqui et al., 2022). This criterion has been characterized as challenging to satisfy. BIM, AI and IoT are examples of progressive tools that offer ways to accomplish project goals efficiently (Mesároš, 2018). These technologies are all closely linked to an individual's level of digital literacy. Nowadays, digital platforms are essential in almost every field of work. As a result, in order for the industry to maximize its benefits, workers must possess digital literacy to carry out these tasks, the same case for graduates since it is possible that these literacies are expected from them as well.

## 2. Objective

This project will tackle the issue of AEC industry being left behind among other major sectors in implementing the digital literacy vastly into the field. Also, the research will convey the AEC companies' digital literacy preference among the graduates so, this research hopefully can make use of the findings to make graduates preparing themselves before entering the industry. The employer's standpoint will also inform the strategies to improve the digital literacy of graduates as well, so they should taking notes of the suggested ideas and make every effort to raise their level of digital literacy.

The research's objectives are better expressed through the use of research questions. They help in defining its objectives and particular concerns that this research aims to address. The following research questions were brought up in response to the research's findings:

2. What are AEC companies' preference for digital literacy among AEC graduates?
3. What are the strategies in enhancing digital literacy among AEC graduates?



To be specific, the two (2) research objectives that needed to be met in order to achieve research aim are as below.

- a) To determine the AEC companies' preferences for digital literacy among AEC graduates.
- b) To identify strategies in enhancing digital literacy among AEC graduates.

### 3. Methodology

The research methodology is used to direct the study process and result in a conclusion that meets the objectives of the study. Below is the summary of the research process applied in this study:

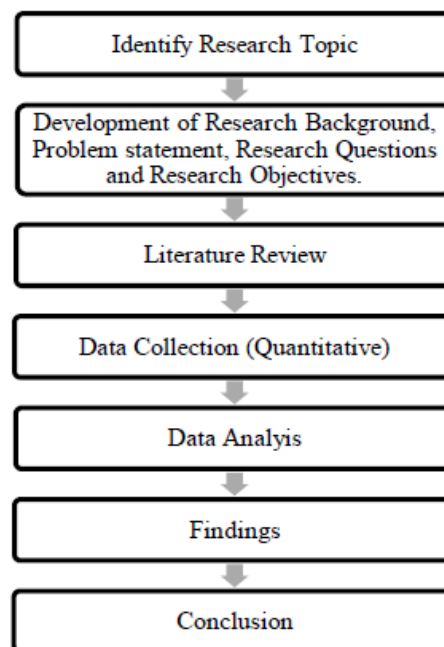


Figure Error! No text of specified style in document..1 Flow of Research Methodology

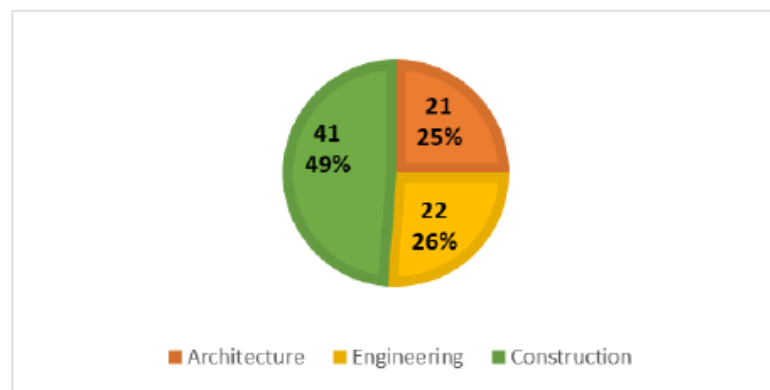
The research methodology that the researcher use in this study is the quantitative analysis which involve the distribution of questionnaire survey form as the medium of data collection. The targeted respondents are individuals in the AEC companies. The method for data analysis used is descriptive statistical analysis, including the Relative Importance Index (RII), likert scale and mean analysis. The research approach is as displayed in the table below:

Table 1.1 Research Approach

Research Objectives	Research Approach	Respondents	Necessary Data	Data Analysis
<b>RO1: To determine the AEC companies' preferences for digital literacy among AEC graduates.</b>	Quantitative: Questionnaire (Likert Scale)	AEC personnel who has the experience with technology.	Primary Data: AEC companies preferences for literacy among AEC graduates.	Descriptive Statistics Analysis (Relative Importance Index).

<b>RO2: To identify strategies in enhancing digital literacy among AEC graduates.</b>	Quantitative: Questionnaire (Likert Scale)	AEC personnel who has the experience with technology.	Primary Data: Strategies in enhancing digital literacy among AEC graduates.	Descriptive Statistics Analysis (Mean Analysis).
---	--	---	---	--

#### 4. Results and Discussion



The three (3) targeted groups in this research are Architects, Engineers and Contractors. The chart shows, 49% of the respondents are from the Construction companies, 26% from the Engineering companies while 25% from the Architecture companies. However, 1 set of survey was excluded from the data analysis due to the fact that the respondent had no experience in using any of the technologies. Hence, the total of acceptable responses is 83 sets of questionnaire.

##### 4.1 Objective 1 - AEC Companies' Preferences for Digital Literacy among AEC

## Graduates

Table 1.4 below portrays the ranking of competence area for digital literacy. The average RII value from the architecture, engineering and construction companies are identified and ranked.

Table 1.4 Ranking of Average RII Value of the Competence Area

Competence Area	Average RII	Importance Classification	Rank
Information and Data Literacy	0.815	High	1
Communication and Collaboration	0.769	Medium-High	4
Critical Thinking and Problem Solving	0.780	Medium-High	3
Adaptability and Continuous Learning	0.801	High	2

Based on table 1.4 above, it shows that Information and Data Literacy has the highest average RII of 0.815 followed by Adaptability and Continuous Learning with 0.801 average RII. Both of these competence area have High importance classification. While Critical Thinking and Problem Solving is at Medium-High classification with 0.780 average RII together with Communication and Collaboration with 0.769 average RII also at Medium-High importance classification. This shows that AEC companies have a high preference on graduates who master digital information and data literacy as well as someone who have high technology adaptability level and willing to learn continuously because both have High importance classification. While graduates who is professional in communication and collaboration in the digital context with critical mindset to solve problems are still important but not as much as the formers because both have Medium-High level of importance.

## 4.2 Objective 2 - Strategies in enhancing digital literacy among AEC graduates

Table 1.5 displays the average total mean of each strategies to enhance AEC graduates' digital literacy. The average total mean from the architecture, engineering and construction companies are identified and ranked.

Table 1.5 Ranking of Average Total Mean of the Strategies

Strategies to Enhance Graduates Digital Literacy	Average Total Mean	Rank
Company Participation	4.184	2
Specialised Digital Literacy Course	3.990	4
Internship and Industry Collaboration	4.060	3
Create Digital Environment	4.186	1

Digital Literacy Competition	3.950	5
------------------------------	-------	---

According to the table 1.5 above, Create Digital Environment strategy has the highest average total mean at 4.186 while Company Participation is a very close second place with 4.184 average total mean. The ranking continues with Internship and Industry Collaboration (4.060), Specialised Digital Literacy Course (3.990) and lastly, the strategy of Create Digital Environment with 3.950 total average mean. Thus, the data collected convey that the respondents that representing AEC companies, agree the most with providing a comfortable environment is crucial for graduates to enhance digital literacy while having a conflictive opinion about participating in digital competition for graduates to improve their digital skills.

## 5. Conclusion

Two research objectives were fulfilled successfully through this study. These will be discussed in the subsection that follows. The 2 main objectives of this study from the start are firstly, to determine the AEC companies' preferences for digital literacy among AEC graduates and secondly, to identify strategies in enhancing digital literacy among AEC graduates.

This research has determine the preferences for digital literacy among AEC graduates based on the digital literacy competence area. The analysis of the data collected shows that AEC companies' prefer graduates who master digital information and data literacy. This competence area helps individuals and organizations to make better informed decisions based on data. It is not surprising for companies to look out for this competence area among AEC graduates because it is particularly relevant in the AEC sector, where data-driven decisions have a big influence on the performance of a project.

Other than that, this study also identified the most effective strategies to enhance AEC graduates' digital literacy according to the respondents involved which is by creating digital environment. Having access to these technology enables graduates to try new things, think outside the box, and master instruments they will use in the future workplace.

**Paper ID:** 1571060622

**Name:** Aimi Musa, Nurul Naziha Ismail & Othman Zainon

**Paper Title:** The Accuracy of Qibla Direction Applications Used by the Public

**E-mail:** aimi.musa@utm.my

## **Introduction**

The Qibla, the direction in which Muslims turn while praying, is towards the Kaaba in Mecca and represents the oneness in the Muslim community. Theoretically, the Qibla direction is defined as the intersection point between the circle of the horizon and the great circle passing in the direction of our zenith and Kaaba in Mecca. It is technically a geodetic azimuth of the shortest distance connecting the Kaaba to anywhere on the Earth's surface (Hirt et al., 2011). The importance of facing the Qibla is explained in the Qur'an in Surah Al-Baqarah, 2:(149). Defining this direction is easier for Muslims in Mecca, while it is challenging for Muslims in other parts of the world. There are many ways to determine the Qibla, including the conventional method of observing the position of the sun and the advanced techniques of using a mobile application. Nonetheless, accuracy is still important as pointed out by researchers and even religious institutions such as the Malacca State Fatwa Committee. They agreed that an error of up to 3 degrees is acceptable, stressing that the determination of the Qibla is a matter of ijtihad and not a strict fatwa.

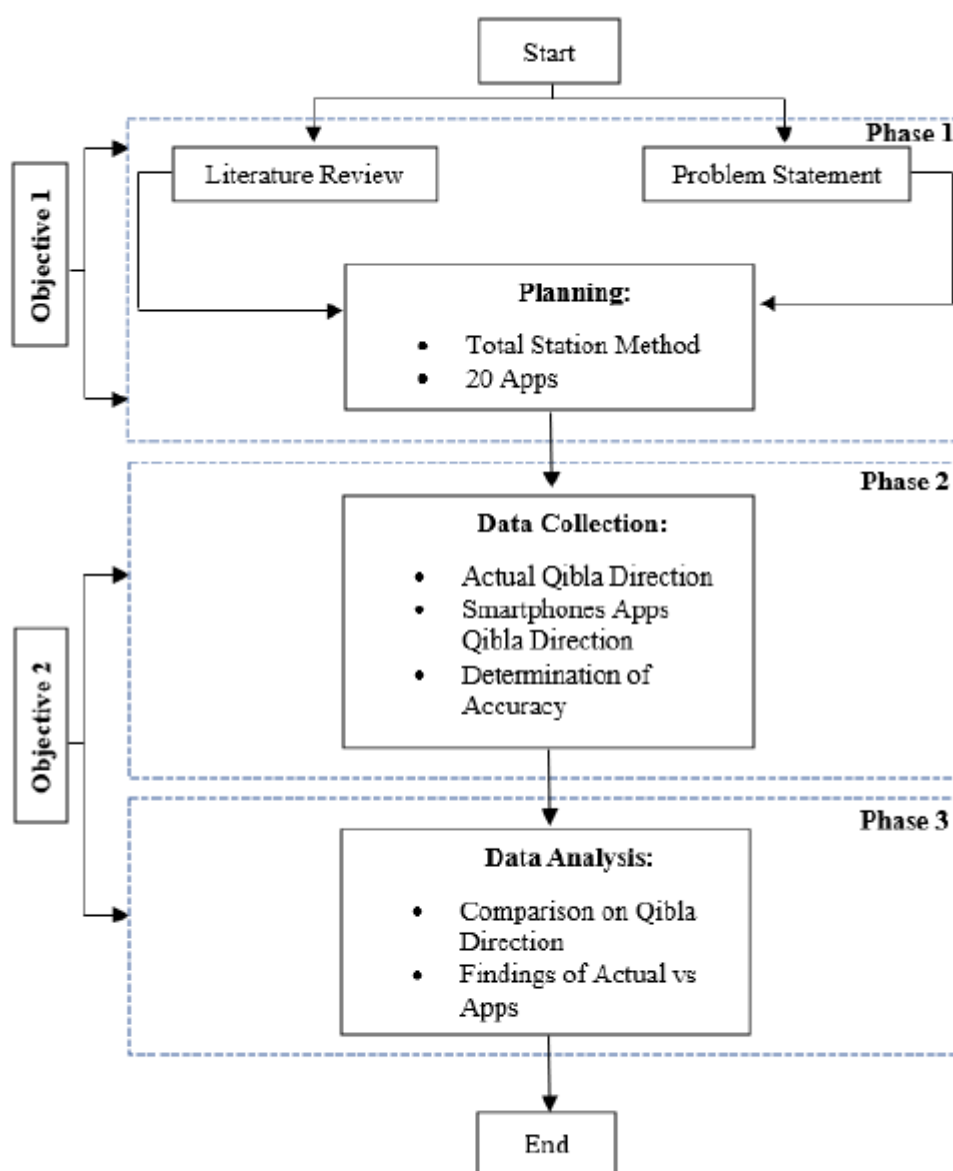
The combination of advanced technology with religious beliefs has made the determination of the Qibla direction on smartphones important to Muslims globally. However, due to some incidences and criticism made by scholars and religious bodies such as Persatuan Falak Syarie Malaysia, there is doubt concerning the reliability of this method. These applications usually incorporate compass sensors, which are sensitive to magnetic interferences and could be inaccurate. This is because the Muslim community is not very knowledgeable about the use of technology to address its problems, let alone to use these technologies appropriately. Qibla direction applications on iOS devices face challenges related to accuracy, particularly in determining the precise direction of the Kaaba for prayers (Niri et al., 2023). Some of these apps use Augmented Reality technology or solar guidance, but accuracy is always an issue which affects the satisfaction level of the users and their spiritual practice. It is important to note that the reliability of Qibla direction applications is essential to sustaining the faith and blending the religious orientation with the technology of the current world.

## **Objective**

This study aims to determine the accuracy of Qibla direction applications that are easily accessed by the public. The study has two primary objectives, first, to analyze the reliability of twenty different Qibla direction applications from Android and iOS operating systems using the theodolite method, a surveying instrument used for measuring angles. Secondly, the study seeks to compare the differences in the degree values between the actual Qibla direction observed through the theodolite and the Qibla directions indicated by the applications. By comparing the results, it will be possible to determine any deviations and, in general, evaluate the effectiveness and credibility of these popular smartphone applications for religious activities.

## Methods and Instruments

There are two techniques for finding the actual direction of the Qibla for Muslims, which are conventional and contemporary. This section will explain in detail how to determine the direction of the Qibla using the modern approach that uses the total station tool. The methodology is simplified through a flowchart, which outlines a structured research process focused on comparing the Qibla direction as determined by actual methods versus smartphone apps. The methodology of this study is divided into three phases, as shown in Figure 1.



**Figure 1** Flowchart of Methodology of the Study

### **Phase 1: Planning**

The planning process starts with a systematic literature review to identify previous work, methodological approaches, and outcomes in determining the Qibla direction. This

preliminary step aids in defining areas that may not be well understood and sets up the framework for the research. Subsequently, a problem statement is developed to clearly define the research question or problem this study seeks to solve. The planning phase also outlines the specific methods to be used in the study, using the total station method to determine the Qibla direction accurately and choosing twenty smartphone applications for comparison. This phase lays down the framework for the research by forming a plan on how the study will be conducted systematically and organized to prepare for the other phases to follow.

### ***Phase 2: Data Collection***

In the data collection phase, the Qibla direction is measured using the total station method, a highly accurate surveying technique. Simultaneously, the Qibla direction shown by each of the twenty chosen smartphone applications is documented. This phase is essential as it involves collecting data to evaluate the effectiveness of the smartphone apps. The data from both the actual method and the apps are compared and analysed to establish the apps' accuracy in directing the Qibla. Through this systematic data collection, the study can draw a solid comparison between the correct Qibla direction and those offered by the apps.

### ***Phase 3: Data Analysis***

The last step is to evaluate the data gathered and compare the Qibla directions computed by the actual method with those from the smartphone applications. This analysis assesses the degree of deviation and inaccuracy of the apps. This phase provides a comprehensive comparison that will be undertaken across three distinct categories, the total station method versus Android applications, the total station method versus iOS applications, and Android applications versus iOS applications. The findings of this study will reveal which of the applications give acceptable directions in terms of the actual Qibla direction and, therefore, provide helpful information to those who require accurate apps for their religious practices. This phase is the final step of the research process in which all the information gathered is analyzed and summarized in conclusion and recommendations.

### **Results and Discussion**

This section of the study embarks on the crucial process of data analysis to extract meaningful insights from the collected information. The focus is on comprehensively examining the results obtained from both the total station method and the diverse Qibla direction applications. This analytical exploration will contribute to a nuanced understanding of the accuracy and reliability of Qibla direction applications, shedding light on their performance in relation to the established total station method. Tables 1 through 3 show the outcomes of the comparison of three different categories.

**Table 1** Comparison of the actual value of Qibla direction and Android versus iOS apps

Name of Applications	Actual	Android	iOS
A		292°	292°
B		292°	292°
C		295°	295°
D	292°	292°	292°
E		295°	295°
F		292°	292°
G		292°	292°
H		295°	295°
I		295°	295°
J		295°	295°

Table 1 shows the results of the comparative analysis, showcasing the actual value of Qibla direction in degrees determined through the precise total station method alongside the Qibla direction values obtained from selected Android and iOS applications. Most analyzed applications, such as A, B, D, F, and G, show a high level of accuracy, and the direction was virtually the same on both platforms. However, the angles of C, E, H, I and J all display a consistent discrepancy, indicating 295 degrees in Android and iOS systems, which is 3 degrees off from the actual Qibla direction. This suggests that the discrepancy is due to the applications themselves, not the platforms. Users should be aware of these discrepancies and may need to verify the Qibla direction with multiple sources, particularly when using C, E, H, I and J.

**Table 2** Comparison of the actual value of Qibla direction and Android apps

Name of Applications	Actual	Android
K		292°
L		292°
M	292°	292°
N		292°
O		292°

Table 2 presents a summary of observed Qibla direction readings from only the Android applications with the actual Qibla direction of 292 degrees. All the applications mentioned here, K, L, M, N and O give the correct Qibla direction equal to 292 degrees, which is a figure obtained by the use of the total station method. This shows a fairly high level of accuracy and these Android applications would be deemed to be very dependable in proving the right Qibla direction. The high correlation shown in these applications further emphasizes the usefulness and efficiency of these applications for Muslims who are in a dilemma on which direction to pray.



**Table 3** Comparison of the actual value of Qibla direction and iOS apps

Name of Applications	Actual	iOS
P		292°
Q		292°
R	292°	292°
S		292°
T		292°

Table 3 shows the degree values of the Qibla direction from only iOS applications with the actual Qibla direction of 292 degrees. All the shown compasses of all five applications, P, Q, R, S and T correctly depict the actual Qibla direction, reflecting the value of 292 degrees. This shows the high accuracy of all the tested iOS applications to ensure high integrity. In light of this, users of these applications can have faith that the direction to the Qibla being indicated is accurate. The variations observed in these iOS applications show that the techniques are correct and that the developers can calculate the Qibla direction well using proper algorithms and data sets. In general, the study indicates the reliability and accuracy of the Qibla direction from these iOS applications in terms of degree values.

### **Conclusion/Implications for Research/Policy**

The findings of this study circulate on the accuracy and reliability of Qibla direction applications used by the public, highlighting their significance in the Muslim community. Concerning the Qibla direction, this study found that the majority of both Android and iOS applications offer correct information, including A to G and K to T which indicates that Qibla direction at 292 degrees. Despite this, five applications, namely C, D, H, I and J, exhibited a 295-degree divergence from true north, which would require algorithm adjustments. In conclusion, most applications across both platforms were reliable and displayed the correct Qibla direction, signifying the utilization of advanced technology to fulfil religious practices.

**Paper ID:** 1571061977

**Name:** Ratna Azis Prasetyo, Rahma Sugihartati, Irfan Wahyudi & Nur Syamsiyah

**Paper Title:** Digital Surveillance of Online Shopping Fraud Victims Through the Facebook Community

**E-mail:** ratna.azis.prasetyo@fisip.unair.ac.id

## **Introduction**

Online shopping fraud has become a major problem in many countries and has victimized millions of people, including in Indonesia. The development of social media into social commerce such as Facebook has created new criminal opportunities in society, but many cases have received little attention. Indonesia has a consumer protection law, but many victims of online shopping fraud do not receive compensation for their losses and face difficulties in settlement.

On the other hand, Facebook, as a social media platform, also facilitates victims' self-reporting and monitoring of online shopping fraud crimes. Although some feel that they cannot do anything, some victims try to conduct digital surveillance through the "Waspada Penipuan Online Terbaru" community on Facebook. The community is one of many online fraud complaint communities on Facebook. This community is a place for victims to interact with each other, share information about online scams that they have experienced, and call for caution against online shopping scams.

## **Objective**

This study aims to provide novelty by focusing on the community surveillance activities of online fraud victims against online fraud, and how they experience backlash (being watched) by criminals who are also in the community by using Deleuze's (1992) control society framework. This study is important because it aims to contribute to the discussion of digital crime surveillance that focuses on Facebook, namely the "Waspada Penipuan Online Terbaru" community, and provide solutions for handling online fraud crimes.

## **Methods and Instruments**

This research uses the virtual ethnography method. The data collection process was carried out by observing the "Waspada Penipuan Online Terbaru" on Facebook. Researchers involved themselves directly by representing themselves as victims of online shopping fraud in the community. Participant observation activities carried out by researchers include observation of digital texts that show surveillance through the activities of production, reproduction, and circulation of digital texts. After collecting the data, the next step is to analyze the data using the textual analysis method. Textual analysis is carried out in the following ways: First, researchers determine the problem under study and familiarise themselves with the context of the text source. Secondly, collecting data from observations of digital texts related to research questions establishes certain themes and frames that shape what texts are collected and studied. Third, coding is done reflectively and continuously.

## **Results and Discussion**

### **Digital Surveillance by Victims**

Facebook was chosen as the social setting not only based on the large number of Facebook users, but this application is community-based. Facebook users form communities for victims of online shopping scams that mostly occur on social commerce and conduct surveillance activities together.

The "Waspada Penipuan Online Terbaru" community which has 30,972 members. Experience-sharing activities carried out by members of the community are in the form of sharing stories of fraud cases they have experienced by providing evidence such as screenshots so that the mode and chronology of online shopping fraud experienced can be known. Some members also criticize the government and invite other members to create pro accounts so that online shopping fraud cases get the attention of the government.

From the various modes of online shopping fraud reported by victims, it is known that online shopping fraud cases are not simple cases. It can be seen from the material losses suffered by the victims. Some of them suffered quite large losses. The victims who suffered large losses were those who bought new and used electronic needs through Facebook such as washing machines, refrigerators, motorbikes, and other types of purchases such as game accounts, to concert tickets.

### **Digital Surveillance of Victims**

The researcher used the term counter-attack to describe the reality that not all members of the "Waspada Penipuan Online Terbaru" community are victims of fraud. In the community, the researcher found that some of them are scammers who monitor scam victims to be scammed again. Although the number cannot be verified, from sharing experiences in the community they tell how they were deceived for the second time because they have shared their experiences in the community.

The reality is that victims of online shopping fraud when conducting online surveillance activities, are also being watched by criminals in the community. Deleuze calls this the Dividual reality. The Dividual is a database construction, derived from rich and textured information on a range of individuals that can be recombined in unlimited ways for any purpose including crime. The victims of online shopping scams are digital abstract products of data mining technologies and professional search and archiving engines by computers, and they are digital targets profiled by advertisements. Likewise, when the database is mined for information about the victims' buying habits, leisure habits, reading habits, communication habits, and so on, the victims become divided. All informational aspects of the victim's life are turned into information, data banks, and digital samples that can be used for any purpose including fraud crimes.

### **Conclusion**

In a society of control, individuals are simultaneously individuals where in addition to supervising they are also being supervised. Surveillance efforts such as sharing stories as victims in the community become data for criminals to manipulate victims' desires with other crime modes that make victims deceived again. In this case, this research suggests the need for synergy in controlling online shopping fraud crimes. Government regulations related to consumer protection need to be adjusted to the context of digital trade. In addition, at the community level, it is necessary to campaign and increase literacy about the modes of online shopping fraud and advise them to shop on sites that are considered safer such as e-commerce and official stores, although this also does not guarantee security, the risk of online shopping fraud is smaller than with social commerce.

**Keywords:** *digital surveillance, online shopping fraud, virtual community, society of control SDGs Cybercrime*

**Paper ID:** 1571062289

**Name:** Muhammad Nurjihadi, Othman Ibrahim & Sahat M Pasaribu

**Paper Title:** Does University Education Matters in Farmers Resistance Toward Digital Payment? A Multigroup Analysis

**E-mail:** muhammadnurjihadi@graduate.utm.my

## **Introduction**

Agriculture plays a crucial role in the economic and social fabric of Indonesia (World Bank, 2022), with approximately 30% of the nation's workforce engaged in farming activities (BPS, 2023). The sector, however, faces challenges in productivity and efficiency that are increasingly being addressed through digital advancements, including the use of digital payment systems. The integration of digital payments in agriculture promises to streamline transactions, reduce costs, and improve access to markets and financial services (APEC, 2017). Yet, the adoption of such technologies by farmers is not without resistance.

Resistance to digital payment systems among farmers can be attributed to various factors, including perceived risks, incompatibility with social norm and current practices, lack of perceived benefit and the complexity of new technology. The Innovation Resistance Theory (IRT) provides a framework for understanding these challenges, suggesting that individuals resist adopting innovations due to perceived threats to their established routines and values (Tansuhaj *et al.*, 1991). Previous research using IRT has identified factors such as usage barriers, value barriers, risk barriers, tradition barriers, and image barriers as significant determinants of resistance in various contexts, including digital payment systems (Sivathanu, 2017; Kaur *et al.*, 2020).

However, there is a dearth of studies examining the role of educational background in shaping this resistance, particularly in the agricultural sector. University education, with its emphasis on critical thinking, problem-solving, and exposure to technological advancements, may play a pivotal role in reducing resistance to digital innovations among farmers. Educated farmers are potentially more receptive to the benefits of digital payment systems, better equipped to navigate their complexities, and more likely to influence their peers in adopting such technologies (Weir and Knight, 2004). The current research seeks to fill this gap by exploring whether university education matters in farmers' resistance toward digital payment systems. By conducting a multigroup analysis in the Indonesian context, this study aims to provide empirical evidence on the impact of education on innovation resistance, contributing to the broader discourse on technology adoption in agriculture. Understanding this relationship is essential for policymakers and stakeholders to develop targeted interventions that foster the adoption of digital technologies in the agricultural sector, thereby enhancing productivity and sustainability.

## **Objective**

The objective of this research is to investigate the role of university education in influencing farmers' resistance to adopting digital payment systems in the agricultural sector in Indonesia. By employing a multigroup analysis, this study aims to:

1. Examine the extent to which university-educated farmers differ from their less-educated counterparts in terms of their resistance to digital payment innovations.
2. Identify the key factors contributing to innovation resistance among farmers and how these factors are moderated by the level of education.

Through this research, we aim to contribute to the understanding of technology adoption in agriculture and to inform the development of targeted strategies that encourage the use of digital payment systems among farmers.

### **Methods and Instruments**

This study employed a survey-based methodology targeting farmers in Indonesia who have experience using digital payment systems. The survey aimed to identify the factors influencing these farmers' resistance toward digital payment systems and how university education attainment moderate the influence. To ensure a comprehensive and diverse sample, the study targeted farmers across various regions in Indonesia, resulting in a total of 316 participants. A self-registration sampling method was used, with invitations to participate extended through multiple channels.

The survey instrument was meticulously developed based on a thorough review of relevant literature to ensure it adequately captured the constructs being measured. To validate the instrument, a panel of experts reviewed it to confirm its content validity and reliability. The survey was distributed online using Allcounted.com, a platform that facilitates efficient data collection and management. In regions where internet access was limited, enumerators assisted with data collection, ensuring wider participation of farmers.

The data collected from the survey were analysed using Structural Equation Modeling (SEM) with the SmartPLS application. Before conducting the multigroup analysis (MGA), measurement invariance was established to ensure the reliability and validity of the findings across different groups.

### **Results and Discussion**

Before presenting the results of the multigroup analysis (MGA), it is essential to establish measurement invariance to ensure that our constructs are comparable across different groups of farmers based on their education levels. Measurement invariance is tested through three key aspects: configural invariance, compositional invariance, and composite equality of mean and variance values.

Cheah *et al.* (2023) explained that configural invariance is measured by providing information on the outer loadings, Cronbach alpha, composite reliability and the AVE for all of the measured groups. On the other hand, Compositional invariance tests whether the constructs are measured in the same way and have similar item loadings in different groups, ensuring that comparisons of latent constructs are not biased by measurement discrepancies. Furthermore, Composite equality of mean and variance values involves examining whether the mean and variance of the latent constructs met the lower (2.5%) and upper (97.5%) boundaries of confidence interval. Establishing these forms of invariance is vital to validate the MGA results, as it ensures that any observed differences in resistance to digital payment systems are attributable to real differences in the groups' responses rather than artifacts of measurement inconsistencies (Cheah *et al.*, 2020).

Table 1. Configural Invariance and Model validity and reliability

	Outer Loadings			Cronbach's Alpha			Composite Reliability			Average variance extracted (AVE)		
	All	UE	Non UE	All	UE	Non UE	All	UE	Non UE	All	UE	Non UE
UB1 <- UB	0.928	0.918	0.935									
UB2 <- UB	0.924	0.918	0.928									
UB3 <- UB	0.912	0.896	0.923	0.957	0.952	0.961	0.967	0.963	0.970	0.854	0.839	0.865
UB4 <- UB	0.945	0.950	0.942									
UB5 <- UB	0.911	0.898	0.921									
VB1 <- VB	0.944	0.949	0.939									
VB2 <- VB	0.946	0.961	0.934	0.939	0.955	0.925	0.961	0.971	0.952	0.891	0.917	0.869
VB3 <- VB	0.942	0.963	0.924									

	Outer Loadings			Cronbach's Alpha			Composite Reliability			Average variance extracted (AVE)		
	All	UE	Non UE	All	UE	Non UE	All	UE	Non UE	All	UE	Non UE
RB1 <- RB	0.860	0.847	0.859									
RB2 <- RB	0.873	0.843	0.890									
RB3 <- RB	0.902	0.888	0.907	0.938	0.922	0.944	0.953	0.941	0.957	0.801	0.763	0.817
RB4 <- RB	0.925	0.899	0.936									
RB5 <- RB	0.914	0.889	0.925									
TB1 <- TB	0.870	0.861	0.872									
TB2 <- TB	0.910	0.912	0.899	0.871	0.878	0.857	0.920	0.924	0.912	0.793	0.801	0.776
TB3 <- TB	0.892	0.911	0.871									
IB1 <- IB	0.881	0.854	0.892									
IB2 <- IB	0.922	0.911	0.925	0.885	0.870	0.888	0.929	0.920	0.930	0.813	0.794	0.816
IB3 <- IB	0.901	0.908	0.893									
Resist1 <- Resist	0.795	0.839	0.745									
Resist2 <- Resist	0.893	0.937	0.862	0.833	0.870	0.796	0.901	0.921	0.882	0.752	0.795	0.714
Resist3 <- Resist	0.909	0.895	0.919									

The questionnaire items demonstrated robust construct representation across all groups, with outer loading values exceeding 0.8. This high outer loading indicates that the items effectively represent their respective constructs. Additionally, the reliability of the model is confirmed by Cronbach's Alpha and Composite Reliability values, both surpassing 0.7 for all constructs across all groups. The Average Variance Extracted (AVE) values for all constructs in all groups are greater than 0.5, confirming strong convergent validity (Hair et al., 2019). Together, these results establish the validity and reliability of the constructs, as well as the configural invariance of the data across the different groups measured (Cheah et al., 2020).

**Table 2. Fornier-Lurcker Criterion**

All						
	IB	RB	Resist	TB	UB	VB
IB	0.901					
RB	0.692	0.895				
Resist	0.771	0.626	0.867			
TB	0.720	0.620	0.672	0.891		
UB	0.632	0.646	0.624	0.550	0.924	
VB	0.698	0.687	0.703	0.604	0.832	0.944

**Table 3. Fornier-Lurcker Criterion for each groups**

	UE						Non UE					
	IB	RB	Resist	TB	UB	VB	IB	RB	Resist	TB	UB	VB
IB	0.891						0.904					
RB	0.638	0.873					0.706	0.904				
Resist	0.750	0.678	0.891				0.774	0.573	0.845			
TB	0.745	0.681	0.661	0.895			0.689	0.557	0.655	0.881		
UB	0.602	0.648	0.631	0.570	0.916		0.650	0.645	0.617	0.533	0.930	
VB	0.627	0.666	0.703	0.611	0.871	0.958	0.742	0.696	0.698	0.588	0.802	0.932

The measured groups demonstrate strong discriminant validity within the model, as evidenced by all the selected constructs having higher cross-loadings with their designated constructs than with any other constructs. This ensures that the constructs are well-differentiated from one another (Hamid *et al.*, 2017). Given that both the reliability and validity metrics have been satisfied for all groups, configural invariance is established across all constructs.

Table 4. Invariance Measurement

Compositional Invariance			Composite Equality of Mean and Variance							
Original correlation	p value	Invariance Exist	Mean			Variance			Invariance exist	
			Original Difference	2.50%	97.50%	Original Difference	2.50%	97.50%		
UB	1.000	0.985	Yes	-0.165	-0.225	0.220	0.068	-0.280	0.232	Full invariance
VB	1.000	0.434	Yes	-0.246	-0.240	0.222	0.170	-0.267	0.241	Partial Invariance
RB	1.000	0.778	Yes	-0.378	-0.224	0.228	-0.164	-0.292	0.264	Partial Invariance
TB	1.000	0.713	Yes	-0.486	-0.222	0.215	0.043	-0.321	0.268	Partial Invariance
IB	1.000	0.798	Yes	-0.361	-0.225	0.222	-0.186	-0.307	0.258	Partial Invariance
Resist	0.999	0.339	Yes	-0.402	-0.235	0.215	0.063	-0.319	0.274	Partial Invariance

Table 4 provides rich information on the invariance measurement of this research model across different groups of the level of university educations. All constructs are confirmed to have established the configural invariance, compositional invariance, and composite equality. This is the requirement to be able to confidently conduct the MGA and trust its results.

Table 5. Multigroup analysis result

	Difference (UE Vs Non UE)	p value (1 tile)	p value (2 tile)	Decision
UB -> Resist	-0.152	0.883	0.235	Not Supported
VB -> Resist	0.128	0.197	0.393	Not Supported
RB -> Resist	0.277	0.023	0.046	Supported
TB -> Resist	-0.152	0.889	0.223	Not Supported
IB -> Resist	-0.064	0.664	0.671	Not Supported

The MGA result revealed that university education significantly moderates the relationship between risk barriers and resistance to digital payment systems among farmers, with a positive difference value of 0.277. This indicates that risk barriers have a stronger effect on resistance among respondents with a university education compared to those with lower educational levels.



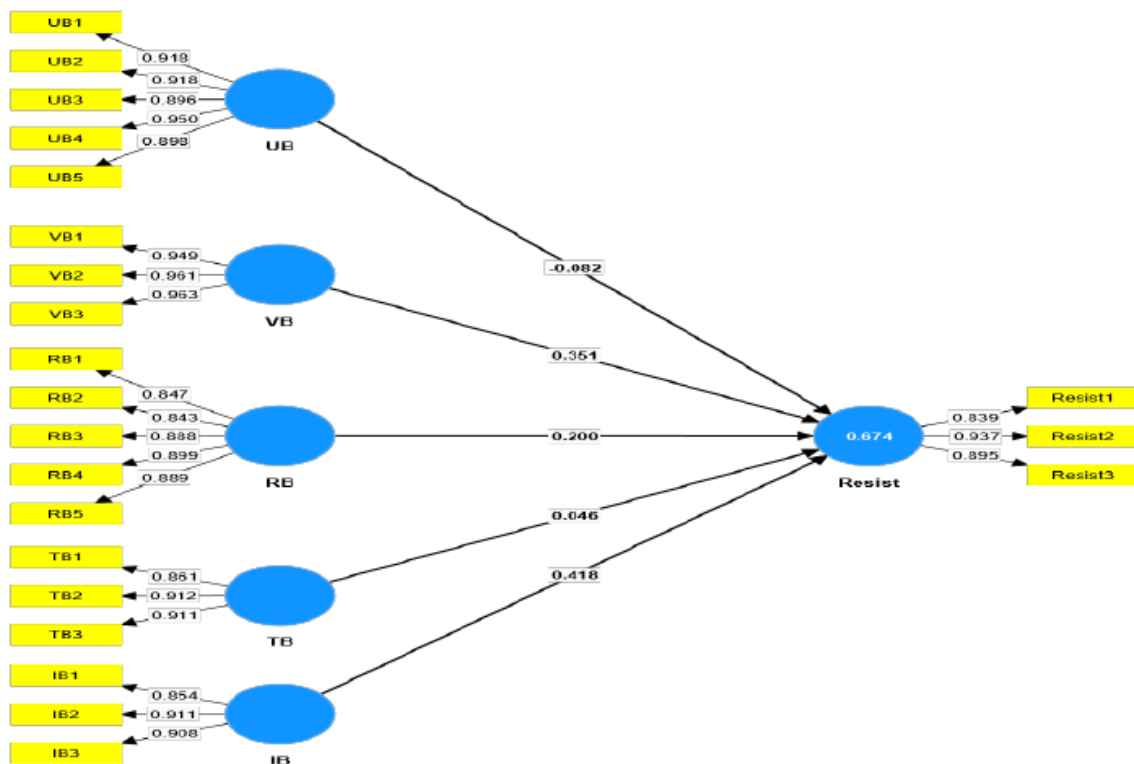


Figure 1. MGA path results

Table 5. Bootstrapping result across different groups

	With University Education			Significance	Without University Education			Significance
	Original (UE)	t value (UE)	p value (UE)		Original (Non UE)	t value (Non UE)	p value (Non UE)	
UB -> Resist	-0.082	0.826	0.409	No	0.070	0.813	0.416	No
VB -> Resist	0.351	3.036	0.002	Yes	0.223	2.299	0.022	Yes
RB -> Resist	0.200	2.145	0.032	Yes	-0.077	0.771	0.441	No
TB -> Resist	0.046	0.478	0.633	No	0.197	2.462	0.014	Yes
IB -> Resist	0.418	3.463	0.001	Yes	0.481	4.783	0.000	Yes

The bootstrapping results reveal distinct patterns in how various barriers affect resistance to digital payment systems among farmers with and without university education (UE). For the UE group, value barriers (VB) (0.351,  $p = 0.002$ ), risk barriers (RB) (0.200,  $p = 0.032$ ), and image barriers (IB) (0.418,  $p = 0.001$ ) significantly influence resistance, with UB and TB not showing significant effects. In contrast, among farmers without UE, VB, tradition barriers (TB) (0.197,  $p = 0.014$ ), and IB significantly impact resistance, while RB does not ( $-0.077$ ,  $p = 0.441$ ), highlighting differences in risk perception based on educational attainment.

### **Conclusion/Implications for Research/Policy**

This study provides valuable insights into the role of university education in moderating farmers' resistance to adopting digital payment systems in Indonesia. Our findings demonstrate the significant difference in the effect of risk barriers on resistance between the two groups highlights the moderating role of university education on the relationship of risk barriers and resistance toward digital payment by farmers. The effect of risk barriers on resistance is stronger within the respondents with university education attainment. Moreover, our finding also confirmed that while value, risk, and image barriers significantly impact resistance among university-educated farmers, tradition barriers are more influential for those without higher education. These results underscore the importance of educational interventions tailored to address specific barriers, which can enhance the adoption of digital payment systems and promote technological advancements in the agricultural sector.

**Paper ID:** 1571062332

**Name:** Trias Andari & Rahma Sugihartati

**Paper Title:** Artificial Intelligence for Shaping Islamic Socio-Economic Value

**E-mail:** trias.dkv@unusida.ac.id

## **Introduction**

This article discusses the Islamic perspective about artificial intelligence technology as the indicator of a new chapter in post-humanism though. The focus of this research is how artificial technology intelligence becomes an integral part of religious activity for the Islamic people, one of those things is used by an zakat institution.

## **Objective**

This research aims to explore the use of artificial intelligence technology to strengthen the socio-economic values of the millennial muslim community in Indonesia through an Islamic perspective. This research discusses artificial intelligence in zakat institutions which has the potential to increase the efficiency and productivity of millennial muslim communities in zakat, infaq, and other charity activities.

## **Methods and Instruments**

This research uses a qualitative approach which emphasizes depth in solving research problems. The object of this research is zakat institutions in Indonesia that utilize artificial intelligence technology to optimize their activities. The qualitative data analysis procedure refers to the thinking of Miles and Huberman through three stages, namely data reduction, data display, and conclusion drawing.

## **Results and Discussion**

This research produces evidence showing that artificial intelligence technology can be collaborated with religious activities, especially by the millennial muslim community in Indonesia. The millennial muslim community's closeness to technology and digital media makes it easy for zakat institutions in Indonesia to reach a wider range of users, without the limitations of distance and time.

## **Conclusion**

Artificial intelligence, which produces algorithms based on human behavior, is a new form of capitalization in the digital era. The relationship between humans and artificial intelligence machines is a reciprocal relationship that is under human control. According to an Islamic perspective, artificial intelligence is seen as a useful technology if its good value is greater than the negative impact of its use.

**Paper ID:** 1571063625

**Name:** Nur Anisa Ibrahim Gani & Hadina Habil

**Paper Title:** An Analysis of English Language Learning (ELL) Websites: Insights on Their Relevance and Suitability

**E-mail:** nuranisa@graduate.utm.my

## Introduction

Fundamentally, the growing array of English Language Learning (ELL) websites and their users suggests that the ease of getting online material exceeds the process of reading books when it comes to achieving individuals' language learning objectives. ELL websites offer an extensive selection of authentic resources for language learning (Aguayo & Ramírez, 2020; Boulahnane & Abramova, 2019; Linares & Romero, 2016). Moreover, the broad spectrum of content available on these platforms caters to different learning styles, hence enriching the learning experience by making it more engaging and fascinating (Alhabdan, 2021; Fuentes & Martínez, 2018).

The impetus to examine the relevance and suitability of ELL websites is driven by the apprehension that digital educational resources are increasingly available in today's society, in conjunction with the growing prevalence of online learning. In addition, placing emphasis on the relevance of a website will ultimately lead to increased user engagement (Huang & Benyoucef, 2014), as it plays a vital role in determining the favourability of a website (Ageeva et al., 2019). This will undoubtedly be advantageous for the website hosts.

Surprisingly, despite extensive research on evaluating the affordances of ELL websites for second language development, there remains a notable lack of corpus-based assessments that categorize these resources based on essential categories. Despite extensive research on website evaluation, a complete mapping of these resources' relevance remains notably absent (Gani & Habil, 2023). Thus, there is a pressing need to fill in the study's gap.

## Objectives

This study aims to answer the following research questions:

- I. How relevant are the ELL websites for primary learners?
- II. How suitable is the selected ELL website for Malaysian primary learners?

The first question revolves around the idea of assessing the relevance of a selected list of ELL websites for ESL and EFL primary learners in general. This highlights the overall relevance of the selected sample according to the crucial evaluation criteria applied. The second question is about a context-specific evaluation from the perspective of Malaysian primary school teachers. The analysis provides a comprehensive understanding of whether the selected ELL website is suitable as supplementary tools in Malaysian primary education, which will accentuate the great potential of the readily available ELL websites.

## Methods and Instruments

A carefully planned selection stage initiated this mixed-method study, aiming to determine the research sample. The pool creation process yielded 67 ELL websites, included in the list due to their appearance on the first and second pages of the Meta search engine. The evaluation stage is composed of two consecutive stages: the general evaluation and the context-specific evaluation. The general evaluation procedure was initiated with a surface check where the link of each website was visited to verify its domain availability and confirm its ELL status. Four of the links were omitted due to the unavailability of the domain; eight links were not ELL websites, and one link showed the same domain as the previous link in the selection list. Thus, only 54 ELL websites passed the checking procedure and were selected as the sample for this study.

The first evaluation was conducted with reference to the six evaluation categories outlined from six guiding questions proposed by Healey and Johnson (1997). The categories are as follows: target audience, all language skills, independent learning, potential as supplementary resources, accessibility (computer and mobile phone), and availability of free resources. These categories were listed in a checklist, which was distributed to four experienced primary school teachers. The data collected were analysed and the percentage of compliance for each category was calculated. The evaluation gave rise to a list of ELL websites that comply with all the criteria. The websites were then evaluated using an automated evaluation tool, Website Grader, to select one website for the second evaluation stage.

The second evaluation stage, known as the context-specific evaluation, aims to answer the second research question. The evaluation was conducted by four experienced primary school teachers using an evaluation framework. The framework is based on the six components suggested by Hubbard (2006), which are: technical preview, operational description, teacher fit, learner fit, implementation schemes, and appropriateness judgments. The data collected in the form of an evaluation report was analysed qualitatively using the NVivo programme (version 12).

## **Results and Discussion**

The relevance of ELL websites for primary learners More than half of the websites (52%) are made for primary learners. The least covered criterion is the availability of resources to support all language skills. Only 30% of the websites comply with this criterion. All of the websites (n = 54) consist of relevant supplementary resources to support ESL and EFL learners. Almost all of the websites are relevant in terms of three evaluation criteria, which are independent learning (80%), accessibility: computer and mobile phone (85%), and availability of free resources (87%).

The suitability of the selected ELL website for Malaysian primary learners

The website's overall technical quality is considered good. The website is found to be interactive, interesting, and motivating, with plenty of materials and activities. It caters to students' varying learning styles. In terms of implementation schemes, the respondents suggested that the website host may want to include some materials that are based on other cultures from different sides of the world. Furthermore, a respondent highlighted the importance of incorporating grammar-learning activities into a specific language learning website. The website can be considered inadequate for an authentic language learning experience if it lacks grammar-based activities like quizzes, videos, or worksheets. In terms of appropriateness judgements, all of the respondents agreed on the suitability of the ELL website as supplementary materials, which can be used as enrichment activities in schools

and at home. Nevertheless, it depends on teachers whether to integrate this resource, as the background of each classroom differs. The only concern is the availability of technological facilities within the selected context, which will definitely affect the implementation and integration of ELL websites as a whole.

### **Conclusion/Implications for Research/Policy**

The results of this study suggest that ELL websites are useful as supplementary resources for ESL and EFL primary learners. Furthermore, the selected website was found to have average compatibility with Malaysian primary learners, with some concern for the resources and facilities as well as cultural relevance. The aforementioned insights provide website hosts with valuable insights into their website's limitations and the need to enhance its relevance. Ensuring the provision of high-quality, broad-focus, and accessible digital resources for all learners is essential. The findings of this study shed light on the effectiveness of the evaluation framework in assessing language learning websites. This study emphasizes the need to investigate the suitability of ELL websites in other contexts, which will undoubtedly highlight the potential of these resources. Furthermore, it enhances the progress of digital learning in Malaysia by highlighting the potential of ELL websites as a platform for teachers to provide authentic English language learning opportunities.

### **References**

- Ageeva, E., Melewar, T. C., Foroudi, P., & Dennis, C. (2019). Evaluating the factors of corporate website favorability: a case of UK and Russia. *Qualitative Market Research*, 22(5), 687-715. <https://doi.org/10.1108/QMR-09-2017-0122>
- Aguayo, N., & Ramírez, C. M. (2020). Does technical assessment matter? Functionality and usability testing of websites for ESL/EFL autonomous learners. *Research in Learning Technology*, 28, 1-26. <https://doi.org/10.25304/rlt.v28.2353>
- Alhabdan, A. (2021). Evaluating English Learning Websites and Digital Resources From the Perspective of Saudi English Language Learners: Technical Assessment. *Theory and Practice in Language Studies*, 11(6), 639-651. <https://doi.org/10.17507/tpls.1106.07>
- Boulahnane, S., & Abramova, V. S. (2019). Exploring the Potential of online English Websites In Teaching English To Non-Linguistic Major Students: BreakingNewsEnglish As Example. *Register Journal*, 12(1), 1. <https://doi.org/10.18326/rgt.v12i1.1-12>
- Fuentes, E. M., & Martínez, J. J. R. (2018). Design of a checklist for evaluating language learning websites. *Porta Linguarum*, 2018(30), 23-41.
- Gani, N. A. I., & Habil, H. (2023). A Study on the Potential of an English Language Learning (ELL) Website. *Proceedings of International Conference of Research on Language Education (I-RoLE 2023)*, 13-14 March, 2023, Noble Resort Hotel Melaka, Malaysia, 7, 435-447. <https://doi.org/10.15405/epes.23097.39>
- Healey, D., & Johnson, N. (1997). A place to start in selecting software. *CAELL Journal*, 8(1), 1-4. [http://www.deborahhealey.com/cj\\_software\\_selection.html](http://www.deborahhealey.com/cj_software_selection.html)
- Huang, Z., & Benyoucef, M. (2014). Usability and credibility of e-government websites.

*Government Information Quarterly*, 31(4), 584-595.  
<https://doi.org/10.1016/j.giq.2014.07.002>

Hubbard, P. (2006). Evaluating CALL Software. *Calling on CALL: From Theory and Research to New Directions in Foreign Language Teaching*, c, 313-338.

Moncada Linares, S., & Carolina Díaz Romero, A. (2016). Developing a Multidimensional Checklist for Evaluating Language-Learning Websites Coherent with the Communicative Approach: A Path for the Knowing-How-To-Do Enhancement. *Interdisciplinary Journal of E-Skills and Lifelong Learning*, 12, 057-093.  
<https://doi.org/10.28945/3407>

**Paper ID:** 1571054158

**Name:** Wei Chen, Syahrul Ridhwan Morazuki & Wei Zhi Chen

**Paper Title:** The Effects of Resistance Training on Overweight: A Bibliometric Analysis

**E-mail:** wei-1991@graduate.utm.my

## 1. Introduction

Over the past several years, the prevalence of overweight and obesity has increased globally, making it one of the most significant health hazards [1], [2], [3]. According to the most recent statistics published by the World Health Organization (WHO), it is projected that in 2022, about 2.5 billion persons aged 18 years and older globally will be classified as overweight, which accounts for 43% of the adult population [4]. Research has indicated that being overweight is a fundamental need for several significant illnesses [5], and a high body mass index (BMI) is also an acknowledged contributing factor for cancer [6], [7].

Given the increasing incidence of overweight, it is imperative to investigate efficient approaches to improving their health. Among these treatments, resistance training has received significant attention as an intervention approach. Winett and Carpinelli's research suggests that public health promotion programs should incorporate resistance training as a crucial component [8]. A new comprehensive review suggests that resistance exercise, which is known for its excellent adherence and safety, has a significant effect on improving body fat percentage. Moreover, for people who are overweight or obese and have limited cardiorespiratory fitness, it might be an excellent substitute [9].

In summary, resistance training is an important intervention for overweight populations, but there is a lack of quantitative bibliometric analyses to summarize the progress of resistance training interventions for overweight in recent decades. Bibliometric analysis, a range of mathematical and statistical analysis methods, serves as a powerful quantitative research methodology that provides an objective framework for tracking the evolution and structural composition of knowledge in a given research area [10], [11]. In recent years, bibliometrics have been applied in various research areas such as pain, Diabetes, dyslexia, depression and cancer rehabilitation [12], [13], [14], [15]. To our knowledge, no bibliometric analyses have been conducted, although there is a growing body of research addressing resistance training and overweight [16]. Findings from such bibliometric studies can help researchers pinpoint current research concerns and thus guide future research directions. Due to its significant advantages, the application of bibliometric methods in the field of research on exercise interventions for the overweight population is of great value.

In this study, our goal was to conduct a comprehensive bibliometric analysis of intervention studies of resistance training in overweight populations. The focus is on a thorough review of past studies in terms of the current stage of resistance training development with overweight populations, social networks, and keyword analysis, as well as assessing the current situation.

## 2. Materials and methods

A comprehensive search of the Web of Science database for the keywords "resistance training" and "overweight" was conducted, and all scientific literature related to "resistance training" and "overweight" from 1995 to 2024 was screened. Figure 1 illustrates the data



collection process. The Web of Science is the most authoritative and comprehensive database [17]. In order to locate English literature, we utilized the keywords "resistance training" and "overweight" in the title, abstract, and keyword fields of all the literature. We then downloaded the Bibliometrix program for further analysis. We downloaded the data in BibTex format using the Bibliometrix program for filtering and checking [18]. Currently, it stands as the most comprehensive, integrated, and user-friendly bibliometric tool, serving as an open-source tool for quantitative research in scientific measurement and bibliometrics [19].

The specific steps involve opening the R runtime environment and typing "bibliometrix:biblioshiny". Run the code; a network window will pop up; click "import row file(s)" in the data loading page; select the database type as "Web of Science"; load the previously screened literature data; and then click the Start button. Bibliometrix provides a series of scientific methods, such as collaboration analysis, word frequency analysis, citation analysis, social network analysis, and other visualizations for analyzing bibliometric data.

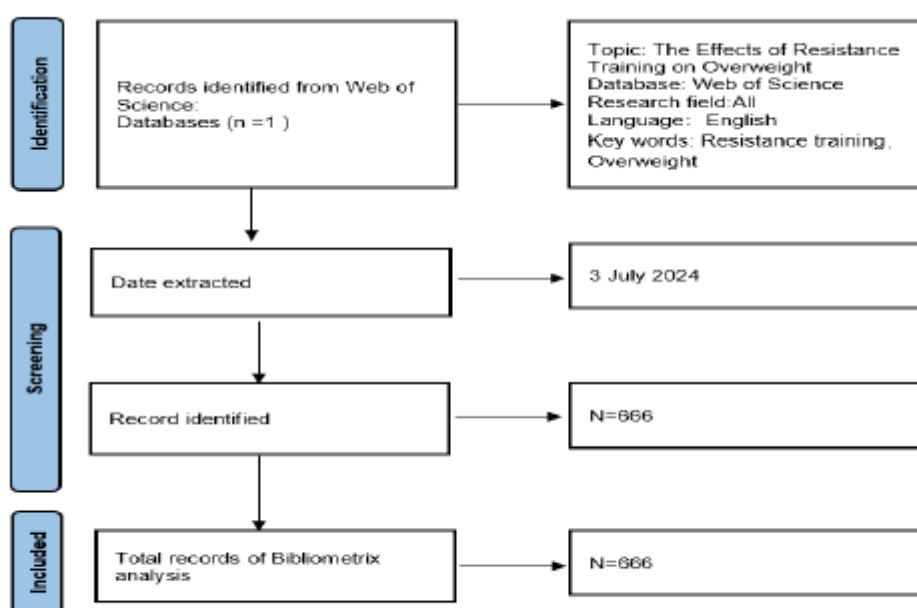


Figure1 Flowchart of the publication's selection.

### 3.Result

#### 3.1main information

As presented in Table 1, an overall analysis based on the data from all articles retrieved revealed that the literature examining the effects of resistance training on overweight has a broad time period coverage (1995-2024), with a total of 666 documents originating from 281 different journals or books. The literature's annual growth rate was 10.26%, and the average number of citations per article was 31.29, indicating a high level of activity and impact of research in this field. Co-authored literature dominated all articles retrieved, with an average of 7.16 co-authors per document, including 26.73% of international collaborations. These data reveal the research trends and cooperation patterns of resistance training in responding to the overweight problem, providing a valuable basis for further in-depth analysis.

**Table 1 Main information about data**

Description	Results
Timespan	1995:2024
Sources (Journals, Books, etc)	281
Documents	666
Annual Growth Rate %	10.26
Document Average Age	7.52
Average citations per doc	31.29
References	21463
Keywords Plus (ID)	1469
Author's Keywords (DE)	1100
Authors	3474
Authors of single-authored docs	16
Single-authored docs	17
Co-Authors per Doc	7.16
International co-authorships %	26.73

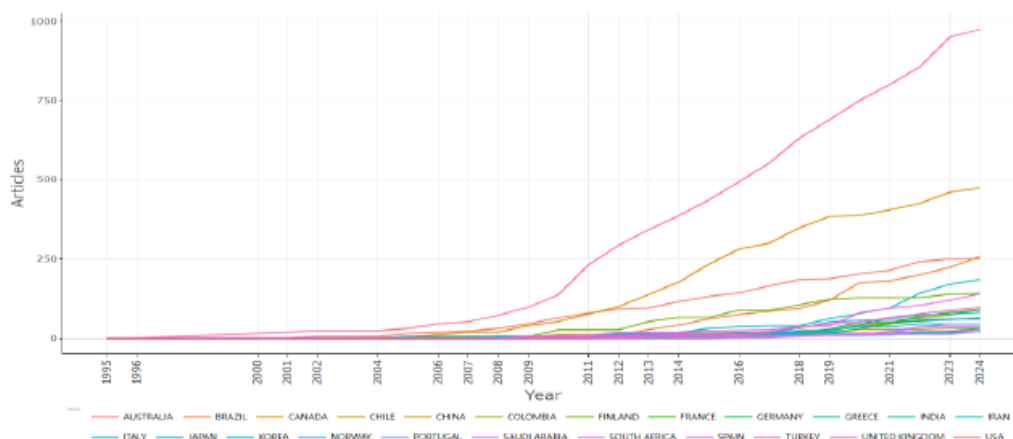
### 3.1.1 Analysis of scientific production, trends, and citations of various countries

According to Table 2 and Figure 2, research on resistance training for overweight individuals has been steadily increasing in various countries since 1995, with the United States leading in scientific output. The US is followed by Canada, Brazil, Australia, Iran, Finland, Spain, the United Kingdom, China, and France in terms of research output in this area. This indicates a global interest in interventions for overweight individuals, with North America leading in research output and other regions showing growth in research development.

When looking at the Most Cited Countries, the United States ranks first in total citations but does not have the highest average article citations. Turkey, on the other hand, ranks fourth in total citations but has a high citation rate of 169.4 citations per article, surpassing other countries in research influence. Singapore and Austria rank second and third with average citations of 108 and 105, respectively. In contrast, Brazil and Iran have lower average citations of 13.1 and 7.5, respectively, despite contributing to the total number of citations, indicating a weaker research impact.

**Table 2 Countries' Scientific Production and Citations**

Country	Freq	TC	Average Article Citations
USA	976	6693	37.6
CANADA	474	2556	41.2
BRAZIL	258	670	13.1
AUSTRALIA	250	2662	47.5
IRAN	185	369	7.5
FINLAND	141	686	45.7
SPAIN	140	599	19.3
UK	98	258	17.2
CHINA	92	188	8.5
FRANCE	90	370	28.5



**Figure2 Countries' Production over Time**

### 3.1.2 Analysis of the amount of journal publications and their changes over time

As shown in Figure 3, the analysis of data from 1995 to 2024 reveals a steady rise in academic research on the impact of resistance training on overweight populations. Figure 3 illustrates this trend, showing a significant increase in the number of published articles, particularly in the last decade. For instance, "Medicine and Science in Sports and Exercise" went from 1 paper per year in the late 1990s to 36 papers per year by 2024, establishing itself as the leading journal in this field. Similarly, "Journal of Strength and Conditioning Research" saw a growth from 1 paper in 2005 to 27 papers in 2024, making it the second most prolific journal. Newer journals like "Frontiers in Physiology" and "International Journal of Environmental Research and Public Health" have also shown rapid expansion. "Frontiers in Physiology" began publishing relevant research in 2018 and reached 15 papers per year by 2024, while "International Journal of Environmental Research and Public Health" has seen a significant increase since 2020, with 13 relevant papers per year expected by 2024. Other journals like "Nutrients" and "PLOS ONE" are following similar growth trajectories. These publications cover a broad spectrum of topics, ranging from exercise physiology and nutrition to public health, highlighting the need for comprehensive and interdisciplinary research to address the issue of overweight. Overall, major journals have intensified their focus on the link between resistance training and overweight in the past couple of decades, underscoring the ongoing advancement and depth of research in this field.

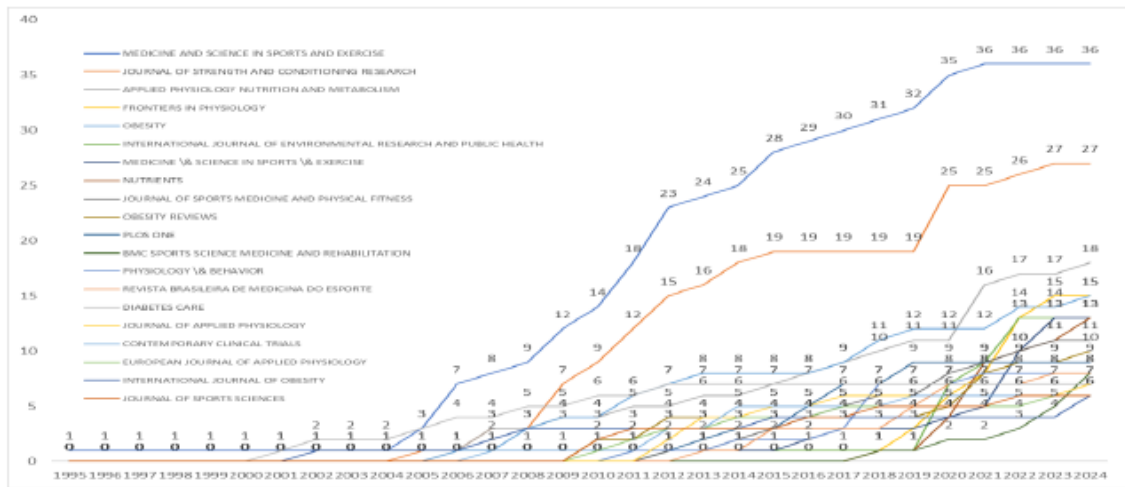


Figure 3 Sources' Production over Time

### 3.1.3 Analysis of annual scientific production and citation data

According to annual scientific output data from 1995 to 2024, research on the effects of resistance training on overweight has seen significant growth. As shown in Figure 4, starting with two publications in 1995, the number of publications gradually increased after 2005, reaching 44 in 2012. Between 2013 and 2024, studies maintained steady growth, particularly peaking at 56 and 60 articles in 2020 and 2022, respectively, demonstrating the growing interest and activity in this area of research. Although the data for 2024 is not yet complete, 34 publications are available, indicating that research continues to advance. Overall, research on the effects of resistance training on overweight has experienced rapid growth from its beginnings over the past few decades and has reached a research peak in the last few years. The depth and breadth of research have increased over time, providing a wealth of scholarly resources for the field.

According to the annual average citation data from 1995 to 2024, the literature exhibits high citation rates in the early (1995-2004) and middle (2005-2014) phases, especially reaching peaks of 151.50 and 140.83 in 2002 and 2009, respectively. However, in recent years (2015-2024), the average citation rate has shown a decreasing trend, especially after 2022, when the citation rate is significantly lower. This trend may reflect the fact that the recent literature has not yet accumulated enough citations or a shift in research hotspots.

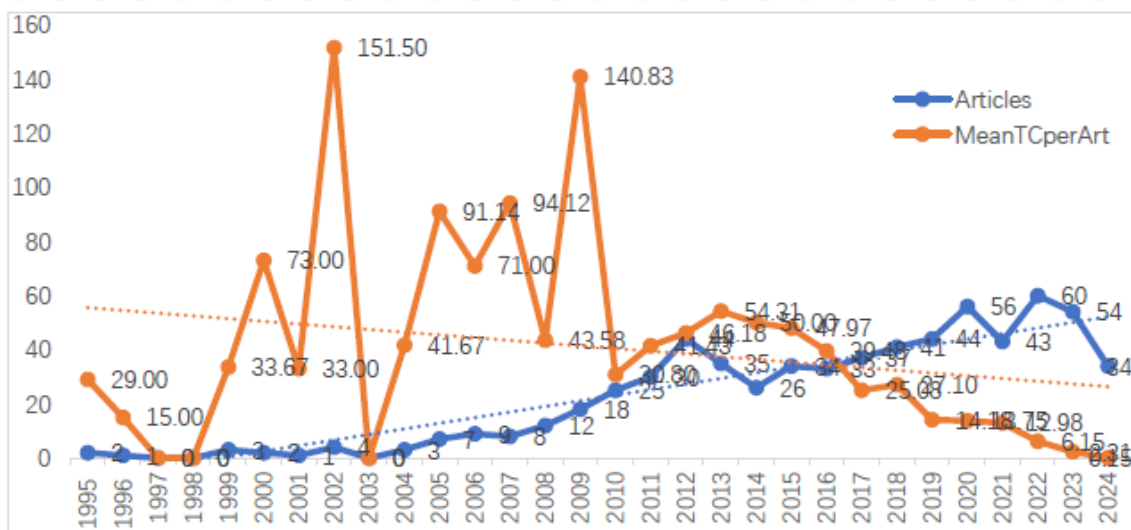


Figure 4 Annual scientific production and citation data

### 3.2 Analysis of collaboration networks

#### 3.2.1 Country collaborative analysis

The United States has played a significant role in international scientific research cooperation, working closely with countries like Australia (24), Brazil (16), Iran (13), Spain (13), Canada (11), and the UK (11). Its strong scientific resources, funding, and infrastructure make it a key player in global research collaborations. Spain has strong ties with (15) and Colombia (11), while Australia often collaborates with the US (24) and UK (8) due to shared research policies and cultural similarities.

Within Europe, countries like the UK, France, and Switzerland frequently collaborate, thanks to EU programs that promote research partnerships. Brazil and Portugal work together based on language and historical connections, while Canada has collaborations with Australia and France. Nordic countries like Finland and Sweden also have strong research ties.

In Asia, countries like China, Korea, India, and Greece have limited collaborations with European and North American countries. However, the US, UK, and Australia lead the way in global research cooperation, showcasing their commitment to advancing scientific knowledge through international partnerships. Language, culture, history, and geography all play a role in shaping these collaborative relationships, highlighting the importance of understanding these factors in fostering successful research collaborations on a global scale.

Table 3 Countries' Collaboration

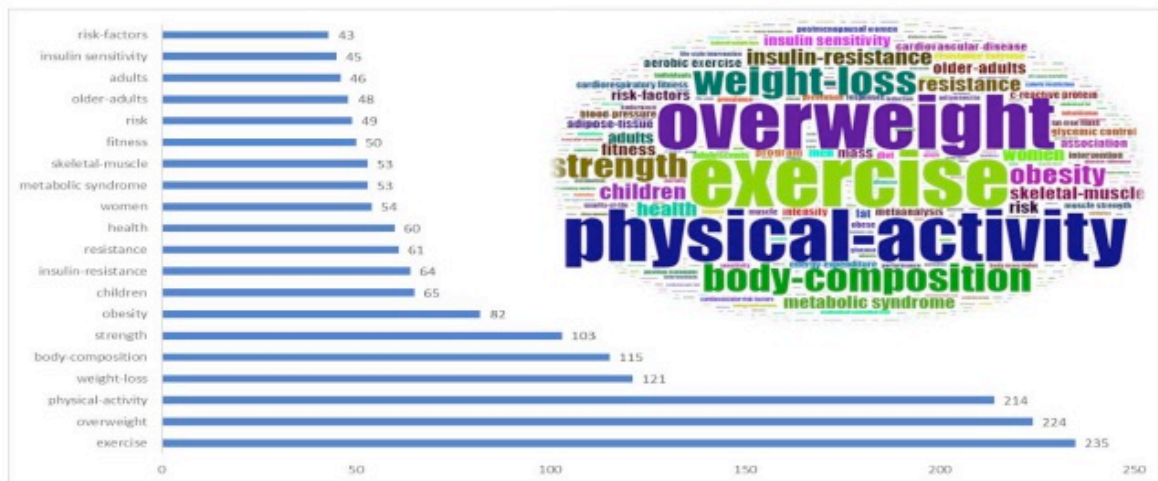
From	To	Frequency
USA	AUSTRALIA	24
USA	BRAZIL	16
SPAIN	CHILE	15
USA	IRAN	13
USA	SPAIN	13
SPAIN	COLOMBIA	11
USA	CANADA	11
USA	UNITED KINGDOM	11
AUSTRALIA	UNITED KINGDOM	8
CHILE	COLOMBIA	7

### 3.3 Analysis of keywords

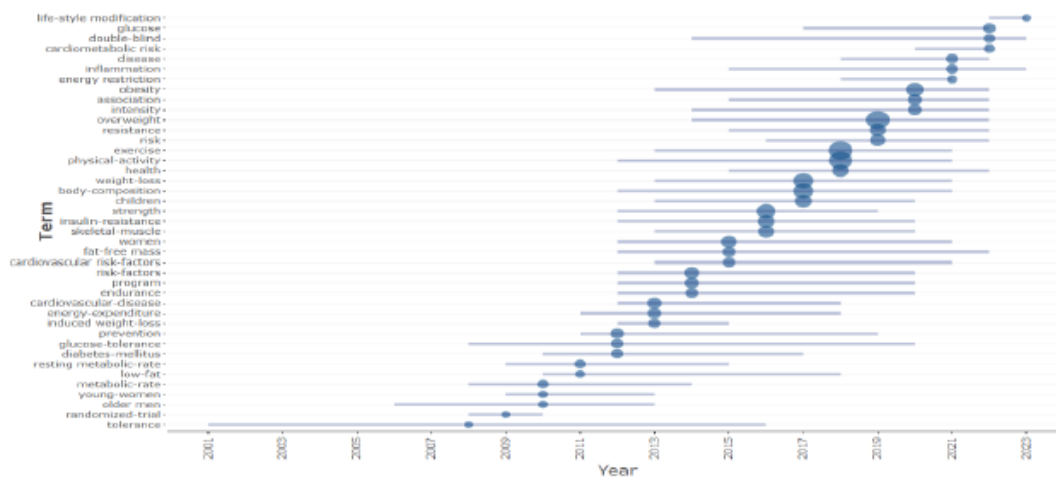
#### 3.3.1 Analysis of Most Frequent Words and Trend Topics

As shown in Fig. 5(a), the most frequent keywords in all the literature are Exercise (235), Overweigh (224), Physical Activity (214), Weight Loss (121), and Body Composition (115), which suggests that in resistance training and overweight research, research focused on the effects of training on overweight, weight loss, and body composition. Figure 5(b) shows the study's topic development based on trend topics data. Since 2013, interest in and study on the health consequences of exercise and physical activity have expanded dramatically. After 2013, weight-loss and body-composition research increased, reflecting society's interest in health management and weight loss. In 2013, obesity and overweight concerns gained increased attention, with studies growing annually. Recent research on children and older men/women shows a growing interest in health management for diverse age groups. Strength and resistance training research has grown since 2012, highlighting their relevance in exercise science. Recently, insulin-resistance and metabolic-rat research have proliferated, indicating a focus on metabolic health and metabolic illnesses like diabetes. Since 2012, cardiovascular-disease and risk-factors research have grown annually, indicating a continuous focus on cardiovascular health in health management. continuing attention. Health and Exercise. Recently, health and physical activity research has increased, showing interest in health promotion and public health policy.

Overall, these trend themes reflect the dynamic evolution of the field of exercise science and health management, from simple exercise interventions to more complex explorations of health effects and long-term health management strategies. Future research methodologies and understanding of health effects will likely lead to more in-depth interdisciplinary studies that explore various ways to improve human health and quality of life.



(a) Most Frequent Words



(b) Trend Topics

Figure 5 Analysis of keywords

## 4. Discussion and conclusion

### 4.1 Discussion

A review of the literature using bibliometric methods shows a significant increase in research on resistance training therapies for overweight individuals from 1995 to 2024. This surge in research indicates a growing recognition among researchers of the importance of resistance exercise for overweight individuals. This global trend reflects a heightened focus on the widespread issue of obesity, underscoring the need for effective intervention strategies. Key sources of influential research in this field include academic publications such as "Medicine and Science in Sports and Exercise" and the "Journal of Strength and Conditioning Research". These publications play a crucial role in disseminating new findings and enhancing understanding of the benefits of resistance exercise for overweight individuals. Their presence underscores the scientific community's commitment to advancing knowledge on the advantages of resistance training, providing researchers with

platforms to share their discoveries and contributing to the expanding body of evidence on resistance training.

The analysis of social networks reveals strong collaboration and intricate connections among researchers, institutions, and countries, highlighting the significant role and influence of the United States in global research collaboration. The United States frequently partners with Australia, Brazil, Iran, Spain, Canada, and the United Kingdom, showcasing its leadership in research collaboration. Collaboration is crucial for advancing research and finding effective ways to address overweight and obesity. These partnerships allow for the exchange of ideas, resources, and expertise, driving progress in the field. The United States, Canada, Brazil, Australia, and Iran have played key roles in researching resistance training for overweight populations, demonstrating their commitment to tackling the obesity epidemic. The distribution of research on obesity reflects the global recognition of the issue and the need for effective intervention strategies. The involvement of multiple countries highlights the widespread applicability of resistance training as a solution for overweight and obesity. Keyword analysis helps identify common themes and emerging trends in research. Key topics include the impact of resistance training on health outcomes, intervention strategies, and the physiological effects on the body. Current trends focus on developing innovative intervention techniques and studying the long-term effects of resistance training.

#### **4.2 Conclusion**

A review of literature spanning from 1995 to 2024 shows a notable increase in research focusing on the effects of resistance training on overweight individuals. This suggests a growing recognition of resistance training as a valuable intervention for addressing overweight and obesity.

In summary, resistance training plays a key role in improving body composition and overall health in overweight adults. The expanding body of research in this area provides valuable insights and recommendations for future studies, ultimately improving health outcomes and quality of life for individuals with excess weight. Continued research and collaboration are essential for advancing our understanding of resistance training and its significance in addressing overweight and obesity.

#### **Reference**

- [1] B. M. Popkin, L. S. Adair, and S. W. Ng, "NOW AND THEN: The Global Nutrition Transition: The Pandemic of Obesity in Developing Countries," *Nutr. Rev.*, vol. 70, no. 1, pp. 3-21, Jan. 2012, doi: 10.1111/j.1753-4887.2011.00456.x.
- [2] M. Abdelaal, C. Le Roux, and N. Docherty, "Morbidity and mortality associated with obesity," *Ann. Transl. Med.*, vol. Vol 5, p. 1,12, Apr. 2017, doi: 10.21037/atm.2017.03.107.
- [3] B. A. Swinburn *et al.*, "The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission report," *The Lancet*, vol. 393, no. 10173, pp. 791-846, Feb. 2019, doi: 10.1016/S0140-6736(18)32822-8.
- [4] World Health Organization (WHO), "Obesity and overweight." Accessed: Apr. 05, 2024. [Online]. Available: <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>



- [5] H. A. Afolabi *et al.*, "Obesity: A Prerequisite for Major Chronic Illnesses," in *Obesity - Recent Insights and Therapeutic Options*, IntechOpen, 2023. doi: 10.5772/intechopen.111935.
- [6] G. De Pergola and F. Silvestris, "Obesity as a major risk factor for cancer," *J. Obes.*, vol. 2013, p. 291546, 2013, doi: 10.1155/2013/291546.
7. S. K. Clinton, E. L. Giovannucci, and S. D. Hursting, "The World Cancer Research Fund/American Institute for Cancer Research Third Expert Report on Diet, Nutrition, Physical Activity, and Cancer: Impact and Future Directions" *J. Nutr.*, vol. 150, no. 4, pp. 663-671, Apr. 2020, doi: 10.1093/jn/nxz268.
8. R. A. Winnett and R. N. Carpinelli, "Potential Health-Related Benefits of Resistance Training," *Prev. Med.*, vol. 33, no. 5, pp. 503-513, Nov. 2001, doi: 10.1006/pmed.2001.0909.
9. D. Xinyu, Y. Jihong, H. Lingjun, and Z. Xiaohong, "Resistance exercise improves body composition in overweight and obese people: an umbrella review," *Chin. J. Tissue Eng. Res.*, vol. 28, no. 2, p. 267, Jan. 2024, doi: 10.12307/2023.848.
3. O. Ellegaard and J. A. Wallin, "The bibliometric analysis of scholarly production: How great is the impact?," *Scientometrics*, vol. 105, no. 3, pp. 1809-1831, Dec. 2015, doi: 10.1007/s11192-015-1645-z.
4. Y. Lou, N. Sun, M. Zhang, Y. Qiu, J. Wang, and J. Chen, "Trends in exercise for hypertension: a bibliometric analysis," *Front. Cardiovasc. Med.*, vol. 10, Oct. 2023, doi: 10.3389/fcvm.2023.1260569.
- [12] N. L. Stout *et al.*, "A Bibliometric Analysis of the Landscape of Cancer Rehabilitation Research (1992-2016)," *JNCI J. Natl. Cancer Inst.*, vol. 110, no. 8, pp. 815-824, Aug. 2018, doi: 10.1093/jnci/djy108.
- [13] X.-Q. Wang, M.-S. Peng, L.-M. Weng, Y.-L. Zheng, Z.-J. Zhang, and P.-J. Chen, "Bibliometric Study of the Comorbidity of Pain and Depression Research," *Neural Plast.*, vol. 2019, no. 1, p. 1657498, 2019, doi: 10.1155/2019/1657498.
- [14] S. Zhang, H. Fan, and Y. Zhang, "The 100 Top-Cited Studies on Dyslexia Research: A Bibliometric Analysis," *Front. Psychiatry*, vol. 12, Jul. 2021, doi: 10.3389/fpsy.2021.714627.
- [15] Z. Zhang *et al.*, "Global Trends and Research Hotspots of Exercise for Intervening Diabetes: A Bibliometric Analysis," *Front. Public Health*, vol. 10, Jul. 2022, doi: 10.3389/fpubh.2022.902825.
10. J. Zhang *et al.*, "Global Trends and Performances of Magnetic Resonance Imaging Studies on Acupuncture: A Bibliometric Analysis," *Front. Neurosci.*, vol. 14, Jan. 2021, doi: 10.3389/fnins.2020.620555.
11. J. Bergeron, D. Doiron, Y. Marcon, V. Ferretti, and I. Fortier, "Fostering population-based cohort data discovery: The Maelstrom Research cataloguing toolkit," *PLOS ONE*, vol. 13, no. 7, p. e0200926, Jul. 2018, doi: 10.1371/journal.pone.0200926.
12. Y. Sjöberg *et al.*, "Hot trends and impact in permafrost science," *Permafr. Periglac. Process.*, vol. 31, no. 4, pp. 461-471, 2020, doi: 10.1002/ppp.2047.
13. Y. Kang, N. Choi, and S. Kim, "Searching for New Model of Digital Informatics for Human-Computer Interaction: Testing the Institution-Based Technology Acceptance Model (ITAM)," *Int. J. Environ. Res. Public Health*, vol. 18, no. 11, Art. no. 11, Jan. 2021, doi: 10.3390/ijerph18115593.

**Paper ID:** 1571055202

**Name:** Yin Yan, Zhuang Yue, Hamdan Mohd Salleh & Ng Ming Yip

**Paper Title:** The Communication Strategy of Chahar Culture from the Perspective of Intercultural Communication Theory

**E-mail:** 301602@jnnu.edu.cn

## Introduction

From its inception, the discipline of communication has evolved along with the process of human cultural development. The famous American philosopher, educator and psychologist, Pragmatism and pragmatist pragmatism and also the author of John Dewey, one of the founders of functionalist psychology John Dewey, the founder of pragmatism and one of the founders of functionalist psychology and modern pedagogy, once commented on communication that "society exists not only by transmission and dissemination, but rather it exists in transmission and dissemination" (Dewey, J. 1916) This evaluation undoubtedly explains the important role of communication in the development of human society. Culture and communication are inextricably linked to the survival, adaptation and development of individuals and societies as a result of the evolutionary process of human beings. Therefore, cultural communication has also become a topic of close attention for sociologists and communication scholars.

In his 2009 interpretation of the relationship between culture and communication, Li Yan said that "culture is recognised and understood through communication; communication provides not only information but also values; the development of mass media has led to homogenisation and diversification of cultural communication, and the act of communication itself and the content of communication have gradually influenced the public's cultural identity and cultural adaptation". (Li, Y. 2009) From this, it can be known that cultural communication is a fundamental aspect of human interaction, a process of transmitting cultural information to another or more objects, and at the same time includes cultural understanding and formation as well as cultural change and development. Viewing the transmission of culture from such a perspective, it is easy to understand the importance of cultural transmission in promoting the formation of community beliefs, the transmission of values and the continuation of traditional practices. At the same time, the transmission of culture also accompanies the process of human society and gives rise to spiritual substance that meets the needs of the group's life and production, which provides people with a basis for understanding the world and for exchanges and communication.

The Chahar Mongols are one of the Mongolian tribes living primarily in the Inner Mongolia Autonomous Region of China. "The Chahar tribe is an extremely special tribe among the many tribes of the Mongols, and since ancient times it has been a tribe that exhibits toughness and has a heroic reputation and tradition of bravery, valour, and fortitude." (Ou, J., & Pan, X. 2014) "Chahar culture is a kind of regional culture created by the Chahar tribes in the steppe region over generations that is compatible with the steppe ecological environment, and this culture includes the Chahar Mongols' mode of production, way of life, and the customs, ways of thinking, values, and religious beliefs that are compatible with it, literature and art, etc. In the process of its formation and inheritance, it had extensive contacts and exchanges with Manchu, Tibetan, Han and other ethnic

groups, absorbed the cultural factors and cultural elements of these ethnic groups, and gradually formed the unique Chahar culture." (Zhou, O. 2014) It can be seen that the Chahar culture is a kind of regional culture produced by the Chahar tribes living in the grassland area for generations that is compatible with the grassland ecological environment, and it is an important part of the grassland culture in Inner Mongolia, China. This culture includes the mode of production, way of life, customs, ways of thinking, values, religious beliefs, literature and art of the Chahar Mongols, who have a rich cultural heritage covering all aspects of daily life, customs, traditions, art and beliefs. However, with the advancement of globalisation and changes in modern lifestyles, the inheritance and development of the Chahar culture is faced with the dilemmas of low cultural dissemination, low audience awareness, and inaccurate understanding of core values. It is the purpose of this study to study the dissemination of Chahar culture so that it will remain strong in the present and the future.

### **Research question**

The main problem addressed in this study is how to enhance cultural identity, eliminate cultural misinformation, and improve communication effects in the process of Chahar culture dissemination.

### **Literature review**

#### ***Sorting out the history of intercultural communication research***

The development of intercultural communication theory can be traced back to the beginning of the 20th century to the present day, and it is a constantly evolving and enriching field of study. Early researchers, in the study of intercultural communication, focused their attention mainly on the cultural diffusion and influence change of Western countries in non-Western regions, such as missionaries spreading religions and cultures as well as the role of the media in intercultural communication. After the Second World War, international exchanges and co-operation gradually increased, and intercultural communication became an important topic of research. At this time, scholars began to pay more attention to the role of cultural factors in transnational communication and how to cross cultural differences to achieve effective communication. 1959, Edward Hall in his book "Silent Language" for the first time put forward the concept of "cross-cultural communication", marking the official birth of the discipline. He said, "In the true sense of the word, culture is communication, and communication is culture. Every culture begins with a question that all human groups must face, and a set of answers. From this set of answers comes a body of information, and it is this information as a whole that constitutes culture." (Hall, E. T. 1959) This viewpoint provides a practical basis for the formation of the theory of "intercultural communication", and at the same time provides a new research direction for cultural communication.

In the 1970s, Gilt Hofstede put forward the "cultural dimensions theory", through his investigation and research on different national cultures, he summarised cultural differences into several dimensions, such as individualism and collectivism, power distance, uncertainty avoidance, etc. (Hofstede, G. 1980) The theory has had a profound impact on cross-cultural communication research. The theory has had a profound impact on cross-cultural communication research. It has provided new perspectives for cross-cultural communication to think about, allowing researchers to have a more detailed understanding of the influencing factors in the process of conducting research on cultural communication.

After that, along with the acceleration of globalisation and the development of digital technology, cross-cultural communication research gradually expanded into more fields. Scholars began to pay attention to cross-cultural advertising, cross-cultural marketing, international business communication, new media and cross-cultural communication.

### ***The concept of intercultural communication***

"Interculturality, in short, is communication or transmission between two different cultures, and there are two main forms of intercultural communication and intercultural communication. Intercultural communication mainly refers to interculturality at the level of interpersonal communication, which is a situation in which people from different cultural backgrounds interact with each other." (Sommers, L. A., & Porter, R. E. 2004) Comparing the above concepts, it can be concluded that intercultural communication is the process of transferring and exchanging information in different cultural contexts. This kind of communication involves a number of cultural factors such as language, values, beliefs, habits, etc. and plays an important role in the era of globalisation. In intercultural communication, individuals or organisations need to communicate and exchange effectively between different cultures in order to promote mutual cultural understanding, reduce misunderstanding and conflict, and promote cultural exchange and cooperation.

"Intercultural communication refers to the exchange of information between individuals who are unlike culturally. It involves the sending and receiving of messages across cultural boundaries, and it is influenced by the different perceptions, interpretations, and evaluations that individuals from different cultures bring to the communication process. individuals from different cultures bring to the communication process." (Gudykunst, W. B., & Kim, Y. Y. 1997)The above concepts emphasise the important role of group cognition, comprehension, and influence in intercultural communication from different cultures on cultural acceptance and group communication. It is based on such cognitive concepts that this study focuses on Chahar cultural communication, placing it at the levels of enhancing cultural identity and eliminating cultural misrepresentation.

### ***Relevant theoretical support***

Focussing on the main questions addressed by this study, the authors consider the following theories as important theoretical underpinnings for the study:

#### ***14. Culture shock theory***

Kalvero Oberg<sup>1</sup> developed the "Culture Shock Theory" in 1960 (Oberg, K. 1960)This theory explores the psychological and emotional stages that individuals may go through when moving across different cultures. Culture shock theory suggests that when an individual enters a new cultural environment, they may go through different stages, including enthusiasm, frustration, adaptation and acceptance. This theory stands in the perspective of the audience at the end of communication and analyses the influencing factors of the degree of reception effect of cultural communication, which is an important theoretical basis for intercultural communication and at the same time provides the theoretical direction for this study.

## **15. Cultural dimension theory**

In 1991, Gilt Hofstede proposed the "cultural latitude theory" (Hofstede, G. 1991) This theory proposes a framework for cross-cultural comparisons, attributing differences between cultures to several dimensions, such as individualism versus collectivism, power distance, and uncertainty avoidance. These cultural dimensions influence people's values, behaviours and communication styles, giving intercultural communication research a new understanding of culture itself.

## **16. Dissemination of the theory of alienation**

Roberto Herrmann introduced the theory of communication alienation in 1999. (Herrscher, R. 1999) The theory of communication alienation focuses on the effects of similarities and differences between cultures on communication. The theory suggests that if the communication content is similar to the target culture, the audience is more likely to accept and understand it, while if the communication content is more different from the target culture, it may lead to communication failure or misunderstanding. This theory further suggests the important role of cultural identity in cultural communication.

Through the historical overview of the development of intercultural communication theory, the statement of concepts, and the in-depth analysis of relevant supporting theories, it is found that the study of Chahar cultural communication based on the theory and perspective of intercultural communication is of theoretical and practical significance. Because the formation of any ethnic culture is accompanied by the occurrence of communication, culture has local characteristics and develops dynamically in mutual interaction. The theory of intercultural communication opens up perspectives on the transmission of ethnic minority cultures, analyses the impact of modernisation and external influences on the transmission of ethnic minority cultures, and provides suggestions for promoting intercultural understanding and preserving ethnic minority cultural heritage. Chahar culture is an ethnic minority culture, so the study of Chahar cultural communication from the perspective of intercultural communication will help the Chahar Mongols to communicate and understand with Han Chinese and other ethnic minorities, and will be conducive to the better inheritance and development of Chahar culture.

## **Research methodology**

### ***Introduction to the research methodology***

This study takes as a case study the main settlement and one of the important birthplaces of the Chahar Mongols, the historical Chahar region, and now the city of Ulanqab in the Inner Mongolia Autonomous Region of China. Specifically, the focus group discussion method was used to conduct data research on the transmission and development of verbal and non-verbal communication, rituals and norms cultural practices of the Chahar culture.

A case study is a qualitative research methodology that explores a particular issue or theme through in-depth description and analysis of one or more representative or typical individuals or phenomena. The advantage of case studies is that they can provide rich and nuanced information about complex and diverse realities. A single case was chosen for the study because of the desire to provide an in-depth and comprehensive analysis of the

region, rather than compare and contrast different regions. The case study of this region is used to understand the history, current situation, characteristics, problems and prospects of Chahar culture in the region, and to provide a reference for the preservation and development of Chahar culture.

### **Description of specific research methods**

Five groups of interviewees were selected for this study's focus group discussion, with five people in each group. These five groups were: Chahar Mongolians living in Ulanqab; non-Chahar Mongolians living in Ulanqab; non-Chahar Mongolians living in the Inner Mongolia Autonomous Region (NMAR) not in Ulanqab; people living in non-Nemenggol who had never been to Ulanqab; and people living in non-Nemenggol who had been to Ulanqab. These five groups of people basically cover the different identities, regions, and roles of communication audience groups that need to be examined in the dissemination of Chahar culture, so the focus group discussions conducted with them are representative of the study.

### **Study finds**

#### **Collation of views**

The views of the focus group discussions conducted by five groups of 25 interviewees, under different categories, are collated below:

**(i) *The content perspectives of this objective on what the non-verbal communication practices of the Chahar Mongolian language are, how they have changed, and how effective they are in terms of dissemination are organised as follows:***

Question 1: What language do the Chahar Mongolians use to communicate in their lives, and do they have some unique non-verbal communication methods? For example, body language, facial expressions, etc. Do you think the non-verbal communication methods of the Chahar Mongols have changed in modern society? This element deals with perceptions of non-verbal communication methods in the Chahar Mongolian language. Individual participants answered that they use the national language for communication, and there were diverse views on non-verbal communication factors, with some suggesting that there is a specific body language and rituals, but others stating that these have been assimilated or simplified by Chinese culture. When referring to communication methods specific to the Chahar Mongols, some mentioned traditional events and art forms such as the Naadam Assembly and the Khumai. Overall, however, the majority of participants did not know much about or had no in-depth observations of Mongolian non-verbal communication styles.

Question 2: Are these non-linguistic changes influenced by external cultural influences or are they the result of local social change?

Participants generally agreed that the non-verbal communication methods and cultural transmission of the Chahar Mongols have been affected. Specific influencing factors include changing times, social change, cultural intermingling between different ethnic groups, and technological development. At the same time, modern popular culture has also had an impact on Chahar culture.

Question 3:What is the impact of this change on the social life and cultural heritage of the Chahar Mongols?

Participants had different views on change in cultural transmission. Some saw the positive impacts of change, such as enriching culture, promoting innovation and adapting to social development; others were concerned about the loss of original culture and assimilation into other cultures. Different people had different views on the specific impacts of change, but overall there was a general consensus that change was inevitable and the key was how to maintain and innovate in transmission.

Question 4.What is the role of non-verbal communication in social interaction and cultural transmission among the Chahar Mongols?

Regarding the role of Chahar Mongolian for non-verbal communication, although participants did not give specific answers, it can be inferred that it plays a role in social interaction and cultural transmission. As for the change of language use scenarios, one participant thought that it might decrease, but the exact reasons and effects are less clear. Overall, the participants' knowledge about the role of non-verbal communication in Chahar Mongolian is limited and needs to be further explored and researched.

**(ii) *The views on the content of this objective, as to what Chahar's own cultural norms, customs, rituals and ceremonial arts are, and how they have been passed on and developed in the course of history, are organised as follows:***

Question 1: How are the cultural norms of the Chahar Mongols reflected in their daily lives, and are there any distinct codes of behaviour or values? Have cultural norms changed over the course of history? What factors have influenced them?

Some of the participants thought that the cultural norms of the Chahar Mongols were reflected in their daily lives, but they said they were "not sure" or did not answer the question of how they were reflected and whether they had changed. Only one participant gave a specific answer about changes in cultural norms and the factors that influence them.

Question 2: Do the customs and rituals of Chahar culture remain important in modern society? Have they evolved or adapted?

Participants agreed that cultural norms are very important in marriage and funerals and are still used in modern society. However, participants gave limited information or said they were "not sure, not aware" of the specific application and changes in cultural norms and how to understand them.

Question 3:How is the art of ceremony reflected in Chahar culture? For example, ritual expressions of weddings, funerals, etc.?

Several participants had some knowledge of Mongolian culture, especially one participant who had lived in Ulaanchabu and one participant who worked in a Mongolian restaurant. They were able to describe the cultural characteristics of the Tsahar Mongols in terms of cultural values, festivals and celebrations, and daily life. However, several other participants had relatively little or no in-depth knowledge of Chahar Mongolian culture.

Question 4: Are the cultural norms, customs, rituals and ceremonial arts of Chahar at risk of being lost in modern society? Are there any relevant protection and inheritance programmes?

One participant gave some specific examples of how culture is reflected in literature and art, but several others said "I don't know". All participants agreed that culture is facing a problem of loss, and two of the Chahar Mongolian participants saw the construction of the Chahar Folk Museum as a way of preserving culture. However, only one of the 25 participants answered "some of it has been protected and passed on", while the other 24 said they were "not sure" about the protection and transmission of intangible cultural heritage.

Question 5: Have the cultural norms, customs, rituals and ceremonial arts of the Chahar culture evolved and adapted over the course of history? How to balance the preservation of traditional culture and adaptation to the needs of modern society?

Participants were concerned about cultural heritage and preservation and discussed how to balance the preservation of traditional culture and the needs of modern society. They recognised that cultural heritage needs to be innovated and optimised, as well as adapted to the needs of modern society. One participant gave specific examples and ideas about the evolution of Chahar culture and the influence of foreign cultures, but the others said "I don't know".

The conclusions are summarised below:

Research target	Reach a verdict
<p><b>What are the current linguistic non-verbal communication practices of the Chahar Mongols, how have they changed, and how effective is the communication</b></p>	<p>1. Modern society has had an impact on linguistic non-verbal means of communication, with the adoption of national languages for communication, and non-verbal communication factors including body language and rituals, which are limited and have been assimilated or simplified.</p> <p>2. The non-verbal communication of the Chahar Mongols has been affected by external cultural influences, including changing times, social change, the intermingling of cultures of different ethnic groups and scientific and technological development; however, all of them have also been manifested in cultural inheritance</p> <p>3. Cultural heritage has a positive relevance, but</p>



	<p>its change is inevitable and may be lost or homogenised if not protected.</p> <p>5. Chahar Mongolian non-verbal communication has a role in social interaction and cultural transmission, but many people have an inaccurate understanding of Chahar culture.</p>
<p><b>What are the cultural norms, customs and rituals, and ceremonial arts of the Chahar Mongols themselves, and how have these elements been passed on and developed in the course of history?</b></p>	<p>1. The cultural norms of the Chahar Mongols are reflected in their daily lives, but the specific ways in which they are reflected and their historical changes are not fully understood.</p> <p>2. There is limited information about changes in cultural norms and the factors that influence them, and the audience is poorly informed.</p> <p>4. Chahar culture has low dissemination effects and is misinterpreted.</p> <p>5. Chahar culture is facing the problem of loss of heritage, and the specific protection and transmission of intangible cultural heritage is facing problems.</p> <p>6. The audience does not have a high degree of recognition of Chahar culture.</p>

(Table 1 Focus Group Discussion Findings)

During the focus group discussions, the authors found that of the 25 focus group participants, three were from the Chahar Mongolian community, one was from Inner Mongolia who had not been to Ulanqab, and one was a waiter from Ulanqab who had worked in a Mongolian restaurant before and was able to participate actively in the discussion. The remaining 19 people were not very enthusiastic in participating in the discussion, saying "not sure", "don't know", "not interested" in some of the questions. 4 panelists from outside Inner Mongolia who had never been to Ulanqab, 2 panelists from Inner Mongolia who had never been to Ulanqab, and 1 waiter from Ulanqab who had worked in a Mongolian restaurant in the past were able to participate actively in the discussion of questions. Four panellists from outside Inner Mongolia who have never been to Ulanqab and two panellists from outside Inner Mongolia who have been to Ulanqab asked questions such as "Do the Chahar Mongols still live in yurts? Why don't they eat vegetables? Is it true that the Chahar Mongols are barbaric?" The two Chahar Mongolians also said that they "don't know much about their own cultural identity, we don't live much differently from ordinary Han Chinese, and we don't speak Chahar Mongolian, we just know that we are Chahar Mongolians."

Summarising the above findings, it can be found that in the process of inheritance and development of Chahar culture, there are indeed problems of low cultural awareness, low sense of self-worth, and low and biased recognition of Chahar culture by different ethnic groups.

## **Conclusion:**

In view of the above research findings and based on relevant theoretical guidance, the Chahar culture communication strategy is now derived:

### ***Elimination of cultural conflicts and misinterpretations***

Chahar culture, as one of China's minority cultures, has a relationship between the "dominant culture" and the "group culture" with the mainstream Han culture, and a relationship between the "group culture" and the "heterogeneous culture" with other minority cultures. The relationship between Chahar culture and other minority cultures is between "group culture" and "heterogeneous culture". Therefore, in exploring the issue of cross-cultural communication and dissemination of Chahar culture, it is necessary to proceed from the following aspects.

#### ***17. Good handling of emotions in communication***

When communicating with different cultural groups, we need to fully understand the connotation and characteristics of each other's cultures, look for cultural compatibility, accept the differences between cultures, carry out emotional links through "empathy", introduce the differences between cultures in communication, and incorporate emotions into them.

#### ***18. Encouraging feedback***

Pay attention to verbal and non-verbal feedback. In face-to-face communication, observe each other's expression and state when the communicator introduces and watches the content related to Chahar culture, and guide the enquiry in a timely manner; in the process of media dissemination, pay attention to the audience's message, audience evaluation and make feedback and explanation in time.

### ***Shaping the image of Chahar culture***

#### ***5. Image positioning***

Firstly, a multicultural fusion of mainly nomadic culture is presented. The image of the Chahar culture can be reflected in the spirit of the Chahar Mongols, which is brave, free, warlike, nature-loving, freedom-loving and respectful of the grassland ecological environment, loyal to the motherland and obedient to the overall situation, while also highlighting the characteristics of the farming culture of the Han Chinese people, which is hard-working, simple and pragmatic.

Secondly, it presents rich and long history and folk culture. The image positioning of Chahar culture should emphasize its rich historical and cultural heritage, highlight its unique folk customs and cultural symbols, such as Mongolian yurts, Mongolian horses, Ovoo, Asir music, etc., and show its colourful folk life and cultural traditions.

Lastly, the image of Chahar culture should highlight the regional characteristics of the Mongolian Plateau steppe pastures. The image of Chahar culture should highlight the regional characteristics of the steppe pastures on the Mongolian plateau, emphasise its open and tolerant, magnificent natural landscape, as well as the worship of nature,

reverence, and cultural representations of the steppe characteristics under such a natural landscape.

### **6. *Shaping the methodology***

Firstly, it highlights the values and spiritual connotations of nomadic culture. Through song and dance performances, literary creations, stage plays and musicals, the survival and lifestyle of grassland herders and the core connotation of "respect for nature, solidarity and mutual assistance, and tolerance" are fully demonstrated.

Secondly, the image of Chahar cultural symbols is being shaped. Deeply excavate the outstanding contribution and important value of famous figures and heroes in the history of Chahar Mongols in the process of history and cultural construction. Through cultural programmes, cultural and creative products, and important cultural activities, the Chahar Mongolian costumes, food, embroidery, leather paintings, and asl music are displayed through performances, presenting the image of Chahar cultural symbols and enhancing cross-cultural identity and cross-cultural communication.

Finally, it reflects a multidimensional cultural linkage, highlighting the prosperity of culture. Tapping into the common historical veins of different cultures, in-depth study of the historical intersection of Chahar culture and other cultures in the region, such as the Great Wall culture and the culture of the merchants of Jin, and exploring their performance in architectural styles, folk customs, trade exchanges, and cultural exchanges. It conveys the idea of the common prosperity of multiple cultures and enhances the soft power and international influence of regional culture.

### ***Practising Chahar cultural ethics***

The Chahar Mongols practice the core concepts of "reverence for nature, openness, faithfulness, respect for etiquette, loyalty, courage and patriotism" in their daily behaviour and thoughts, and take culture as a guideline for their own behavioural norms. Through their actions, they agree with the core concepts of "unity of heaven and mankind" and "the world as a common good" advocated by the mainstream culture of the Han Chinese people.

**This thesis is the result of the special project of Jining Normal College, 'Research on Chahar Cultural Communication', project number: jschr202203.**

### **Reference**

- Dewey, J. (1916). *Democracy and education: an introduction to the philosophy of education*. Macmillan.
- Li, Y. (2009). *Culture and communication*. Zhejiang University Press.
- Ou, J., & Pan, X. (2014). Core concepts and fundamental spirit of Chahar culture. *Journal of Jining Teachers College*, (01), 43-51.
- Zhou, O. (2014). Core concepts and fundamental spirit of Chahar culture. *Journal of Jining Teachers College*, 35(3), 56-62.
- Hall, E. T. (1959). *The silent language*.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Sage Publications.

- Sommers, L. A., & Porter, R. E. (2004). *Intercultural communication*. Beijing: Renmin University of China Press.
- Gudykunst, W. B., & Kim, Y. Y. (1997). *Communicating with strangers: An approach to intercultural communication* (3rd ed.). McGraw-Hill.
- Oberg, K. (1960). Cultural shock: Adjustment to new cultural environments. *Practical Anthropology*, 7(4), 177-182.
- Hofstede, G. (1991). *Cultures and organisations: software of the mind*. McGraw-Hill.
- Herrscher, R. (1999). *Comunicación intercultural*. Ediciones Universitarias de Valparaíso.
- Jensen, J. L. (2022). *Understanding news culture*.

**Paper ID:** 1571056725

**Name:** Khairunnisa Mokhtar, Rozniza Zaharudin & Siti Khadijah Binti Yusof Azuddin

**Paper Title:** Best Practices in Supporting Career Transition for Students with Special Needs in the 21st Century: A Systematic Review

**E-mail:** eichamokhtar@gmail.com

## 1.0 Introduction

The transition from school to employment or further education represents a critical juncture for students with special needs, often requiring tailored support and innovative approaches to ensure successful outcomes. In the 21st century, the landscape of education and career preparation has evolved, emphasizing skills such as critical thinking, digital literacy, and collaborative problem-solving (Partnership for 21st Century Learning, 2019). For students with special needs, navigating this transition can be particularly challenging due to barriers such as limited access to resources, inadequate support systems, and varying levels of family involvement (Test et al., 2009).

Recent research underscores the importance of comprehensive, individualized transition planning that integrates family participation and leverages modern technology to enhance learning and career readiness (Morningstar et al., 2016). Effective career transition programs address academic and vocational skills and focus on developing social and emotional competencies necessary for the workplace (Carter et al., 2011). The implementation of these practices within an inclusive, supportive educational environment can significantly improve the prospects of students with special needs as they move into adulthood.

This systematic review aims to identify and synthesize the best practices in supporting career transitions for special needs students within the context of 21st-century education. By examining a broad range of studies and highlighting successful strategies, this review seeks to provide educators, policymakers, and families with actionable insights to enhance career readiness and long-term success for this vulnerable population. The findings are intended to inform the development of more effective transition programs that address the unique needs of special education students and the demands of the modern workforce.

## 2.0 Literature Review

This literature review discusses the importance of comprehensive support systems for students with special needs during career transitions, focusing on challenges, strategies, and opportunities in the 21st century. Research consistently highlights the significant barriers that students with special needs face during their career transitions. In rural districts, for example, the extent of participation in career development opportunities varies based on disability type, staff allocation, and the effectiveness of partnerships. These factors often limit the inclusivity and accessibility of career development programs, underscoring the need for tailored approaches that address staff needs and leverage community resources (Schutz & Travers, 2023).

In Japan, students with social, emotional, and behavioral difficulties face additional stigmas that negatively impact their career path choices. These stigmas, compounded by the lack of comprehensive support systems, highlight the need for further research and targeted interventions to assist in career-related decision-making among students, teachers, and parents (Fujino & Sato, 2022). Similarly, in Ireland, students with special educational needs (SEN) are more likely to experience negative transitions to secondary school, particularly those with general learning and intellectual disabilities. These challenges are exacerbated by gender and socio-economic factors, emphasizing the need for targeted supports during the pre-transition period (Fasching, 2014).

The School-to-Work framework, incorporating apprenticeships, mentoring, internships, and job shadowing, is crucial for effective career transitions. Legal frameworks like IDEA and STWOA mandate individualized education programs, ensuring students with disabilities are well-prepared for the workforce (Bonds, 2006). Hong Kong's 12-year free education system supports SEN students' transition to adulthood, but they face challenges. Teachers prepare them for lifelong learning and career planning, enhancing motivation and quality of life. Support, strategies, and pathways are crucial (Fung & Lan, 2018).

Improving vocational assessment skills among teachers is another key factor in supporting career transitions. Imai et al. (2023) found that targeted training programs for teachers significantly enhance their ability to support career decisions for students with intellectual disabilities. The effectiveness of these programs is influenced by the teachers' experience, particularly in upper secondary schools, and is more impactful for professionals with foundational knowledge in vocational rehabilitation.

For Autistic students transitioning to postsecondary education or employment, a comprehensive approach is essential. Barnhill (2022), highlights the importance of developing academic, social, self-regulation, and self-sufficiency skills. School psychologists and other professionals play a critical role in providing tailored support, including cognitive assessments, strengthening academic and behavioral skills, and assisting families in accessing necessary services. These strategies are crucial for improving employment outcomes and overall life quality for Autistic students as they transition into adulthood.

Teaching self-determination skills within the general curriculum is another best practice that supports career transitions for students with special needs. Rowe et al. (2015), provide evidence-based strategies that enhance students' autonomy and decision-making abilities. These strategies, implemented within a Multi-Tiered System of Supports (MTSS), contribute to students' overall success by fostering independence and self-advocacy skills that are critical for navigating career transitions.

## **1. Material and methods**

### **2. Identification**

The process of conducting a systematic review to select pertinent papers for this report includes three main stages. Firstly, it encompasses the identification of keywords and

associated terms by utilizing resources such as thesauri, dictionaries, encyclopedias, and prior research. After determining the relevant keywords, search strings were formulated for the Scopus and Web of Science (WoS) databases (see Table 1). In the initial phase of the systematic review, a combined total of 3107 papers was successfully retrieved from both databases, showcasing the depth of Best Practices in Supporting Career Transition for Students with Special Needs in the 21st Century

**Table 1: The search strings.**

Scopus	WOS
TITLE-ABS-KEY ( transition AND to AND work AND special AND	transition AND to AND work AND special AND needs -
TITLE-ABS-KEY ( transition AND to AND work AND special AND needs ) AND PUBYEAR > 2021 AND PUBYEAR < 2025 AND ( LIMIT-TO ( SUBJAREA , "SOCI" ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( PUBSTAGE , "final" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) ) AND ( LIMIT-TO ( OA , "all" ) )	Refine results for transition AND to AND work AND special AND needs (Topic) and Preprint Citation Index (Exclude – Database) and 2024 or 2023 or 2022 (Publication Years) and Article (Document Types) and Web of Science Core Collection (Database) and Education Educational Research or Psychology (Research Areas) and English (Languages) and All Open Access (Open Access)

### 3.2 Screening

The initial screening process should exclude duplicate papers. 3036 papers were excluded in the first phase, and seventy-one publications were examined in the second phase using a variety of inclusion and exclusion criteria formed by the researchers. The first criterion was literature, or research publications, as they are the main source of useful knowledge. It also involves the omission of articles, reviews, meta-analyses, syntheses, and systematic reviews from the current study. Moreover, the review focused solely on English- language papers. It is imperative to highlight that the schedule was selected with a five-year timeframe in mind (2022-2024).

### 3.3 Eligibility

Seventy-one articles have been prepared for the eligibility step, which is the third stage. Currently, every article's title and significant content underwent meticulous scrutiny to confirm that they adhered to the inclusion criteria and aligned with the objectives of the present Best Practices in Supporting Career Transition for Students with Special Needs in the 21st Century. Forty-nine reports were excluded since empirical data did not support them. Lastly, Table 2 indicates that fifteen articles are accessible for examination.

**Table 2: The selection criterion is searching**

CRITERION	INCLUSION	EXCLUSION
LANGUAGE	English	Non-English
TIMELINE	2022-2024	< 2022
LITERATURE TYPE	Journal (Article)	Conference, Book, Review
SUBJECT AREA	Social science	Besides Computer and Engineering/Others

### 3.4 Data Abstraction and Analysis

In this research, a comprehensive analysis was conducted by researchers focusing on identifying related subjects and subtopics. The data collection phase involved a meticulous examination of 15 papers to extract statements or information related to the research questions. The subsequent phase involved a collaborative assessment by the authors and experts to group and organize the findings related to Best Practices in Supporting Career Transition for Students with Special Needs in the 21st Century. Three key themes emerged: 1) Inclusive Career Transition Programs, 2) Barriers and Facilitators in Career Transition and 3) Innovative Practices and Pedagogies. The authors ensured the interconnectedness and relevance of these themes, collaborating to address any disparities and fine-tuning the themes for logical flow and consistency. Expert validation, conducted by Ts. Dr. Rozniza Zaharudin, from USM, played a crucial role in establishing the clarity, significance, and sufficiency of each sub-theme, ensuring domain validity. Adjustments were made based on feedback and input from experts, enhancing the overall quality of the research.

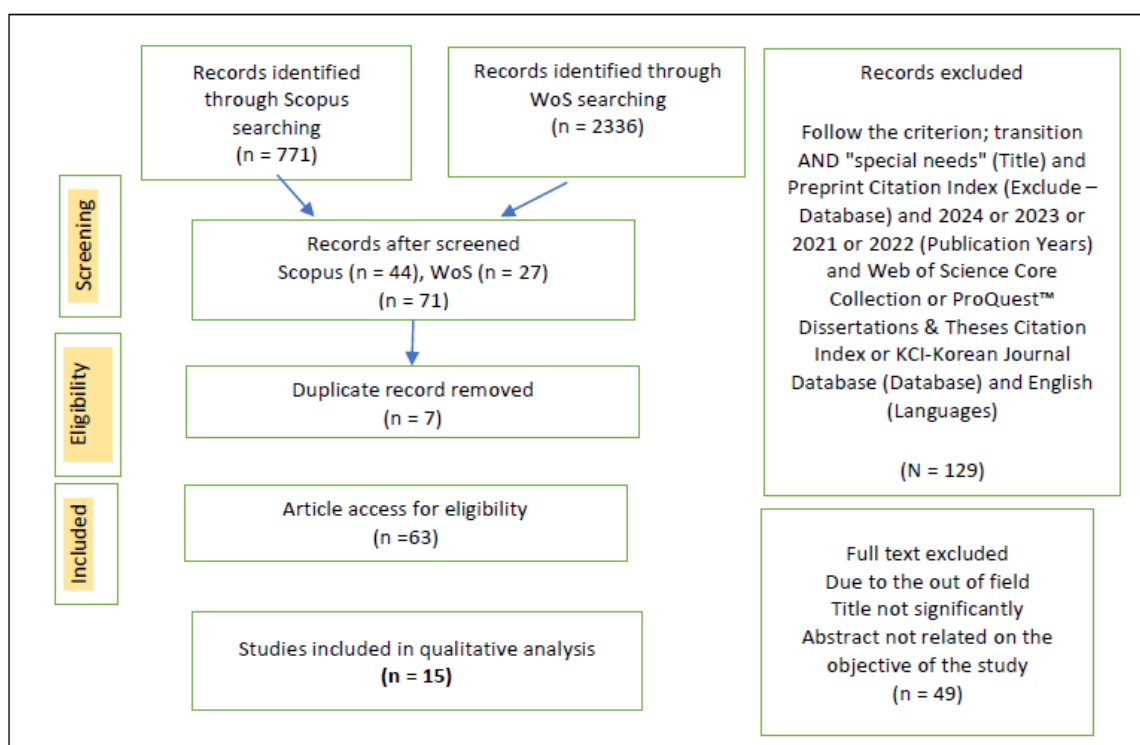


Figure 1: PRISMA

### 4.0 Result and Finding



### *Inclusive Career Transition Programs*

<b>Authors</b>	<b>Title</b>	<b>Advantages and Finding</b>
(Lambert et al., 2023)	Perspectives on the implementation of pre-ETS services: Identification of barriers and facilitators to early career planning for youth with disabilities	Pre-ETS benefits 14-16 year-olds, but educators and counselors need more resources, ongoing training, and engaging activities to make transitions meaningful and engaging.
(Imai et al., 2023)	Efforts and Effectiveness in Improving Knowledge and Skills of Vocational Assessment for Teachers	The study found that a vocational assessment training program significantly enhanced teachers' understanding and practices, with its effectiveness influenced by their experience, particularly for

	Supporting Career Decisions of Students with Intellectual Disabilities	professionals with foundational knowledge in vocational rehabilitation.
(Peña-Quintana & Santana-Vega, 2022)	The Transition to Employment in Wales and the Canary Islands for People with Intellectual Disabilities: Supported Employment	The study reveals that while Wales has a more advanced approach to assisting young people with intellectual disabilities in employment, both Canary Islands and Wales face similar barriers, emphasizing the need for support.
(Poppen et al., 2024)	Transition self-assessment tool: The development and field testing of a statewide assessment of pre-employment transition services (2024)	The study reveals that while high schools provide career-related services, not all disabled students have access. Schools participating in statewide transition programs offer better services, and a statewide needs assessment aligns with existing knowledge, guiding state goals and strategies.

#### *Barriers and Facilitators in Career Transition*

<b>Authors</b>	<b>Title</b>	<b>Advantages and Finding</b>
(Menze et al., 2023)	Long-term scarring from institutional labelling: The risk of NEET of students from schools for learning disability in Germany	The label of 'having attended a special needs school' does generate long-term scars above and beyond low school attainment. However, this is only the case for school leavers with a lower secondary school certificate but not for those without school certificate.
(Yngve et al., 2023)	Establishment in productive occupations and perceived work ability among former students with special educational needs one year after upper secondary education	The findings suggest that in order to facilitate the transition from education to employment in productive occupations, children with special educational needs require person-centered support to address challenges both inside and outside of upper secondary school
(Arias-Pastor et al., 2023)	Perceptions and preparedness of secondary teacher trainees to foster inclusive schools for all	Future educators' positive attitudes towards inclusive education are influenced by factors like regular contact with vulnerable individuals, nonformal training, and high teacher self-efficacy, which enhance their ability to address diversity.
(Wang et al., 2024)	Navigating the school transition: Within- and between-person associations between adolescents' academic self-efficacy, school relatedness, and intrinsic academic motivation	The study found positive associations between academic self-efficacy, intrinsic motivation, and school relatedness, suggesting that social connections and belongingness are crucial for boosting motivation after school transition.
(Mutlu et al., 2024)	Logics of career choice - concept and results of an approval-sensitive career guidance workshop	The study partially confirmed the importance of social approval and autonomy, but rejected hypotheses about reflection of needs and intention to act. The workshop led to a decrease in career choice interest but increased retrospective activity reporting in the treatment group

### *Innovative Practices and Pedagogies*

<b>Authors</b>	<b>Title</b>	<b>Advantages and Finding</b>
(Hellemann, 2022)	towards a problem-posing pedagogy: Using teacher-in-role in a special needs classroom	The study found that integrating drama-based pedagogy with Freire's problem-posing pedagogy enhances learners' decision-making abilities, critical thinking, self-esteem, and confidence in the classroom.
(Schellenberg et al., 2022)	Empower Peers 4 Careers: Positive Peer Culture to Prepare Adolescents' Career Choices	The peer group meetings enhance social-emotional competence and class climate while examining the role of moderators like teachers in training on resilience promotion and strengths orientation for career choice preparation.
(Seko et al., 2022)	Transitions Theatre: An Arts-Informed Interprofessional Education Workshop	The workshop improved learners' confidence in transition support and interprofessional collaboration, enhancing their empathetic engagement. The evidence-based teaching approach of readers' theater and coteaching model provided a unique opportunity to understand clients' challenges.
(Phuong & Quynh, 2022)	Training Perception and Work Engagement: The Mediating Role of Organisational-Based Self-Esteem and Self-Efficacy	The study explores employee engagement factors in Central European countries transitioning from central-command to market economies, emphasizing the need for effective Western human resource practices for academics and practitioners.
(Battisti et al., 2022)	Distance learning during COVID-19 lockdown: Impact on adolescents with specific learning disorders and their parents	The present study prompts special considerations for students with special educational needs not only when providing conventional instruction, but especially when it is necessary to suddenly modify teaching approaches
(Glaze et al., 2023)	Impact of COVID-19 on Referral Patterns and Service Delivery for an Integrated Behavioral Health Program	The study found that after the onset of COVID-19, there was a significant increase in referrals related to social determinants of health for WIC families, and the transition to telehealth services effectively supported their needs.

## **5.0 Discussion and Conclusion**

The findings underscore the critical importance of well-resourced, inclusive career transition programs tailored to the unique needs of students with disabilities. Pre-Employment Transition Services (Pre-ETS) are especially beneficial for younger students, but their success depends on sufficient resources, continuous training for educators and counselors, and engaging, relevant activities (Vilbas & King-Sears, 2023). Vocational assessment training programs highlight the need for targeted professional development, particularly for those with foundational knowledge in vocational rehabilitation, as experienced educators are better at applying these assessments to improve student outcomes. Regional differences, such as those between Wales and the Canary Islands, reveal the varied approaches to supporting youth with intellectual disabilities, though common barriers suggest the need for consistent, region-wide support (Teresa Pena- Quintana & Santana-Vega, 2022). Additionally, disparities in access to career-related services in high schools highlight the impact of statewide transition programs, emphasizing the necessity of comprehensive needs assessments to guide state strategies and ensure equitable support for all students during career transitions (Viezel et al., 2022).

The integration of drama-based pedagogy with Freire's problem-posing approach significantly enhances learners' decision-making abilities, critical thinking, self-esteem, and confidence in the classroom. Additionally, peer group meetings bolster social-emotional competence and improve the overall class climate, with moderators like teachers playing a key role in resilience promotion and career choice preparation (Hannon & O'Donnell, 2022; Hellemann, 2022; Noraini & Rohaizat, 2021). Workshops focusing on transition support and interprofessional collaboration boost learners' confidence and empathetic engagement. Evidence-based teaching methods, such as readers' theater and the coteaching model, offer unique insights into clients' challenges (Martin et al., 2006; Test et al., 2009). Furthermore, in Central European countries transitioning from central-command to market economies, effective Western human resource practices are crucial for fostering employee engagement, providing valuable lessons for both academics and practitioners (Kohler & Field, 2003; Seko et al., 2022).

### **Acknowledgement**

Our thanks to two anonymous reviewers for their constructive and insightful comments.

### **References**

- Arias-Pastor, M., Van Vaerenbergh, S., Fernández-Solana, J., & González-Bernal, J. J. (2023). Perceptions and preparedness of secondary teacher trainees to foster inclusive schools for all. *Frontiers in Education*, 8. <https://doi.org/10.3389/educ.2023.1242623>
- Barnhill, S. Y. Z.-. (2022). *Post-Secondary Transition Planning Among African American Special Needs Graduates and Parents in North Carolina: A Phenomenological Study*.
- Battisti, A., Lazzaro, G., Varuzza, C., Vicari, S., & Menghini, D. (2022). Distance learning during COVID-19 lockdown: Impact on adolescents with specific learning disorders and their parents. *Frontiers in Psychiatry*, 13. <https://doi.org/10.3389/fpsy.2022.995484>
- Bonds, B. G. (2006). School-to-work transitions. In *Deaf Learners* (Vol. 9781563683, pp. 145-158). Gallaudet University Press. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84957771691&partnerID=40&md5=54325bc7d261a0e8359f7639f5985d9b>
- Carter, E. W., Trainor, A. A., Owens, L. A., Sweden, B., & Sun, Y. (2011). Self-determination prospects of youth with high-incidence disabilities. *Journal of Emotional and Behavioral Disorders*, 19(3), 187-199.
- Fasching, H. (2014). Career counselling at school for placement in sheltered workshops? *British Journal of Learning Disabilities*, 42(1), 50-57. <https://doi.org/10.1111/bld.12009>
- Fujino, H., & Sato, N. (2022). Career path support for special needs students with social, emotional, and behavioural difficulties in middle school in Japan: a qualitative study. *Humanities and Social Sciences Communications*, 9(1). <https://doi.org/10.1057/s41599-022-01319-w>
- Fung, S. K., & Lan, Y. (2018). Post-school Transition of Students with Special Educational Needs in Hong Kong. In *Education in the Asia-Pacific Region* (Vol. 41, pp. 183-195). Springer Nature. [https://doi.org/10.1007/978-981-10-6476-0\\_11](https://doi.org/10.1007/978-981-10-6476-0_11)

- Glaze, K., Sward, A., Lenne, E., Brown, S., Rogers, L., Frankel, K. A., & Klawetter, S. (2023). Impact of COVID-19 on Referral Patterns and Service Delivery for an Integrated Behavioral Health Program. *Families in Society*, 104(2), 142-153. <https://doi.org/10.1177/10443894221133500>
- Hannon, L., & O'Donnell, G. M. (2022). Teachers, parents, and family-school partnerships: emotions, experiences, and advocacy. *Journal of Education for Teaching*, 48(2), 241-255. <https://doi.org/10.1080/02607476.2021.1989981>
- Helleman, P. C. (2022). Towards a problem-posing pedagogy: Using teacher-in-role in a special needs classroom. *South African Journal of Childhood Education*, 12(1). <https://doi.org/10.4102/SAJCE.V12I1.1205>
- Imai, A., Maebara, K., & Yaeda, J. (2023). Efforts and Effectiveness in Improving Knowledge and Skills of Vocational Assessment for Teachers Supporting Career Decisions of Students with Intellectual Disabilities. *Journal of Intellectual Disability - Diagnosis and Treatment*, 11(4), 167-175. <https://doi.org/10.6000/2292-2598.2023.11.04.1>
- Kohler, P. D., & Field, S. (2003). Transition-Focused Education: Foundation for the Future. *Journal of Special Education*, 37(3), 174-183. <https://doi.org/10.1177/00224669030370030701>
- Lambert, A., McKelvey, S., Getzel, E. E., Belluscio, T., & Parthemos, C. (2023). *Perspectives on the implementation of pre-ETS services: Identification of barriers and facilitators to early career planning for youth with disabilities*. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85161280061&doi=10.3233%2fJVR-230001&partnerID=40&md5=0ae5912e4a1b4f44854741f1e7c64d23>
- Martin, J. E., Van Dycke, J. L., Christensen, W. R., Greene, B. A., Gardner, J. E., & Lovett, D. L. (2006). Increasing student participation in IEP meetings: Establishing the Self-Directed IEP as an evidenced-based practice. *Exceptional Children*, 72(3), 299-316. <https://doi.org/10.1177/001440290607200303>
- Menze, L., Solga, H., & Pollak, R. (2023). Long-term scarring from institutional labelling: The risk of NEET of students from schools for learning disability in Germany. *Acta Sociologica (United Kingdom)*, 66(3), 289-306. <https://doi.org/10.1177/00016993221114257>
- Morningstar, M. E., Trainor, A. A., & Murray, A. (2016). Examining outcomes associated with adult expectations for postschool life for young adults with disabilities. *Remedial and Special Education*, 37(3), 131-144.
- Mutlu, S., Ziegler, B., & Granato, M. (2024). Logics of career choice - concept and results of an approval-sensitive career guidance workshop. *FRONTIERS IN PSYCHOLOGY*, 14. <https://doi.org/10.3389/fpsyg.2023.1235221>
- Noraini, A., & Rohaizat, I. (2021). Parents Involvement in Implementation of Career Transition for Students with Learning Disabilities from a Teacher's Perspective in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 11(8). <https://doi.org/10.6007/ijarbss/v11-i8/10418>

- Peña-Quintana, M. T., & Santana-Vega, L. E. (2022). The Transition to Employment in Wales and the Canary Islands for People with Intellectual Disabilities: Supported Employment. *Education Sciences*, 12(11). <https://doi.org/10.3390/educsci12110796>
- Phuong, T. H., & Quynh, D. T. N. (2022). TRAINING PERCEPTION AND WORK ENGAGEMENT: THE MEDIATING ROLE OF ORGANISATIONAL-BASED SELF-ESTEEM AND SELF-EFFICACY. *Central European Business Review*, 11(2), 19-40. <https://doi.org/10.18267/j.cebr.286>
- Poppen, M., Sheftel, A., Lindstrom, L. E., Rowe, D. A., Unruh, D., & Mazzotti, V. L. (2024). Transition self-assessment tool: The development and field testing of a statewide assessment of pre-employment transition services. *Journal of Vocational Rehabilitation*, 60(2), 175-184. <https://doi.org/10.3233/JVR-240004>
- Rowe, D. A., Mazzotti, V. L., & Sinclair, J. (2015). Strategies for Teaching Self-Determination Skills in Conjunction With the Common Core. *Intervention in School and Clinic*, 50(3), 131-141. <https://doi.org/10.1177/1053451214542043>
- Schellenberg, C., Steinebach, C., & Krauss, A. (2022). Empower Peers 4 Careers: Positive Peer Culture to Prepare Adolescents' Career Choices. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.806103>
- Schutz, M. A., & Travers, H. E. (2023). Career Development in Rural Districts: Opportunities and Limitations Regarding Students With Disabilities. *Rural Special Education Quarterly*, 42(3), 136-151. <https://doi.org/10.1177/87568705231179939>
- Seko, Y., Oh, A., Goberdhan, K., Bowman, L., Hubley, D., Khazanchi, P., Vermeulen, N., & Curran, C. J. (2022). Transitions Theatre: An Arts-Informed Interprofessional Education Workshop. *MedEdPORTAL : The Journal of Teaching and Learning Resources*, 18, 11254. [https://doi.org/10.15766/mep\\_2374-8265.11254](https://doi.org/10.15766/mep_2374-8265.11254)
- Teresa Pena-Quintana, M., & Santana-Vega, L. E. (2022). The Transition to Employment in Wales and the Canary Islands for People with Intellectual Disabilities: Supported Employment. *EDUCATION SCIENCES*, 12(11). <https://doi.org/10.3390/educsci12110796>
- Test, D. W., Fowler, C. H., Richter, S. M., White, J., Mazzotti, V., Walker, A. R., & Korterling, L. (2009). Evidence-based secondary transition predictors for improving postschool outcomes for students with disabilities. *Career Development for Exceptional Individuals*, 32(3), 160-181.
- Viezel, K. D., Wilczynski, S. M., & Davis, A. S. (2022). *Postsecondary Transition for College-or Career-Bound Autistic Students*. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85158945543&doi=10.1007%2F978-3-030-93947-2&partnerID=40&md5=288945eaaeb5cd7451f67687927673c6>
- Vilbas, J. A., & King-Sears, M. E. (2023). Establishing a research base: school counsellors and students with disabilities. *Educational Research*, 65(2), 204-229. <https://doi.org/10.1080/00131881.2023.2203708>

Wang, J., Kaufman, T., Mastrotheodoros, S., & Branje, S. (2024). Navigating the school transition: Within- and between-person associations between adolescents' academic self-efficacy, school relatedness, and intrinsic academic motivation. *Journal of School Psychology, 106*. <https://doi.org/10.1016/j.jsp.2024.101326>

Yngve, M., Lidström, H., Hemmingsson, H., & Ekbladh, E. (2023). Establishment in productive occupations and perceived work ability among former students with special educational needs one year after upper secondary education. *Work, 75*(1), 85-95. <https://doi.org/10.3233/WOR-220057>

**Paper ID:** 1571061215

**Name:** Nurkhalis Nurkhalis, Emy Susanti & Sutinah Sutinah

**Paper Title:** Tracking Previous Studies and Using Critical Methods in Ecofeminism Study in Aceh

**E-mail:** nurkhalis-2022@fisip.unair.ac.id

## **Introduction**

It has not been fully rehabilitated and reconstructed after the conflict and natural disaster on December 26, 2004, hit the coastal area of Aceh. The occurrence of illegal logging of forests and the destruction of nature due to the large-scale exploitation of natural resources or the change of land function to industrial areas has further positioned women in Aceh as victims who have suffered so much from these situations and conditions. Responding further to this reality, the community and non-governmental organizations (NGOs), also called Non-Governmental Organizations (NGOs) in Aceh, accommodate the formation of a social movement.

Social movements in Aceh continue to grow and have shifted from the previous focus on political and economic issues, now changing the focus to environment, movements, or ecofeminism movements. The ecofeminism movement in Aceh, classified as a new social movement, pays attention and concern to efforts to care for, maintain, and preserve forests and nature in Aceh.

Tracking previous studies has resulted in several findings: Over the past few decades, the ecofeminist movement has become a hot topic of discussion and debate in international and national scientific forums. The study of women's social movements from the perspective of ecofeminism is developing and in line with national and world campaigns on environmental sustainability.

The study of ecofeminism in Aceh actively connects with Indonesia's Sustainable Development Goals (SDGs) program and will appear to intersect with several SDGs programs, including healthy living, gender welfare, climate change management, peace, justice, as well as resilient institutions and partnerships to achieve sustainable development goals.

This research aims to provide novelty to several points of discussion, including the analysis of issues related to the environment in the last five years of publication. In addition, this article will discuss the difference between the ecofeminism movements of Mpu Uteun and Teungku Inong. Finally, what are the benefits of using critical methods in studying ecofeminism.

## **Objective**

The object of research in this study is Acehnese women as forest rangers, better known as the Mpu Uteun community, located in Damaran Baru village, Timang Gajah District, Bener Meriah Regency. In addition, another movement called Teungku Inong is a term pinned to women ulama in Aceh Province. They generally work as leaders of traditional Islamic boarding schools (dayah), teachers of the Qur'an and hadith, and lecturers, and usually have several worshippers spread across 11 districts of Aceh, including Southwest Aceh, East Aceh, Central Aceh, Aceh Tamiang and others. So far, the areas that have been of special concern to Mpu Uteun and Teungku Inong are the Leuser Ecosystem (KEL) area



and the Ulu Masen Forest as a habitat for flora and fauna as well as an economic resource for the surrounding community.

### **Methods and Instruments**

This study uses a critical-reflective philosophical approach from the literature study used. Researchers collect data from documentation, books, articles, journals, and online media news. Moreover, The analysis technique consists of the first stage, categorizing data from the results of obtaining several published documentation data related to the ecofeminist movement in Aceh's concern for forests and the environment. The second step is presenting data from a set of information in narrative form, which discusses the differences between the Mpu Uteun and Teungku Inong movements. Moreover, the third step is the data analysis carried out by researchers repeatedly to find empirical facts that explain the Acehnese ecofeminism movement carrying out forest and environmental conservation practices as a new social movement in Aceh.

### **Results and Discussion**

Based on the results of the research in this article, the researcher can provide a further explanation that the publications of the last five years have also discussed environmental aspects, such as conflict issues in forest management or nature conservation, disaster mitigation through public spaces, nature degradation through text analysis/discourse analysis/visual arts and the issue of climate change crisis. Meanwhile, the differences between the Mpu Uteun movement and the Mpu Uteun movement include grassroots-based movements, social (collective) nature/forest conservation practices, and conservation efforts by taking locations in the Leuser Ecosystem Area (KEL). Meanwhile, Teungku Inong has different characteristics, namely the personal movement of adult mothers to the elderly in the village, personal conservation practices, and conservation efforts carried out through religious recitation at the homes of the Teungku Inong.

Finally, the benefits of using critical methods in the study of ecofeminism include obtaining the hidden meaning of the collective action of the ecofeminism movement, providing a more comprehensive study of the ecofeminism movement, and the concern of researchers in order to obtain viability for women who have been directly affected by forest and environmental degradation.

### **Conclusion/Implications for Research/Policy**

The study of ecofeminism in Indonesia has rapidly advanced in recent years, as reflected in the growing number of publications, the rise of various movements, and the shifting focus of non-governmental organizations toward environmental issues. Environmental issues in the last five years of publications consisting of conflicts in forest management or nature conservation, disaster mitigation through public spaces, nature degradation through text analysis/discourse analysis/visual arts, and the issue of climate change crisis have become national and international concerns and concerns. The presence of social movements in Aceh, including the Mpu Uteun and Para Teungku Inong communities, gives a new color that their emergence through the action of caring for, protecting, and preserving nature and forests will be able to provide great benefits in addition to maintaining the habitat of flora and fauna and also maintaining economic resources for the surrounding community.

Furthermore, considering that the study of ecofeminism is now a special attraction for academics, researchers, and politicians in policy formulation, considering the use of critical methods in the study of ecofeminism studies can provide various benefits, including obtaining the hidden meaning of the collective action of the ecofeminism movement, providing a more comprehensive presentation of the study of the ecofeminism movement and the partiality of researchers later in order to obtain livability for women who have been directly affected by forest and environmental degradation.

**Paper ID:** 1571061748

**Name:** Muhammad Nor Abdurrahim

**Paper Title:** Appraising the Future of Islamic Criminal Law in Malaysia Vis-À-Vis Constitutional Challenges

**E-mail:** muhammadnor@graduate.utm.my

## **Introduction**

Implementing Islamic criminal law within the Malaysian legal system involves a complex interplay between state and federal legislative powers, according to the principle of federalism. The Federal Constitution vests state governments with the power to implement Syariah criminal law by creating offences against Islamic precepts and enforcing these laws. However, this arrangement creates challenges in harmonizing state-level Islamic laws with federal legislation.

This tension is evident in various legal challenges and judicial rulings concerning the constitutionality and jurisdictional boundaries of Syariah laws, particularly in the recent cases of *Iki Putra Mubarrak v Kerajaan Negeri Selangor & Anor* (2021) and *Nik Elin Zurina bt Nik Abdul Rashid & Anor v Kerajaan Negeri Kelantan* (2024). These judgments have the potential to reshape the legal framework relating to the implementation of Islamic criminal law within Malaysia's dual legal system. Furthermore, the rulings have reignited debates on harmonizing civil and Syariah laws, with some advocating for a more cooperative federalism approach to sustain this unique parallel legal system. This paper aims to address the complexity of implementing Islamic criminal law within the Malaysian legal system by examining statutory provisions and legal precedents. It will also analyze the future of Islamic criminal law in Malaysia following the recent rulings by the country's apex court.

## **Objective**

This study aims to understand the current Malaysian legal framework and the implementation of Islamic criminal justice in Malaysia. The research will explore the conflicts between civil and Islamic law and their impact on Malaysia's dual legal system in light of recent judgments by the apex court. Ultimately, the study aims to propose recommendations for harmonizing civil and Islamic law in Malaysia, with a particular focus on criminal justice, compatible with the notion of federalism in Malaysia.

## **Methods and Instruments**

The study is qualitative in nature, using library research and content analysis methods to discuss the subject matter. A descriptive approach is employed to identify the conflict between civil and Islamic law, particularly regarding Islamic criminal justice. Content analysis of provisions from the Federal Constitution and other written statutes, both Federal and state, such as the Syariah Courts (Criminal Jurisdiction) Act 1965, Penal Code, Criminal Procedure Code, and the Kelantan Syariah Criminal Code Enactment (1) 2019, is adopted to examine the legal position under these legislations concerning the implementation of Islamic criminal justice in Malaysia. The same approach is used to examine precedents decided by the apex court, especially in the *Nik Elin Zurina* and *Iki Mubarak Putra* cases, to extract legal principles from each judgment and the courts' judicial interpretation. This analysis ultimately leads to an examination of the future of Islamic criminal law in the Malaysian legal system. This comprehensive approach allows for a thorough examination

of the complex interplay between civil and Islamic law within the Malaysian legal framework hence providing valuable insights into the practical implications of the legal conflict and potential avenues for reconciliation.

### **Results and Discussion**

The apex court recognized that the phrase 'precepts of Islam' was wide and that would include every single rule, conduct, principle, commandment, and teaching of Islam prescribed in the Syariah, including Islamic criminal law and should not be confined to the five basic pillars of Islam. Nevertheless, the court ruled that the State Legislature could not create offence already dealt with in the Federal List. The State Legislature's competence to legislate over Islamic criminal offences was neither exclusive nor comprehensive. Based on art 74(1) of the FC and item 4 of the Federal List, criminal law was a matter within the domain of Parliament. For example, Parliament had made provision for the offence of sexual intercourse against the order of nature in the Penal Code i.e. ss 377 and 377A of the Penal Code. It could not be disputed that offences contained in the Penal Code were clearly within the term 'criminal law'. (*Iki Putra bin Mubarrak v Kerajaan Negeri Selangor & Anor* [2021] 2 MLJ 323)

In pith and substance, state laws fell within the entry of Federal laws such as 'Criminal Law' is under the Federal List. Therefore, only Parliament had the power to make such laws with respect to the offence of sexual intercourse against the order of nature.

Simplicity of defining a Syariah criminal offence as "criminal law" without looking at the elements of the legislation may be prejudiced to the principles and concept of the Syariah criminal offences. This is also manifestly prejudice to the power of the State legislative to legislate as there are many instances where Syariah criminal offences are being legislated for the implementation on Muslim person while there is federal law in existence and enforced. For example, Syariah offences against gambling against the existing federal offences under Common Gaming Houses Act 1953.

### **Conclusion/Implications for Research/Policy**

A thorough and comprehensive study on the power and jurisdiction of the State legislature to enact on Syariah criminal offences and their punishment need to be done. Legality of certain provisions under federal laws which may encroach the definition and principle of Syariah criminal offences need to also be finalized. Harmonization between civil and Syariah laws may be an answer to solve the conflict by recognizing the principles of Syariah in deciding the elements of the crime as well as punishments

**Paper ID:** 1571054739

**Name:** Shariza Shahari & Fatin Phang

**Paper Title:** Inquiry-Based Learning Model to Change Misconceptions in the Topic of Force in the Malaysian Context

**E-mail:** shariza79@graduate.utm.my

## **Introduction**

Inquiry-Based Learning (IBL) is a pedagogical approach that emphasizes active, student-centered learning where students engage in questioning, investigating, and constructing their understanding of scientific concepts (Fernandez, 2017; Sim & Mohammad Yusof Arshad, 2014). This approach aligns with constructivist learning theory, which posits that learners build new knowledge based on their prior experiences and interactions with their environment (Vygotsky, 1978). IBL encourages students to take ownership of their learning, fostering critical thinking and problem-solving skills (DiBiase & McDonald, 2015; Kaya et al., 2016) and a deeper understanding of complex topics like force in physics.

Despite the benefits of IBL, lecturers at Malaysian matriculation colleges face challenges in implementing various IBL models in their physics classrooms. These challenges include insufficient training and resources, time constraints within the curriculum, and the need for more structured guidance on effectively integrating IBL into their teaching practices (DiBiase & McDonald, 2015; Kaya et al., 2016). Additionally, some lecturers find it challenging to shift from traditional, teacher-centered methods to a more student-centered approach, which requires significant changes in classroom management and instructional strategies. This is particularly relevant when teaching intricate concepts like force, which demand a deep conceptual understanding and application.

This study aims to evaluate how matriculation lecturers teach the concept of force using IBL and how the IBL models they use can enhance learning in this specific area of physics. By examining current practices and experiences of lecturers, this research seeks to identify the strengths and weaknesses of existing IBL implementations and provide insights into how these models can be improved and adapted to better meet the needs of students and educators. This research is particularly relevant in improving teaching methodologies and student outcomes in physics education at the pre-university level in Malaysia.

## **Objective**

The main objectives of this study are:

19. To identify the inquiry levels used by lecturers who implement IBL through the 5E Learning Model (5ELM) in their physics classes, specifically when teaching the topic of force.
20. To measure the impact of different inquiry levels on students' level of understanding of force before and after the implementation of IBL through the 5E Learning Model (5ELM).
21. To develop an IBL-based teaching model for the concept of force to enhance students' understanding and improve teaching strategies for lecturers.

## Methods and Instruments

This study employs a mixed-methods approach, combining qualitative and quantitative data collection. The sample includes three physics lecturers (P1, P2 and P3) who use Inquiry-Based Learning (IBL) in teaching the topic of force, along with their students. Classroom observations provided insights into how lecturers implement IBL for force, focusing on strategies to engage students and the challenges faced. Semi-structured interviews with lecturers offered qualitative data on their experiences and perspectives on IBL implementation. Thematic analysis by Braun and Clarke (2006) was used to identify patterns and themes, providing a deeper understanding of lecturers' experiences and practices in implementing IBL for teaching force.

IBL is classified into four levels: confirmatory inquiry, structured inquiry, guided inquiry, and open inquiry (Heather & Randi, 2008). Confirmatory inquiry involves confirming known principles, structured inquiry has students follow set procedures, guided inquiry allows students to design their own procedures, and open inquiry involves generating their own questions and conducting full investigations.

Lower levels of inquiry such as confirmatory and structured inquiry help students consolidate ideas and practice basic skills before moving on to more complex open-ended inquiry. Guided inquiry, where students design their own procedures with teacher guidance, provides more opportunities for students to learn to design experiments and record data. Finally, open-ended inquiry allows students to fully act as scientists, generating questions, conducting investigations, and communicating their results. The study shows that guided inquiry is often practiced by teachers, especially in TnL science, and all levels of this inquiry are important in changing students' misconceptions of scientific concepts such as force (Heather & Randi, 2008). Table 1 outlines the different levels and types of IBL, with the type of information provided to students at each level.

Table 1 Indicators for the Level and Types of Inquiry Based Learning (IBL) (Heather & Randi, 2008)

Level of Inquiry	Type of Inquiry and Characteristics	Questions	Procedures	Solutions
1. Confirmation Inquiry (CI)	Students confirm a principle/concept through an activity where the outcome is already known.	√	√	√
2. Structured Inquiry (SI)	Students investigate a question provided by the teacher using given procedures.	√	√	-
3. Guided Inquiry (GI)	Students investigate a question provided by the teacher using procedures designed by the students.	√	-	-
4. Open Inquiry (OI)	Students investigate a question generated by themselves using procedures designed by the students.	- Teacher does not provide questions, procedures, or solutions. - Students are given full opportunity to generate questions, design and conduct investigations, and present their results.		

## Results and Discussion

The study's findings indicate a significant improvement in students' conceptual understanding of force after the use of IBL (Shahari & Fatin Aliah, 2023). The significant improvement in students' understanding of force concepts supports previous findings by Fernandez (2017) that highlight the effectiveness of IBL in science education.

Thematic analysis found that the main roles of IBL during the learning of force concepts are i) conceptual understanding, ii) correlation between concepts, iii) application in real-world contexts, iv) concept reinforcement, and iv) understanding signs or symbols. By engaging students in inquiry-based activities, they are better able to grasp fundamental concepts and see the connections between them. This method also allows students to apply their knowledge in practical situations, thereby making learning more relevant and meaningful.

In the excerpt below, the teacher (P1) provides understanding to the student(s) (S) by asking them why tensile force is not drawn in the free-body diagram (FBD). The students respond that if there is no rope on the object, then the tensile force does not exist.

*"P1 : Why you didnt draw the tension? Why we didnt draw the tension?"*

*S : Takde string*

*P1 : Yes. It didnt attached to a string. So we dont draw the tension aa..tak attached kepada sebarang string"*

On another example, in the excerpt below, the teacher asks students to assign a meaningful symbol to the tensile force for a free-body diagram (FBD) that the students have drawn. As a result of this symbol, students can understand that even though different objects are involved, the tensile force is the same when using the same rope.

*"P1 : ..So, untuk object ni, tali hujung belah sini kan, so tension dia ke sini..keluar dari objek..ok? So, yang ini pula?"*

*S : Ke atas*

*P1 : Yes good. Tali yang tu ke atas. Keluar dari objek, sometimes dia jadi T1 dan T2 loh, sebab dia adalah tali yang? Sama. So, tension dia sa? Sama..Give it the same symbol.."*

Both excerpts explain that the teacher uses specific questioning techniques and symbolic representations to deepen students' understanding of tensional force using FBD. In the first excerpt, the teacher clarifies that tensile force is not depicted if there is no string attached to the object. In the second excerpt, the teacher guides students to use a consistent symbol for tensional force, emphasizing that the force remains the same when the same rope is involved, regardless of the different objects. These teaching strategies help students grasp the conditions for depicting tensional force for objects connected by the same string.

Based on thematic analysis from classroom observation, it was found that all teachers, P1, P2, and P3, used confirmation inquiry (CI), while P1 and P3 also incorporated Structured Inquiry (SI). The use of both types of inquiry by P1 and P3 led to higher score improvements among their students. Both types of inquiry used by P1 and P3 are considered low-level inquiry methods for teaching the concept of force. This finding aligns with Heather and Randi's (2008) study, which indicates that low-level inquiry is common and observable in science classrooms. These low-level inquiries help students gradually develop their skills for engaging in higher-level inquiries in the future.

The implementation of these inquiry methods highlights the importance of using varied inquiry levels in science education. While low-level inquiries are more frequently used, they effectively build a foundation for students to enhance their inquiry abilities over time. This approach ensures that students progressively improve their understanding and application of scientific concepts. To further encapsulate the role of IBL, we developed a comprehensive 5E Learning Model (Bybee & Landes, 1990) incorporating the five key roles of IBL as in Figure 2. This model outlines how each phase (Engage, Explore, Explain, Elaborate, and Evaluate) contributes to five roles of IBL during the learning of force concepts. This structured approach, which includes the use of low-level inquiry methods such as Confirmation Inquiry (CI) and Structured Inquiry (SI), provides a clear framework for lecturers to enhance their teaching strategies and improve students' comprehension of force.

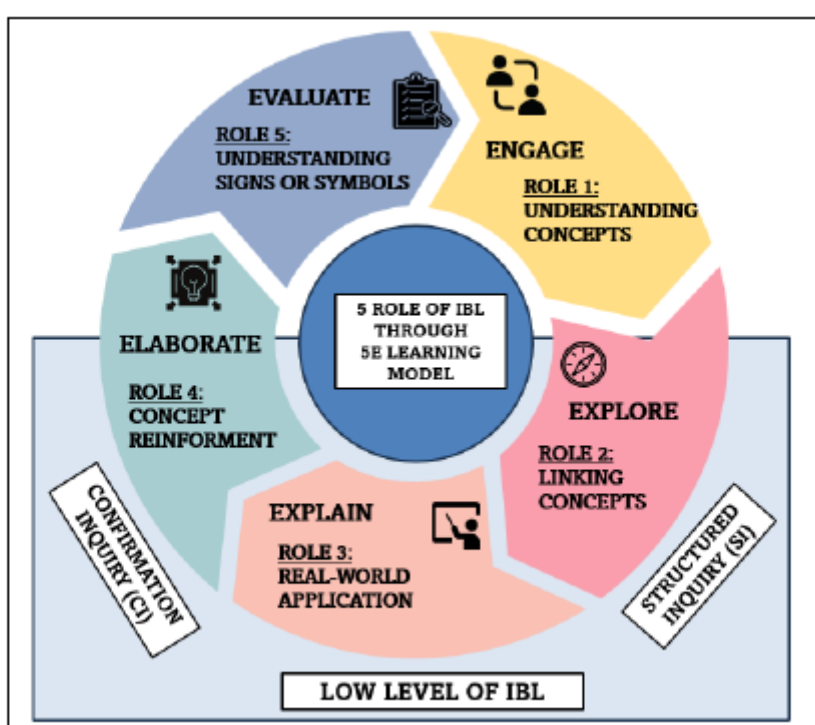


Figure 2 : 5E Learning Model with Roles of Inquiry-Based Learning (IBL) for Teaching the Concept of Force

### Conclusion

This study demonstrates the significant impact of IBL on students' understanding of force in Malaysian matriculation colleges. The findings indicate substantial improvement in students' grasp of force, with pre-test and post-test results showing better performance when IBL is implemented (Shahari & Fatin Aliah, 2023).

IBL plays five crucial role during the learning of force concept; understanding and linking concepts, applying knowledge to real-world scenarios, reinforcing concepts, and interpreting scientific signs or symbols. By engaging students in inquiry-based activities, they better understand fundamental concepts and their interconnections. This method



allows students to apply their knowledge in practical situations, making learning more relevant. The study's results align with previous research, showing that inquiry-based strategies can significantly enhance student learning outcomes (Kaya et al., 2016). Furthermore, IBL helps students develop essential skills in interpreting scientific symbols and signs, crucial in physics education.

Classroom observations highlighted the challenges lecturers face in implementing IBL, mainly due to time constraints and limited resources. Despite these challenges, lecturers increased student interaction and engagement through hands-on experiments, problem-solving sessions, and collaborative group work. These activities were particularly effective in enhancing students' understanding of force.

Qualitative data from interviews underscore the need for additional training and structured support for lecturers to implement IBL more effectively, especially for complex topics like force. Lecturers noted that while IBL enhances engagement and understanding, more structured guidance and resources are necessary to overcome practical difficulties. Integrating real-world examples and interdisciplinary approaches could further enrich learning and make the concept of force more relatable.

In conclusion, the study underscores the potential of a tailored IBL model to improve teaching and learning of force in physics at the matriculation level. With appropriate support and modifications, IBL can enhance student outcomes in physics education (Gillies, 2020).

## References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 37-41.
- DiBiase, W., & McDonald, J. R. (2015). Science teacher attitudes toward inquiry-based teaching and learning. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 88(2), 29-38. <https://doi.org/10.1080/00098655.2014.987717>
- Fernandez, F. B. (2017). Action research in the physics classroom: The impact of authentic, inquiry-based learning or instruction on the learning of thermal physics. *Asia-Pacific Science Education*, 3(3), 1-20. <https://doi.org/10.1186/s41029-017-0014-z>
- Heather, B., & Randi, B. (2008). The many levels of inquiry. *Science and Children*, 46(2), 26-29. [www.teachersource.com](http://www.teachersource.com)
- Kaya, G., Sardag, M., Cakmakci, G., Dogan, N., Irez, S., & Yalaki, Y. (2016). Discourse patterns and communicative approaches for teaching nature of science. *Education and Science*, 41(185), 83-99. <https://doi.org/10.15390/EB.2016.4852>
- Shahari, S., & Fatin Aliah, P. (2023). The alternative frameworks of force concept among matriculation college students. *The Virtual Language and Communication Postgraduate International Seminar*, 5-9.

Sim, W. S. L., & Mohammad Yusof Arshad. (2014). Corak Amalan Pengajaran Inkuiri Berdasarkan Interaksi Verbal Guru Kimia. *Jurnal Kurikulum & Pengajaran Asia Pasifik*, 2(3), 1-10.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. London: Harvard University Press.

**Paper ID:** 1571054743

**Name:** Huarong Wang & Johari Surif

**Paper Title:** Global Trends and Influences in Green Chemistry Education: A Comprehensive Review of Contributions (2014-2024)

**E-mail:** wanghuarong@graduate.utm.my

## **1. Introduction:**

Green chemistry, which emerged in the 1990s, has become integral to industrial, educational, and societal practices over the decades. It represents a significant advancement in pollution prevention, introducing innovative approaches to the development, design, and application of chemical processes. This paradigm shift encourages chemists and engineers to design chemicals and processes that minimize or eliminate the generation of toxic substances and waste (Gawlik-Kobylińska et al., 2020).

The American Chemical Society highlights green chemistry as a dynamic field ripe for innovative and transformative advancements (Brun, 2021; Ferk Savec & Mlinarec, 2021). Supported robustly by international initiatives like the United Nations' Agenda 21, green chemistry's incorporation into education reflects a growing global commitment (Armstrong et al., 2018). This increasing focus across various societal sectors significantly enriches chemistry education, aligning it with contemporary environmental and safety standards (Ferk Savec & Mlinarec, 2021).

Integrating sustainability and green chemistry into the education of future chemists and chemical engineers is considered crucial for students' success in an evolving job market and societal roles (Avsec & Jagiełło-Kowalczyk, 2021; Ferk Savec & Mlinarec, 2021). Educating future chemists and engineers in green chemistry is crucial for developing a new generation of environmentally conscious scientists. Sustainability education provides future graduates with effective tools to address complex problems (Lokteva, 2018).

The growing interest and concern for environmental sustainability necessitate a closer examination of the activities of chemists and chemical engineers that significantly impact the environment, both in laboratories and industrial settings. The concept of green chemistry is closely linked to the spread of sustainable development principles and the increasing implementation of these principles in various chemical practices. Over time, the principles of green chemistry have been embraced across different chemistry fields, leading to the establishment of additional frameworks such as the Principles of Green Chemical Technology, the 12 Principles of Green Engineering, and the 12 Principles of Green Analytical Chemistry (Kurowska-Susdorf et al., 2019).

Hence, Green chemistry education plays a pivotal role in promoting sustainable development and environmental protection. This paper aims to provide a comprehensive review of the publications from the green chemistry perspective over the past decade, covering all fields of chemistry, all levels of education, and the 12 principles of green chemistry. To explore the possibilities in green chemistry education, the following research questions have been established. Data is taken from the web of science database to answer the following research questions:

1. How is the distribution of publications in green chemistry education from 2014-2024?
2. Who are the most influential journals and authors in green chemistry education?
3. Which countries contribute most significantly to research in green chemistry education?
4. What are the main keywords in research related to green chemistry education over the past decade?
5. What are the current core research hotspots in the field of green chemistry education?

## 2. Materials and methods

The bibliometric analysis and meta-analyses method was used in conducting this study's systematic literature review (SLR) (Samsul et al., 2023). The research process and procedure used in this study are based on Preferred Reporting Items for Systematic Reviews (PRISMA) 2020 guidelines (Page et al., 2021), which focus on several aspects to ensure transparent, replicable, and scientifically adequate systematic reviews. The details of this processes are explained further in Fig. 1.

### 2.1 Information Sources and Search Strategy

This study conducted an advanced search of articles published between 2014 and 2024 in the Web of Science (WoS) database, chosen for its comprehensive coverage of scholarly journals and conference papers across the natural sciences, social sciences, arts, and humanities. This extensive coverage ensures access to influential and current research. Additionally, WoS provides detailed citation analysis tools, allowing researchers to trace citation relationships and identify highly cited articles and key publications (Falagas et al., 2008; Meho & Yang, 2007).

The search strategy was developed using core concepts related to the study, including "green chemistry," education, teach\*, student, and curriculum. Search strings were constructed with Boolean operators (AND, OR) and simple operators to ensure comprehensive literature coverage.

To enhance the study's credibility and integrity, only peer-reviewed articles were included. Additional parameters were applied to refine the search results based on the inclusion and exclusion criteria described in Table 2.1. The final search was conducted on July 28, 2024. For data analysis and visualization, VOSviewer software was used, which is highly effective for analyzing and visualizing bibliometric data.

Table 2.1 Search Parameters and Criteria

The searching string	Articles	Date
"green chemistry" (Topic) AND education OR teach* OR student OR curriculum (Topic)	1010	2024/7/28
Inclusion criteria	Exclusion criteria	
IC1: The paper published in a scientific peer-reviewed journal IC2: The paper is written in English. IC3: The paper type is journal articles or review articles. IC4: Papers that aren't duplicate within the search documents. IC5: The study was conducted in an educational environment. IC6: The study is related to green chemistry.	EX1: The paper published isn't in peer-reviewed journal EX2: The paper isn't written in English. EX3: Proceedings of congresses, conference papers, books, book chapters EX4: Papers that are duplicated within the search documents. EX5: The study was not conducted in an educational environment. EX6: The study is not related to green chemistry.	

### 2.2. Data Collection and Analysis

The systematic literature review was carried out in four phases following the PRISMA 2020 guidelines. The first phase was an initial search of the literature in the WoS (n = 1010).

Based on the inclusion (IC1, IC2, IC3, IC4) and exclusion (EX1, EX2, EX3, EX4) criteria, a total of 459 papers were excluded as ineligible regarding the type of paper, language, peer-review criteria and the time of the publication. In the thirdly phase, a total of 514 papers were carefully screened for eligibility by applying inclusion (IC6, IC7) and exclusion (EX6, EX7) criteria. In the last phase, 2 duplicate papers were excluded using Microsoft Excel software. In the end, this study analyzed a total of 512 selected articles. The described process is summarized in a PRISMA flow diagram (Figure2.1).

### 3. Results

**Research question 1:** This paper aims to comprehensively review green chemistry publications. Figure 3.1 shows the distribution of publications in the field of green chemistry education from 2014 to 2024. Over the past decade, the number of publications has shown an overall increasing trend. Notably, the highest number of publications was in 2019. Due to the impact of the COVID-19 pandemic, there was a slight decline in the number of publications from 2019 to 2021. As the pandemic subsided, the number of publications increased annually, reaching levels comparable to 2019 by 2023.

**Research question 2:** Figure 3.2 illustrates the distribution of the most relevant journals in the field of green chemistry education, based on total publications. The chart highlights that *the Journal of Chemical Education* accounts for the majority, with 73% of the total publications. Other notable journals include *Green Chemistry Letters and Reviews*, *Chemistry Education Research and Practice*, and *Sustainability*.

Table 3.1 focused on the total number of publications, total citations, citation scores, and the most cited articles. *The Journal of Chemical Education* leads the field with 297 publications and 3,378 citations, demonstrating its dominant position in green chemistry education.

Other journals, such as *Green Chemistry Letters and Reviews* and *Chemistry Education Research and Practice*, although having fewer publications, hold significant influence in specific research areas. For instance, *Current Opinion in Green and Sustainable Chemistry*, with only 14 articles, boasts high total citations and citation scores, indicating the high quality and impact of its articles.

Research Question 2 also identified the most productive authors in the field of green chemistry education and learning analytics. Figure 3.3 lists the most productive authors in green chemistry education based on Total Citations (TC  $\geq$  20). Table 3.2 summarizes these prolific authors, including Author Name, Year of First Publication, Total Publications (TP), h-Index, Total Citations (TC), Current Affiliation, and Country. According to the data, the most productive author is Glenn Adam Hurst from the University of York, UK. His first publication was in 2017, and he has published a total of 15 articles with an h-index of 11 and a total citation count of 263.

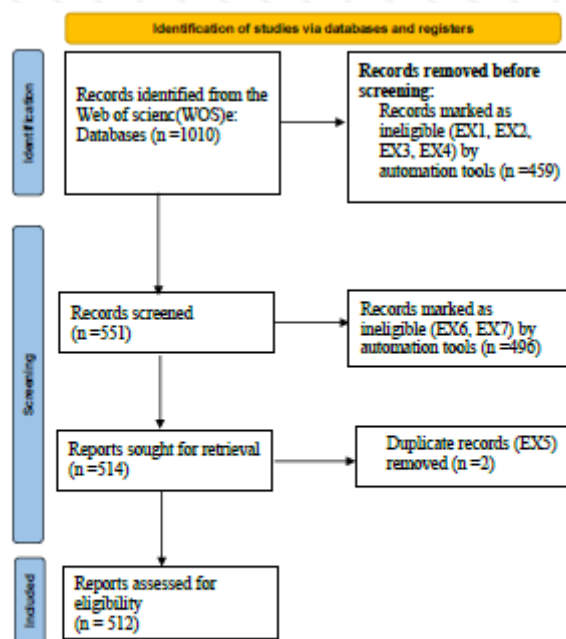


Figure 2.1. PRISMA 2020 flow diagram

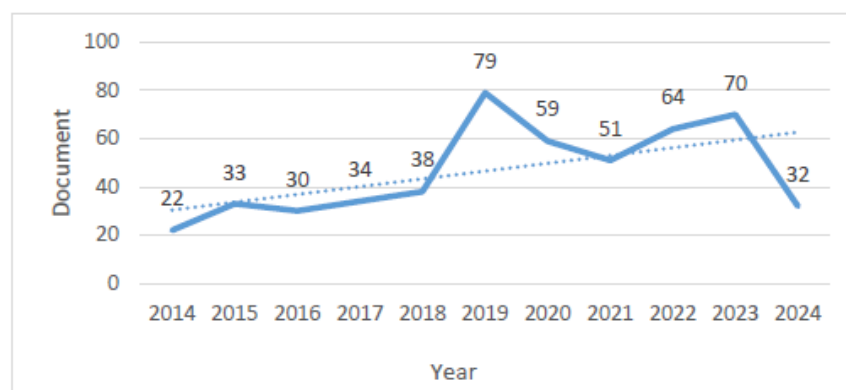


Figure 3.1 The number of publications produced over 10 years.

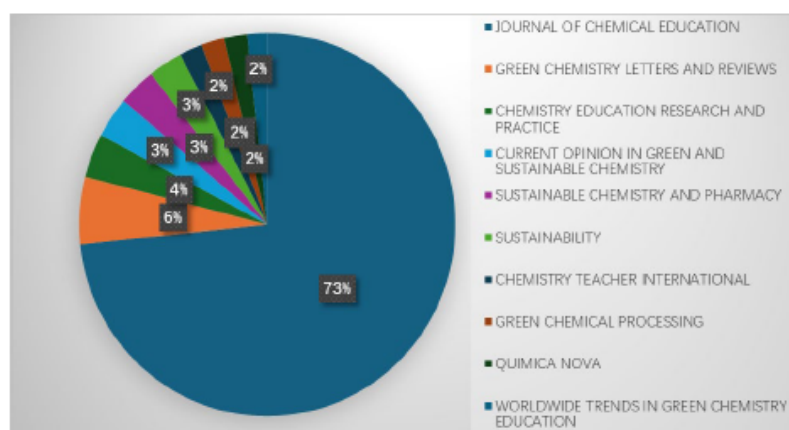


Figure 3.2 The pie chart showing most relevant journals in green chemistry education

Table 3.1 Summary of the most relevant journals in green chemistry education

No.	Journal	TP	TC	Citation Score (2013& 2024.7.28)	Most cited article (Reference)	Times Cited	Publisher
1	JOURNAL OF CHEMICAL EDUCATION	297	3378	970	Humanizing Chemistry Education: From Simple Contextualization to Multifaceted Problemization	62	AMER CHEMICAL
2	GREEN CHEMISTRY LETTERS AND REVIEWS	23	147	49	The safer chemical design game. Gamification of green chemistry and safer chemical design concepts for high school and undergraduate students	30	TAYLOR & FRANCIS LTD
3	CHEMISTRY EDUCATION RESEARCH AND PRACTICE	15	165	57	Education for sustainable development in chemistry - challenges, possibilities and pedagogical models in Finland and elsewhere	28	ROYAL SOC CHEMISTRY
4	CURRENT OPINION IN GREEN AND SUSTAINABLE CHEMISTRY	14	267	76	Green analytical chemistry as an integral part of sustainable education development	47	ELSEVIER
5	SUSTAINABLE CHEMISTRY AND PHARMACY	13	81	47	Green Chemistry: Some important forerunners and current issues	23	ELSEVIER
6	SUSTAINABILITY	12	74	44	Design of an Extended Experiment with Electrical Double Layer Capacitors: Electrochemical Energy Storage Devices in Green Chemistry	13	MDPI
7	CHEMISTRY TEACHER INTERNATIONAL	8	10	4	Student explorations of calcium alginate bead formation by varying pH and concentration of acidic beverage	5	WALTER DE GRUYTER
8	GREEN CHEMICAL PROCESSING	8	7	0	Green chemistry and the grand challenges of sustainability	4	WALTER DE GRUYTER
9	QUIMICA NOVA	8	7	0	Green chemistry and the grand challenges of sustainability	4	SOC BRASILEIRA
10	WORLDWIDE TRENDS IN GREEN CHEMISTRY EDUCATION	7	47	12	On the Development of Non-formal Learning Environments for Secondary School Students Focusing on Sustainability and Green Chemistry	10	ROYAL SOC CHEMISTRY

**Research Question 3:** The third research question aims to identify the countries that have made the greatest contributions to research in green chemistry education. Figure 3.4 shows the countries with the highest contributions based on Total

Publications (TP) according to the Web of Science (WoS) database. Table 3.3 provides a summary of the most significant countries in the field of green chemistry education research. This table lists the ranking, country, TP, major academic institutions, and the TP of these institutions.

As shown in Table 3.3, the most significant country in the field of green chemistry education is the United States, with a total of 211 publications. The University of California System is the leading research institution in the US. The following country is Canada, with a total of 52 publications, where the University of Toronto stands out as the most important research institution. China ranks fourth with 37 publications. Other Asian countries listed in Table 3.3 include India and Thailand, with 15 and 14 publications respectively.

Subsequently, VOS viewer software was utilized to generate a co-authorship map of countries engaged in research on green chemistry education, as depicted in Figure 3.5. The United States exhibits the highest number of links, with 15 connections encompassing 209 documents and 2728 total citations (TC). The United Kingdom ranks second in terms of link strength, with 16 connections involving 40 documents and 774 TC. The figure 3.5 also illustrates the collaborative relationships of other countries in this domain.

**Research question 4:** The fourth research question addressed the primary research author keywords used in green chemistry education over the past decade. The most frequently occurring author keyword is "green chemistry" with 358 occurrences and a total link strength of 1552. This is followed by "undergraduate" (OC=194), "organic chemistry" (OC=142), "laboratory" (OC=138), "hand on learning" (OC=126).

**Research question 5:** The fifth research question focuses on the current core research hotspots in the field of green chemistry education. Trends and comparative data, as shown in Figure 3.7 and Figure 3.8, indicate that the core research hotspots currently include a strong focus on “undergraduate”, “laboratory”, “organic chemistry”, and “hands-on learning”. The significant increase in publication counts in these areas suggests that educators and researchers are prioritizing the integration of green chemistry principles at the undergraduate level and employing practical, hands-on methods for teaching. This shift reflects a broader movement to make green chemistry an essential part of the educational experience, aiming to equip students with the necessary knowledge and skills to address environmental challenges.

## 22. Discussion and Conclusions

### 1. Key Findings and Implications

This study conducted a bibliometric analysis of 512 publications on green chemistry education, covering the past decade from 2014 to 2024. During this period, the number of publications on green chemistry education has significantly increased, indicating the growing recognition of its importance. The relevant articles were primarily published in the *Journal of Chemical Education*, making significant contributions to the field of green chemistry education.



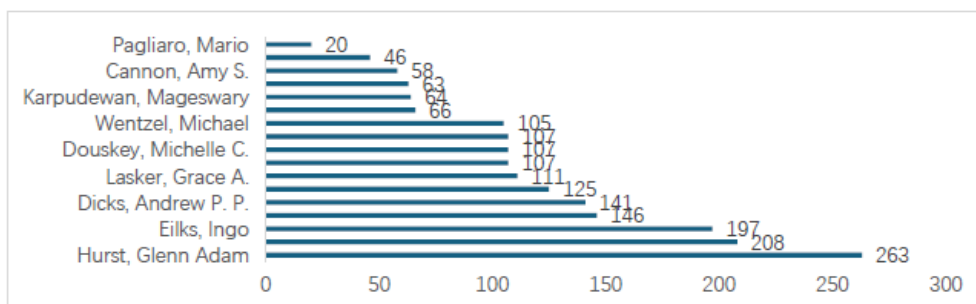


Figure 3.3 The most productive authors in green chemistry education according to total citation.

Table 3.2 Summary of the most productive authors in green chemistry education

Author	Year of 1st publication	TP	h-index	TC	Current affiliation	Country
Hurst, Glenn Adam	2017	15	11	263	University of York	UK
Zuin, Vania	2015	8	6	208	Leuphana University	Germany
Eilks, Ingo	2015	12	5	197	University of Bremen	Germany
Wissinger, Jane E.	2014	10	6	146	University of Minnesota Twin Cities	USA
Dicks, Andrew P. P.	2014	11	7	141	University of Toronto	Canada
Clark, James	2016	7	6	125	University of York	UK
Lasker, Grace A.	2017	6	6	111	University of Washington	USA
Baranger, Anne M.	2016	6	4	107	University of California Berkeley	USA
Douskey, Michelle C.	2016	6	4	107	University of California Berkeley	USA
Armstrong, Laura B.	2016	6	4	107	University of California Berkeley	USA
Wentzel, Michael	2014	7	5	105	Augsburg University	USA
Leontyev, Alexey	2020	7	5	66	North Dakota State University Fargo	USA
Karpudewan, Mageswary	2015	6	4	64	Universiti Sains Malaysia	Malaysia
Mammino, Liliana	2015	8	4	63	University of Venda	South Africa
Cannon, Amy S.	2014	6	4	58	Beyond Benign Inc	USA
Gieger, Krystal	2020	6	4	46	North Dakota State University Fargo	USA
Pagliaro, Mario	2020	6	3	20	Consiglio Nazionale delle Ricerche (CNR)	Italy

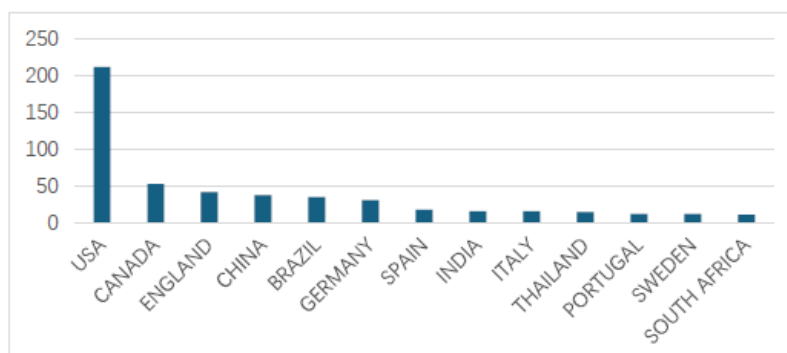


Figure 3.4 The most productive authors in green chemistry education according to total publication.

Among all authors, Glenn Adam Hurst from the UK is the most prolific, with his works being cited 263 times since his first publication in 2007. Additionally, this study found that the United States is the most important country in the field of green chemistry education research, with a total of 211 publications, greatly contributing to the development of this field.

"Undergraduate", "laboratory", "organic chemistry", and "hands-on learning" are the most frequently occurring keywords in the publications analyzed in this study. This finding reflects a broader movement to integrate green chemistry as an essential part of the educational experience, aiming to equip students with the necessary knowledge and skills to address environmental challenges.

In summary, the current research hotspots in the field of green chemistry education emphasize practical and experiential learning methods at the undergraduate level, particularly in laboratory practices and organic chemistry. These trends highlight the

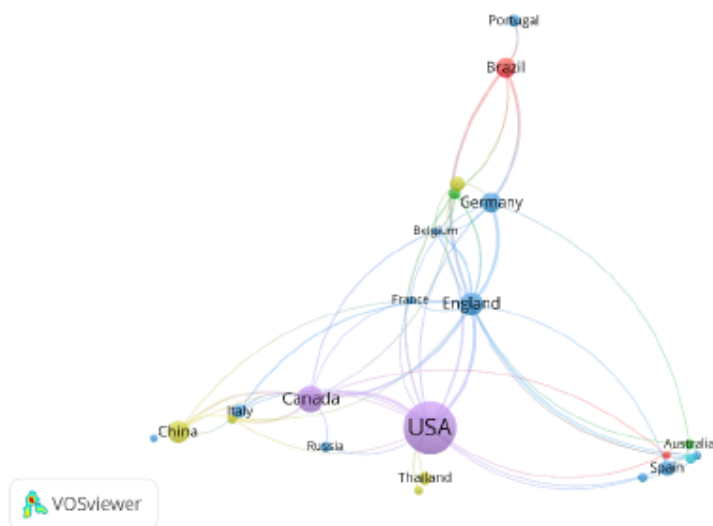
ongoing efforts to embed sustainability and green chemistry principles in the education of future chemists.

#### 4.2 Limitations

One limitation of this study is the restricted information access, as only the Web of Science database was used for bibliometric analysis. Utilizing other databases such as Scopus, Springer Link, or IEEE Xplore Digital Library could have offered different insights and results. Additionally, this review is subject to language bias, as only English-language papers were included.

**Table 3.3 Summary of the most significant countries in green chemistry education**

Rank	Country	tp	Most significant academic institution
1	USA	211	UNIVERSITY OF CALIFORNIA SYSTEM <sup>16</sup> UNIVERSITY OF MINNESOTA SYSTEM <sup>13</sup>
2	CANADA	52	UNIVERSITY OF TORONTO <sup>11</sup>
3	UNITED KINGDOM	41	UNIVERSITY OF YORK UK <sup>23</sup>
4	CHINA	37	HANSHAN NORMAL UNIVERSITY <sup>5</sup>
5	BRAZIL	34	UNIVERSIDADE FEDERAL DE SAO CARLOS <sup>6</sup>
6	GERMANY	30	UNIVERSITY OF BREMEN <sup>12</sup>
7	SPAIN	17	UNIVERSIDAD DE CORDOBA <sup>11</sup> UNIVERSIDAD SAN JORGE <sup>8</sup>
8	INDIA	15	UNIVERSITY OF DELHI <sup>4</sup>
9	ITALY	15	UNIVERSITY OF DELHI <sup>4</sup>
10	THAILAND	14	MAHIDOL UNIVERSITY <sup>4</sup>
11	PORTUGAL	11	FAHRENHEIT UNIVERSITIES <sup>5</sup> GDANSK UNIVERSITY OF TECHNOLOGY <sup>5</sup>
12	SWEDEN	11	MALMO UNIVERSITY <sup>5</sup> ROYAL INSTITUTE OF TECHNOLOGY <sup>5</sup>
13	SOUTH AFRICA	10	Chemistry Multidisciplinary <sup>8</sup> Green Sustainable Science Technology <sup>7</sup>



**Figure 3.5** A map based on the relationship of co-authorship with countries.

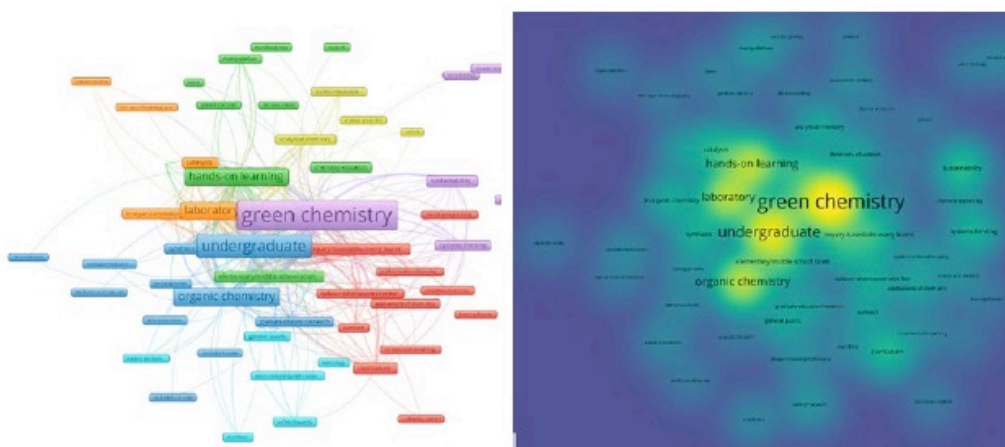


Figure 3.6 The network and density map based on the co-occurrence with author keywords.

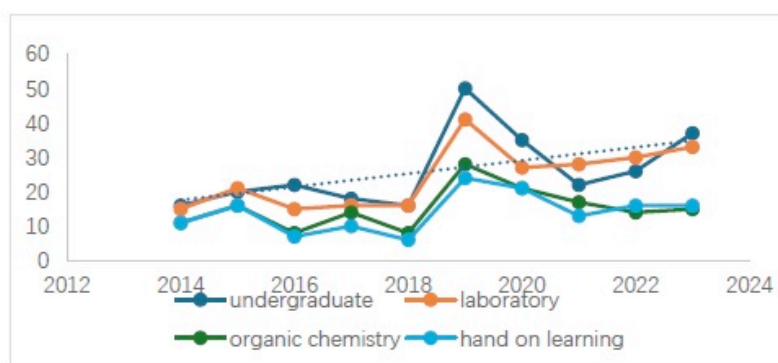


Figure 3.7 Trends in Core Keywords in Green Chemistry Education

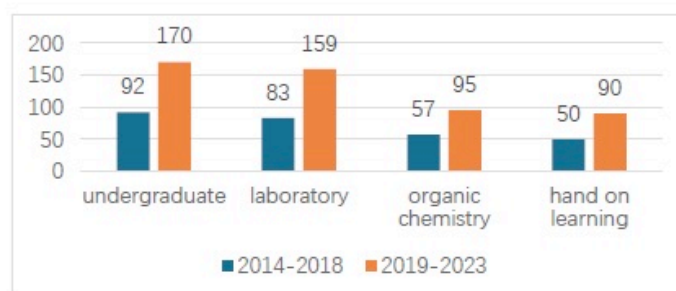


Figure 3.8 Occurrences comparison for Core Keywords in Green Chemistry Education

## References

- Armstrong, L. B., Rivas, M. C., Douskey, M. C., & Baranger, A. M. (2018). Teaching students the complexity of green chemistry and assessing growth in attitudes and understanding. *Current Opinion in Green and Sustainable Chemistry*, 13, 61-67. <https://doi.org/10.1016/j.cogsc.2018.04.003>

- Avsec, S., & Jagiełło-Kowalczyk, M. (2021). Investigating Possibilities of Developing Self-Directed Learning in Architecture Students Using Design Thinking. *Sustainability*, 13(8). <https://doi.org/10.3390/su13084369>
- Brun, M. (2021). What is Green Chemistry? *Journal of Chemical Reactivity and Synthesis*, 11(1), 33- 40.
- Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, Scopus, web of science, and Google scholar: strengths and weaknesses. *The FASEB journal*, 22(2), 338-342.
- Ferk Savec, V., & Mlinarec, K. (2021). Experimental Work in Science Education from Green Chemistry Perspectives: A Systematic Literature Review Using PRISMA. *Sustainability*, 13(23). <https://doi.org/10.3390/su132312977>
- Gawlik-Kobylińska, M., Walkowiak, W., & Maciejewski, P. (2020). Improvement of a sustainable world through the application of innovative didactic tools in green chemistry teaching: A review. *Journal of Chemical Education*, 97(4), 916-924.
- Kurowska-Susdorf, A., Zwierzdzyński, M., Bevanda, A. M., Talić, S., Ivanković, A., & Płotka-Wasyłka, J. (2019). Green analytical chemistry: Social dimension and teaching. *TrAC Trends in Analytical Chemistry*, 111, 185-196. <https://doi.org/10.1016/j.trac.2018.10.022>
- Lokteva, E. (2018). How to motivate students to use green chemistry approaches in everyday research work: Lomonosov Moscow State University, Russia. *Current Opinion in Green and Sustainable Chemistry*, 13, 81-85. <https://doi.org/10.1016/j.cogsc.2018.04.021>
- Marteel-Parrish, A., & Newcity, K. M. (2017). Highlights of the Impacts of Green and Sustainable Chemistry on Industry, Academia and Society in the USA. *Johnson Matthey Technology Review*, 61(3), 207-221. <https://doi.org/10.1595/205651317x695776>
- Meho, L. I., & Yang, K. (2007). Impact of data sources on citation counts and rankings of LIS faculty: Web of Science versus Scopus and Google Scholar. *Journal of the american society for information science and technology*, 58(13), 2105-2125.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hrobjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P., & Moher, D. (2021, Mar 29). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Samsul, S. A., Yahaya, N., & Abuhassna, H. (2023). Education big data and learning analytics: a bibliometric analysis. *Humanities and Social Sciences Communications*, 10(1). <https://doi.org/10.1057/s41599-023-02176-x>

**Paper ID:** 1571055169

**Name:** Zhuang Yue, Yin Yan, Hamdan Mohd Salleh & Ng Ming Yip

**Paper Title:** The Necessity of Implementing Theatre and Aesthetic Education in Inner Mongolia Colleges and Universities

**E-mail:** 315006@jnnu.edu.cn

## **Introduction**

Theatre aesthetic education has an important role in the cultivation of personal quality ability of college students in Inner Mongolia colleges and universities. In this paper, two issues will be examined: an analysis of the current situation of theatre aesthetic education in Inner Mongolia colleges and universities, and an examination of what kind of personal competence training theatre aesthetic education has for college students. The following two points of view are put forward: firstly, theatre aesthetic education courses play a dispensable role in the education system of Inner Mongolia colleges and universities, and theatre aesthetic education in colleges and universities in the region is not widely recognised and valued at present. Secondly, theatre aesthetic education is of great help in improving the personal ability of college students, which cannot be given in specialised academic courses, such as broadening artistic vision, enhancing collective consciousness, cultivating critical thinking, enhancing communication ability, and strengthening cultural identity and cultural confidence.

In the latest Chinese Ministry of Education's document "Notice of the Ministry of Education on the Comprehensive Implementation of School Aesthetic Education Immersion Action", it is clearly stated that aesthetic education aims to comprehensively improve the quality and level of aesthetic education in schools, in which theatre, as an important component of aesthetic education, is particularly emphasised (2023.). Through the study, the authors concluded that as a curriculum integrating theatre and aesthetic education, the curriculum focuses on interdisciplinary and comprehensive education, which not only involves arts and humanities, but also can be integrated into science, engineering and other fields to help students build a diversified knowledge system. The significance of this study is to provide improved theoretical support and practical guidance for theatre and aesthetics education in colleges and universities in Inner Mongolia, as well as to provide certain theoretical basis and reference for promoting theatre and aesthetics education in colleges and universities in other minority regions in China.

## **Formulation Of The Research Question**

Located in China's northern border region, Inner Mongolia is an economically and culturally underdeveloped region of China. The region's slow development of economic production, irrational industrial structure, lagging behind in infrastructure construction, resulting in brain drain. Based on the objective fact that the development of the region is not balanced, the aesthetic education resources and education level of colleges and universities in Inner Mongolia are also lagging behind the developed regions.

According to the list of names of higher education institutions (2024.) published by the Ministry of Education of the People's Republic of China in 2024, there are a total of 54 colleges and universities in the region, of which 17 are undergraduate colleges and universities and 37 are specialised colleges and universities. Only one of the colleges and

universities offers a theatre major. In Inner Mongolia, where the concept of theatre aesthetic education is not advanced and resources for theatre education are not abundant, how is the development of theatre aesthetic education, whether colleges and universities pay attention to theatre aesthetic education, and what kind of ability can non-theatre majors get through theatre aesthetic education are all the questions this thesis wants to raise, so to have a deeper understanding of the development of theatre aesthetic education in Inner Mongolia colleges and universities, we have to explore the following two questions in this thesis.

**What is the status quo of theatre aesthetic education in colleges and universities in Inner Mongolia? What kind of ability can be cultivated by theatre aesthetic education for college students?**

***Related review***

Based on the fact that the target population of the study is colleges and universities in Inner Mongolia, China, all the literature was selected from China Knowledge Network (CNKI). CNKI (China's largest academic paper database).

In the literature search, about "Inner Mongolia, colleges and universities, theatre aesthetic education" as the keyword search, there is no relevant literature for reference; with "theatre, aesthetic education, colleges and universities" as the keyword, only 26 articles can be searched. These studies are about

"Theatre aesthetic education for the cultivation of aesthetic ability of college students", "How to implement ideological and political education through theatre education, and the export of Chinese historical and revolutionary culture", and "Creating campus culture through theatre". The research direction of "creating campus culture through theatre". In these studies, theatre is regarded as an auxiliary teaching tool in combination with disciplines, which is used to improve the aesthetic ability, emotion and patriotism of college students, but it does not deal with the necessity of implementing theatre aesthetics in colleges and universities, and at the same time, it does not have a comprehensive understanding of the abilities that can be improved by the students.

In this study, the status quo of theatre aesthetic education in colleges and universities in Inner Mongolia will be analysed and sorted out to comprehensively summarize the improvement of students' abilities and add gaps in research related to theatre aesthetic education in colleges and universities in Inner Mongolia.

***Conceptual Definition  
Theatre***

Zhang Haitao and Gao Jing define theatre in *Appreciation of Chinese and Foreign Theatre Works*, "Theatre, which contains four elements: actor, story, stage and audience, is a general term for the art of stage performance with lines, stage movements, dance, music and other forms of art as the purpose of narration, a comprehensive art of interpreting stories through the actors' portrayal of a certain character and the effective organisation of words and actions on the stage. It is a comprehensive art of story interpretation through actors playing a certain character on stage and effectively organising words and actions on stage. It involves the co-creative content of several art categories, such as: dialogue, singing, dance, set, props, lighting, music, etc." (Zhang, H. & Gao, J. 2014). In this way, it seems that theatre is an art of storytelling about human activities, through literature and factual acts played by people on

stage. It requires the cooperation of many aspects on the stage, and the stage presentation is reached through the synthesis of many arts.

### **Aesthetic Development**

Cai Yuanpei is a famous Chinese educator, he especially emphasised the importance of aesthetic education in education, in his book *Aesthetic Education* (Cai, Y. 2022) Cai Yuanpei argued that aesthetic education not only improves a person's aesthetic ability, but also cultivates sentiment and develops a sound personality. Zhu Guangqian, a famous Chinese aesthetician, cultural scholar and educator, has profound thoughts and views on aesthetic education in China. In his book *The Education of Beauty* (Zhu, G. 2022), he emphasises that aesthetic education enhances the individual's humanistic qualities and ability to express emotions and aesthetic appreciation, that cultivating the individual's aesthetic sensibilities is the core task of aesthetic education, and that it focuses on cultivating the individual's ability to think independently and his or her unique personality.

Generally speaking, the goals of Chinese aesthetic education are more comprehensive, focusing not only on art appreciation, but also emphasising the enhancement of moral cultivation and personality perfection through art education.

### **Theatre Aesthetic Education**

In this study, as an interdisciplinary educational tool, the authors view theatre aesthetics from a dramaturgical and pedagogical perspective, combining forms of art education and aesthetics education, encompassing knowledge and methods from multiple disciplines such as literature, art, psychology, and society, and the ability to broaden the students' artistic horizons, enhance their collective consciousness, critical thinking, and strengthen their communication skills through learning through hands-on theatre participation.

### **Research Methodology**

This study adopts a qualitative research approach, using the literature research method: reviewing and analysing existing relevant literature to obtain the background and theoretical support for the study; the content analysis method of textual analysis: content analysis of literature, course materials, syllabi, policy documents, etc.; and the interview method: in-depth interviews with theatre education specialists to obtain their detailed insights.

The following conclusions were drawn from the study: theatre aesthetic education in the region's colleges and universities lack awareness of the aesthetic education function of theatre, students' artistic foundation is not balanced, and there is insufficient integration with national and regional cultures. The study of theatre can strengthen artistic perception, critical thinking, collective consciousness and improve communication skills.

### **Findings and Discussion**

#### ***Status of Theatre Aesthetic Education in Colleges and Universities in Inner Mongolia***

First of all, according to the relevant information on the Internet and documents released by authoritative departments, there is no record of holding regular college theatre festivals in Inner Mongolia, and the degree of recognition and acceptance of theatre culture in the region is low. Only in 2021 did the Inner Mongolia Academy of Arts host the 8th China Higher Drama Education Union Exchange Activity and the 2nd Student Drama Exhibition. Most of the participants in this event were colleges and universities with theatre majors in

China, or associations of colleges and universities active in the field of theatre education, and only one college, the Inner Mongolia Arts College, participated, with no other colleges or universities from Inner Mongolia.

Secondly, in order to further approach the status quo of theatre aesthetic education in Inner Mongolia colleges and universities, the authors used the interview method in the study to obtain a more intuitive view from the authorities. In the interviews, five experts from Inner Mongolia universities were invited, who were engaged in theatre, aesthetics, education teaching and management, and were very familiar with the field of theatre aesthetics education in Inner Mongolia colleges and universities, in the interviews, the following questions were raised about the status of theatre aesthetics and education in Inner Mongolia colleges and universities:

1. What do you think should be the teaching objectives and core values of theatre aesthetic education or aesthetic education in colleges and universities in Inner Mongolia? Have you encountered any challenges in the implementation of theatre and aesthetic education or aesthetic education in Inner Mongolia's colleges and universities? 2. Is there a problem of unbalanced resource distribution? 3.

Summarising the experts' answers are as follows: 1. Teaching objectives and core values should be concerned with enhancing students' artistic cultivation, improving aesthetic literacy, and promoting the development of personality and all-round qualities. 2. The implementation of education is faced with a number of difficulties and challenges, which come from the degree of governmental concern together with the advancement of aesthetic education in schools as well as the problems of teaching resources. 3. In the colleges and universities of Inner Mongolia, the promotion and inheritance of ethnic minority regional cultures through the theatre is very necessary. The promotion and inheritance of regional culture of ethnic minorities is very necessary. Theatre aesthetic education also exists problems such as insufficient resources, lack of curriculum system, unbalanced students' art foundation, lack of inclusive consideration, and insufficient aesthetic integration in daily teaching.

Finally, by observing the curriculum of theatre courses, the researcher found that the same problem exists in the curriculum and selection. In the colleges and universities in Inner Mongolia, theatre only appears as a general education course, which students choose independently according to their willingness to learn and learning interests, and they can only study online after they have successfully selected courses through the Internet. The courses taught are mainly theoretical courses, with the content focusing on theatre theory, work appreciation and theatre history. The form of lectures through the Internet reflects the lack of resources for theatre teachers in our university, and the lack of attention to the construction of theatre teaching staff in colleges and universities. The Internet lectures are basically recorded lectures, with no practical content and a lack of interaction between teachers and students, so that students lose the opportunity to participate in practice. In view of the above observations, the following conclusions can be drawn:

1. College students lack theatre experience. For a long time, theatre has been absent from China's aesthetic education, with music and art being the main content and means of implementing the aesthetic education curriculum from pre-school to high school. In popular opinion, theatre has always been an art category with a high threshold of professionalism, and students' lack of theatre experience has led to the lack of resonance of theatre in the general education curriculum.



2. Single way of theatre education. In Inner Mongolia, theatre courses in colleges and universities appear in general education, and most of the general education is based on network courses, which is poor in content updating, course resources, teacher-student interaction. The content of the lessons is mainly in the form of theatre theory, theatre history, theatre appreciation, etc., which has appeared a situation of heavy theory and light practice. As we all know, theatre is an art with strong practicality, and the single teaching method does not let the theatre course give full play to the advantages of practical education.

3. Theatre education atmosphere is not strong. Inner Mongolia colleges and universities in the student associations, most of the music, dance, literature-based, about the theatre associations are particularly scarce, and Inner Mongolia has not held a college drama festival and other activities, some colleges and universities have set up a theatre club, but ultimately due to the lack of performance platforms, the lack of professional teachers to guide the relevant policies to support the reasons for the closure, there is no corresponding system and conditions to stimulate the students' enthusiasm for the theatre. There is no perfect system and conditions to stimulate students' enthusiasm for theatre, which makes the atmosphere of theatre in colleges and universities in the region lukewarm.

4. The practical education function in theatre is weakened. Aesthetic education combines artistic practice and aesthetic education, whether from the perspective of artistic practice or from the perspective of aesthetic education, theatre is undoubtedly the best means of implementation. However, at present, the theatre in Inner Mongolia universities, and even China's aesthetic education curriculum system, does not occupy the position it should be, people look at the theatre is still from a professional point of view, not aware of the practice of the theatre to play aesthetic education function through the huge advantages.

5. Lack of official support. The level of government attention and the lack of promotion of aesthetic education in schools, in addition to the lack of support in terms of policy and funding, also faces problems such as insufficient resources for theatre teachers, incomplete interpretation of policies, lack of implementation and promotion, and insufficient understanding of the functions of theatre education. In some competitions and activities, theatre is more like a task to be accomplished out of the need to participate in a competition, with a temporary team being formed that is no longer active once the competition is over.

6. Transmission of regional culture. It is necessary to promote and pass on the regional culture of ethnic minorities through theatre, but the lack of resources and support has affected the development of this area. In the course of the nation's history, there have been many heroic figures, and borrowing these advantages not only provides creative material for theatre, but also has a positive effect on promoting national culture and fostering the cultural identity of university students, and both performers and audiences are educated in the process of participation.

### ***The role of theatre aesthetics in the personal development of university students***

In Liao Ketui's *History of Theatre in Western Europe* (Liao, K. 2023) describes theatre in this way: "Primitive theatre is a part of the life of primitive human beings, a reproduction of their labour and struggle practices, a concrete manifestation of their knowledge and feelings about all kinds of things, and a form of art in which they express their thoughts and

feelings". The stage of higher education is an important period of personal growth, an important stage of college students' self-exploration and self-knowledge of the world. Through theatre, college students enhance their perception and knowledge of things, and at the same time stimulate their expressive ability, which is the highest pursuit and goal of theatre aesthetic education.

Theatre is a group participatory art and at the same time gathers a variety of art forms, and from a pedagogical point of view, it not only imparts knowledge, but also pays more attention to cultivating students' creative thinking, critical thinking and communication skills. Theatre aesthetic education is a kind of education that focuses on participation and process, which stresses experience and reflection, encourages students to participate actively, and meets the requirements of constructivist learning theory. According to the analysis of the literature and the author's many years of experience in guiding theatre has significantly improved the ability to broaden artistic horizons, enhance collective consciousness, cultivate critical thinking and increase communication skills.

First, broaden the artistic vision. "Theatre, as a comprehensive art, combines the ideological nature of literature, the auditory nature of music, the spatial nature of painting, and the expressive nature of dance, and contains a rich traditional Chinese culture" (Xu, Y. 2024). After entering the new media era, all information is at hand, people's desire and collection of information is no longer the same as before, and the dissemination of art and culture appears to be rapid and fragmented. In the era of artistic diversification, college students are prone to indulge in popular culture and lack of attention to classical culture and art, and lack of correct aesthetics, leading to the lack of personal discernment. Through the knowledge of the script, the excavation of the characters, the conception of the stage layout, the use of music until the final stage presentation in the theatre, the participating students can be involved in the process of artistic creation, which can stimulate their artistic initiative, their interest in actively exploring the unknown field of art, and thus broaden their artistic horizons.

Secondly, it enhances collective awareness and teamwork. As a collective participatory art, theatre pursues collaboration, and students must work together to complete all aspects of script selection, role allocation, rehearsal and performance. Participants (college students) can achieve the unity of commonality and individuality through their own efforts under the premise of unity of purpose, so as to cultivate college students' collaborative ability and collective consciousness.

Thirdly, the development of critical thinking. At a time when information is fragmented and highly disseminated, which diminishes one's ability to reflect, plays often deal with complex human and social issues, and students need to think deeply about the background and implications of these issues when analysing and performing such content. Through analysing scripts, interpreting characters, plots and themes, students develop independent thinking and critical skills. Through character creation, students learn to think differently and develop the ability to think from multiple perspectives. Through the process of interaction and discussion in rehearsals, students communicate openly, share insights, evaluate and reflect on various perspectives, and enhance their critical thinking skills.

Fourthly, communication skills are enhanced to improve communication and empathy. By expressing lines clearly and using body language and facial expressions, students improve their communication skills in general. At the same time, understanding and responding to others' lines and emotions enhances comprehension. In co-operation,

students continue to cooperate, co-ordinate and share opinions, enhance their ability to co-operate and resolve conflicts, and learn to communicate effectively and improve themselves by receiving and adjusting feedback. Playing different roles, students enhance their empathy and deepen their understanding of the inner workings of the characters through authentic expression of their emotions, and improve their ability to express emotions and empathise.

Fifth, in Inner Mongolia universities, the study of theatre by college students plays an important role in enhancing cultural identity and cultural confidence. Through theatre performances, students can gain an in-depth understanding of the cultural history of the Mongolian people, pass on traditional arts, and enhance their sense of identity with their own culture. At the same time, participation in theatre activities enables them to express their cultural qualities more confidently, enhance their cultural self-confidence, promote ethnic cultural exchanges and integration, and strengthen their sense of cultural identity and national unity.

## **CONCLUSION**

As Tomashevskiy, V and others have said, "Although aesthetic education has historically been a key area for the development of an individual's aesthetics, creativity, and emotional intelligence, it tends to be marginalised in contemporary educational frameworks" (Tomashevskiy, V. et al 2022).

Theatre education should be included in aesthetic education, both from the point of view of ability cultivation and artistic participation. Unfortunately, however, theatre does not occupy its proper place in the current Chinese aesthetic education curriculum. Drama education seems to be in a dispensable position in the aesthetic education of Inner Mongolia colleges and universities. Despite the fact that drama is mentioned in many national documents, we can see through the curricular arrangement that drama has not really entered the teaching system of students and has not attracted the attention of colleges and universities to the aesthetic function of drama education. The lack of theatre education in the basic education stage, the lack of professional teachers, the negligence of the higher authorities to the theatre courses, the public's focus on the professionalism of theatre, and the lack of excavation of the local culture are a series of problems that have contributed to the lack of smooth development and implementation of theatre in colleges and universities in Inner Mongolia.

From the sociological point of view, theatre is an extremely effective way to cultivate the spirit of cooperation; from the aesthetic point of view, theatre also fully embodies the function of emotional sharing. Aesthetic education is not limited to the passive acceptance of art by the educated, but should play a special role in the art practice of aesthetic education, college students through the practice of theatre can gain skills outside the academic system, these abilities may be more important than his mastery of professional knowledge. For individual students, theatre can mobilise their motivation, self-awareness and social development awareness, self-improvement, and ultimately knowledge of society as a means of promoting social progress.

Based on the above conclusions, the authors suggest that in future research, the following issues can be continuously paid attention to, so that theatre can be promoted to better perform its function of aesthetic education and continue to promote the research and development of this field. Firstly, theatre education throughout the whole education

stage as well as the way and content of its implementation should be added from primary school onwards, just like other aesthetic education music and fine arts, and accompany students until they enter the higher education stage. Secondly, research on the popularisation of theatre in China should be conducted to enhance public participation by strengthening awareness and allowing more people to participate in theatre, no longer perceiving it from the perspective of a single art. Finally, the research and development of theatre aesthetic education courses, and the organic integration of aesthetic education, fully exploiting the educational function of theatre, so that theatre is no longer the art of the few, but becomes a popular art.

This article is based on " mini-theatre on campus: inherit the red gene, aesthetic education to light up life " college students innovation and entrepreneurship training programme project, project number: S202211427009; "" three whole education " perspective under the implementation of the path of higher education theatre and aesthetic education " project number: jssqyr202216, scientific research topics written.

## REFERENCE

- Chinese Government Network. (2021, May 11). Inner Mongolia: Release of the five-year action plan for school aesthetic education reform. Retrieved from [https://www.gov.cn/xinwen/2021-05/11/content\\_5605761.htm](https://www.gov.cn/xinwen/2021-05/11/content_5605761.htm)
- Chen, X. (2020). *Aesthetic education and drama education in higher education*. Peking University Press.
- Chen, J. (2017). *Exploration of drama education in the practice of aesthetic education in colleges and universities*. journal of education.
- Dalila, S., Yanuartuti, S., & Sabri, I. (2023). *Aesthetic Experience in Theatre in Non-Formal Education: a Review of Creativity Theory*. Jurnal Kreativitas Pengabdian Kepada Masyarakat (PKM), 6(7), 2723-2737.
- Fu, J. (2021). *Drama education from the perspective of aesthetic education*. Aesthetic Education Journal, (02), 7-12. doi:CNKI:SUN.0.2021-02-003.
- Liao, K. (2023). *A history of Western European drama (Vols. 1-2)*. China Theatre Publishing House. Li, M. (2019). *Drama education and aesthetic education*. Higher Education Press.
- Li, N. (2019). *Research on the improvement of students' aesthetic ability through drama education in colleges and universities*. educational Research and Experiment \*.
- Li, Q. (2021). *The coordinated development of drama education and aesthetic education in colleges and universities*. Education and Culture.
- Liao, K. (2023). *A history of Western European drama (Vols. 1-2)*. China Theatre Publishing House.
- Liu, Y. (2018). *The impact of drama courses on students' comprehensive quality in colleges and universities*. education and Aesthetic Education.

- Ministry of Education of the People's Republic of China. (2023). *Notice of the Ministry of Education on the Comprehensive Implementation of the School Aesthetic Education Immersion Action* [Document No.教体艺[2023]5 号] .<http://www.moe.gov.cn/>
- Ministry of Education of the People's Republic of China. (2024). *List of Higher Education Institutions*. Retrieved from [http://www.moe.gov.cn/jyb\\_xwfb/gzdt\\_gzdt/s5987/202401/t20240117\\_1100805.html](http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/s5987/202401/t20240117_1100805.html)
- People's Information. (2021, May 9). *Inner Mongolia school aesthetic education work for the next 5 years*. Retrieved from <https://baijiahao.baidu.com/s?id=1699281818204419456>
- Sun, L. (2020). *Research on the integration of drama education and aesthetic education courses in colleges and universities*. educational Science.
- Schiller, F. (2016). *On the Aesthetic Education of Man* (X. H. Chun, Trans.). Social Sciences Academic Press.
- Székely, É. (2019). *The value of theatre as a teaching method in tertiary education*. *Studia de Cultura*, 11(2), 91-99.
- Xiao Wei, Yang Miao & Zeng Xiayan. (2022). *Creating a New Pattern of Drama Aesthetic Education on Campus: A Case Study of the Construction of Drama Aesthetic Education at Tsinghua University*. *Art Education*, (05), 250-253. doi: CNKI:SUN.0.2022-05-059. *Art Education*, (05), 250-253. doi: CNKI:SUN.0.2022-05-059.
- Wang, F. (2018). *The role of drama performance in aesthetic education in colleges and universities*. art and education.
- Wang, W. (2020). *The application and practice of drama education in aesthetic education in colleges and universities*. art Education.
- Wang, H. (2018). *The theory and practice of aesthetic education*. education press.
- Wu, Z. (2017). *Aesthetic education and cultural heritage*. people's Fine Arts Publishing House.
- Yin, D. (2020). *Analysis of the integration strategy of aesthetic education practice and ideological and political education in colleges and universities: Taking the creation practice of the drama "Youth China" as an example*. *creation practice of the drama "Youth China" as an example*. Wencun Journal.
- Zhang, J. (2021). *The influence and exploration of drama appreciation in aesthetic education in colleges and universities*. Test and Research: College Entrance Edition.
- Zhao, L. (2019). *The impact of drama club activities on students' aesthetic education in colleges and universities*. higher Education Management.
- Zhang, X. (2016). *The role and practice of aesthetic education*. Educational Science Press.
- Xiao Wei, Yang Miao & Zeng Xiayan. (2022). *Creating a New Pattern of Drama Aesthetic Education on Campus: A Case Study of the Construction of Drama Aesthetic Education at Tsinghua University*. *Art Education*, (05), 250-253. doi: CNKI:SUN.0.2022-05-059. *Art Education*, (05), 250-253. doi:CNKI:SUN.0.2022-05-059.

**Paper ID:** 1571055627

**Name:** Nuraqilah Nadjwa Miskam & Nurhafizah Yahaya

**Paper Title:** Bridging the Gap: Unveiling Business English Needs Through a Needs Analysis of Malaysian Polytechnic Students

**E-mail:** nurhafizah85@graduate.utm.my

## **Introduction**

Malaysia aims to be a prosperous country by 2030 through sustainable economic growth and fair economic distribution to its citizens at various levels of revenue clusters and supply chains. To achieve this aim, Malaysia emphasises the business sector regardless of its scale size from micro-enterprises up to mega-conglomerate companies as the means to boost the economy. The essential to business expansion is connections to the global market which requires the proficiency of the English language as the lingua franca of the world. English is proven to have a direct impact on the nation's economic development (Li et al., 2022). Therefore, many companies use English as their medium of communication among staff and clients. Unfortunately, employees still have communicative apprehension when using English in the workplace, especially during communicative events that involve speaking such as oral presentation and conversation (Mat Husin, 2022). In addition, employers also look at the proficiency level of the English language when recruiting new talents. In Malaysia, polytechnics are the biggest contributors of the workforce to the industries. They need to furnish students with English language needs for specific disciplines as different fields have special registers that include terminology, jargon, and lexicon for the students to perform working tasks smoothly. Polytechnics have undergone a series of transformations in the curriculum. In 2002, English for Technical Purposes was implemented for students from technical academic programmes, and English for Commercial Purposes was introduced to students from business academic programmes. However, the focus has shifted to Communicative English across all disciplines since 2010 in line with the current trends. Regrettably, it is impossible to generalise the same English syllabus to all academic programmes. This issue could be addressed by implementing English of Specific Purposes where the focus of ESP is on improving English proficiency based on workplace context.

## **Objective**

Diploma students in polytechnics have limited English classroom practices of the English language as they only take English courses for three semesters throughout their study period. Hamdani and Ouchmiche (2022) found that English courses that the students had during their tertiary education failed to meet their academic and professional needs, and speaking is the most desired language skill yet a problematic aspect of communication. This situation worsens when the process of curriculum review done by the polytechnics through the Curriculum Division at headquarters involves taking inputs from the academic and industry players without conducting informed needs assessment on learners. Therefore, needs analysis should be done to obtain direct views of the learners' actual needs of the English language. As such, this study aims to explore the English language needs of business students in a polytechnic.

## **Methods and Instruments**

This is a quantitative study to investigate the English language needs of business students in a polytechnic. The participants were chosen using convenience non-probability sampling. This sampling method is often used in research because they are quick, easy, and

inexpensive to conduct and thus, the researcher should carefully consider the needs of the study and the characteristics of the population of interest when choosing a sampling method (Babbie, 2010). The participants were chosen from the sixth semester of business programmes in a polytechnic in Selangor because, at the time of this study, the participants are undergoing their industrial training internship and have completed all English courses. Thus, they can reflect and provide mature feedback on their English language target needs that match the real needs of the business industries. The set of questionnaires that addressed the needs of business students and English language problems was adapted from published studies (Daksayani, 2018; Basturkmen, 2010). According to Basturkmen (2010), questionnaire surveys are useful to obtain information fast, from a large number of respondents, and are cost-effective.

This questionnaire consisted of three sections. The first section was on the demographic background of the respondents, the second section was on the English language speaking ability, and the third section was on English communication problems. The survey featured closed-ended questions in the form of a Likert scale, multiple choice, and checklists. The link to the online questionnaire was sent to the class representatives through a social network application and snowballed to other classmates. The response rate was high at 90%. The data gained from the survey was analysed descriptively using quantitative calculations such as frequency counts and percentages.

## Results and Discussion

### 4.1 Students' Present-Situation Analysis

Table 1: Students' Current Ability in English Language Skills

Self-Rated English Proficiency	Frequency (Number of Students)	Percentage (%)
Excellent	2	5.6
Good	13	36.1
Average	21	58.3
Poor	0	0
Very Poor	0	0

As shown in Table 1, the students' English language skills range from average to excellent. 21 (58.3%) self-rated their English language competency as just average, 13 (36.1%) as good, and only 2 (5.6%) as excellent.

Table 2: The Use of English-Speaking Skills during Industrial Training

Use of English-Speaking Skills During Industrial Training	Agree		Disagree	
	Frequency (Number of Students)	Percentage (%)	Frequency (Number of Students)	Percentage (%)
With Clients	22	61.1	14	38.9
With Industrial Supervisor	20	55.6	16	44.4
With Colleagues	18	50	18	50
With Lecturers	14	38.9	22	61.1

Table 2 displays the majority of 22 students (61.1%) used the English language to converse with their clients, 20 (55.6%) with their industrial supervisors, and 18 (50%) with colleagues during their industrial training. However, only 14 (38.9%) of the students used English as the medium to converse with their lecturers. This finding is aligned with Orang'i (2021) who stated that the highest-ranked target needs for speaking skills among business students were conversing with clients, besides native speakers and non-native speakers, in both work-related settings and social settings.

#### 4.2 Students' Target-Situation Analysis

Table 3: Students' Lacks in English Language Skills and Subskills

Students' Lacks in the English Language Skills and Subskills	Agree		Disagree	
	Frequency (Number of Students)	Percentage (%)	Frequency (Number of Students)	Percentage (%)
Speaking Skills	35	97.2	1	2.8
Writing Skills	34	94.4	2	5.6
Listening Skills	31	86.1	5	13.9
Reading Skills	30	83.4	6	16.6
Vocabulary sub-skill	35	97.2	1	2.8
Grammar sub-skill	35	97.2	1	2.8
Pronunciation sub-skill	34	94.4	2	5.6

Table 3 shows the skills that the majority of students lacked were speaking and writing, with responses of 35 (97.2%) and 34 (94.4%) respectively. In comparison, they also lacked of listening and reading skills but less prominent then the earlier two skills mentioned with agreed responses of 31 (86.1%) and 30 (83.4%). In addition, they also agreed to be lacking of speaking sub-skills including vocabulary and grammar (97.2%), as well as pronunciation (94.4%). Ranasuriya and Herath (2020) reported that the performance of interview candidates among graduates is determined by how well they speak to market themselves during that session regardless of their academic achievement, and thus the lack of speaking skills to exhibit their talents portrays their incompetence to promote the company and its product



and inability to communicate among staff will result in their failure to be hired by the industries.

## Conclusion

This study investigated the needs of polytechnic business students in terms of their present situation of English language abilities and target needs of English language speaking skills wants, lacks, and training preferences. The results showed that students' current proficiency in the English language may be classified as average with occasional use of English mostly with clients, supervisors, and colleagues. Additionally, students believe that speaking is the most crucial ability that they need to improve along with sub-skills of vocabulary, pronunciation, and grammar. In light of the results, it is recommended that speaking abilities should be prioritised more in English courses, and the Situational Syllabus should be introduced where the activities are created around various scenarios and linguistic requirements relevant to a particular scenario, like participating in business negotiation and using correct tenses. The research tool and sample population used in this study are some of its limitations. Questionnaire was the sole instrument utilised to gather data. As a result, the responses obtained were completely dependent upon students' perceptions. For further studies, it could be improved by adopting interviews, document analysis, and tests to gain a better understanding of students' present language abilities and for triangulation. The population of the students could also be widened to include other polytechnics in Malaysia that offer business programmes for generalisation of findings. In conclusion, the current study investigated the English language needs of business students at a polytechnic. The results of the study are hoped to provide insights to the stakeholders such as the Curriculum Division in curriculum and syllabus revision, as well as educators in planning their English lessons.

## References

- Babbie, E. (2010). *The practice of social research (12th ed.)*. Wadsworth Cengage Learning.
- Basturkmen, H. (2010). *Designing courses in English for specific purposes*. Palgrave Macmillan.
- Daksayani, G. (2018). A needs analysis of English for business students at a private university in Malaysia / Daksayani Ganeson.
- Hamdani, I. & Ouahmiche G. (2022). Identifying the English language needs of hydraulics engineers: Bridging the gap between ESP academic studies and professional needs. *International Online Journal of Education and Teaching (IOJET)*, 9(2). 677-689.
- Li, Y., Teng, W., Tsai, L., & Lin, T. M. (2022). Does English proficiency support the economic development of non-English-speaking countries? The case of Asia. *International Journal of Educational Development*, 92, 102623. <https://doi.org/10.1016/j.ijedudev.2022.102623>
- Mat Husin, M. Z. (2022). English at Workplace: A Quantitative Report on Communication Apprehension Among Malaysian Employees. *International Journal of Modern Languages and Applied Linguistics*, 6(4). <https://ir.uitm.edu.my/id/eprint/76849/>

Orang'i, D. O. (2021). Listening and speaking skills as learning and target needs in business English program for tour guide diploma students in Kenya. *Journal of Applied Linguistics and Literature*, 6(1), 11-31. <https://doi.org/10.33369/joall.v6i1.11437>

Ranasuriya, D. L., & Herath, S. M. (2020). A needs analysis on the language skills required by the industry from vocational graduates. *Sri Lanka Journal of Social Sciences*, 43(2), 85-98. <https://doi.org/10.4038/SLJSS.V43I2.7932>

**Paper ID:** 1571055942

**Name:** Nur Huda Mohamed Zain, Norulhuda Ismail & Najua Syuhada Ahmad Alhassora

**Paper Title:** Keberkesanan Modul Pembelajaran Berbantuan Bahan Manipulatif Terhadap Pencapaian Pelajar Tingkatan Satu Bagi Topik Ungkapan Algebra

**E-mail:** nurhuda@graduate.utm.my

## **Pengenalan**

Salah satu cabang matematik yang sukar adalah algebra (Marpa, 2019) yang bersifat abstrak di mana algebra menggunakan gabungan huruf dan nombor bagi mewakili suatu angka dan kuantiti (Manandhar, Pant & Dawadi, 2022). Algebra adalah satu ilmu matematik yang perlu diambil berat kerana algebra dianggap sebagai *gatekeeper* dalam bidang-bidang lain dan juga bagi alam pekerjaan (Rittle-Johnson & Star, 2007). Topik ungkapan algebra adalah topik asas algebra yang didedahkan kepada pelajar tingkatan satu (Dokumen Standard Kurikulum dan Pentaksiran Matematik, 2015). Berdasarkan kajian Teh, Shah dan Idrus (2021) dan Adnan et al. (2021) menunjukkan bahawa topik ungkapan algebra adalah topik yang sukar bagi pelajar tingkatan satu dan dua. Selain itu, pelajar menengah atas juga menghadapi kesukaran dalam mata pelajaran matematik dan matematik tambahan (Yahya & Amir, 2018) kerana asas algebra mereka lemah di sebabkan tidak mahir ketika berada di menengah rendah (Daud & Ayub, 2019).

Pada masa kini, kaedah konvensional tidak lagi sesuai digunakan bagi mata Pelajaran matematik (Abdul Rahman, 2017). Maka kaedah pembelajaran yang lebih berkesan diperlukan bagi meningkatkan pencapaian pelajar dalam bidang algebra. Bagi meningkatkan pencapaian pelajar dalam topik ungkapan algebra, guru perlu menjadi seorang perancang kaedah yang berkesan dalam sesi pembelajaran (Omar, Saad & Dollah, 2017). Kaedah pembelajaran yang menggunakan bahan bantu mengajar boleh memberi kesan yang baik terhadap pencapaian pelajar dalam matematik (Alshatri et al., 2019). Menurut Yao (2021), modul adalah satu kaedah pembelajaran berkesan dalam meningkatkan pencapaian pelajar dalam topik ungkapan algebra. Di samping itu, modul adalah bahan yang boleh diterokai oleh pelajar secara berpasangan bagi berkongsi pengalaman dan daya fikir. Seterusnya, bahan manipulatif juga dilihat berkesan dalam meningkatkan pencapaian pelajar dalam topik ungkapan algebra (Farah et al., 2022; Bone, 2020; Abdullah et al., 2022).

## **Objektif**

Objektif kajian ini adalah untuk mengenal pasti keberkesanan modul pembelajaran berbantuan bahan manipulatif terhadap pencapaian pelajar tingkatan satu bagi topik ungkapan algebra.

## **Persoalan Kajian**

Persoalan kajian yang diterbitkan daripada objektif kajian adalah:

Apakah kesan modul pembelajaran berbantuan bahan manipulatif terhadap pencapaian pelajar tingkatan satu bagi topik ungkapan algebra.

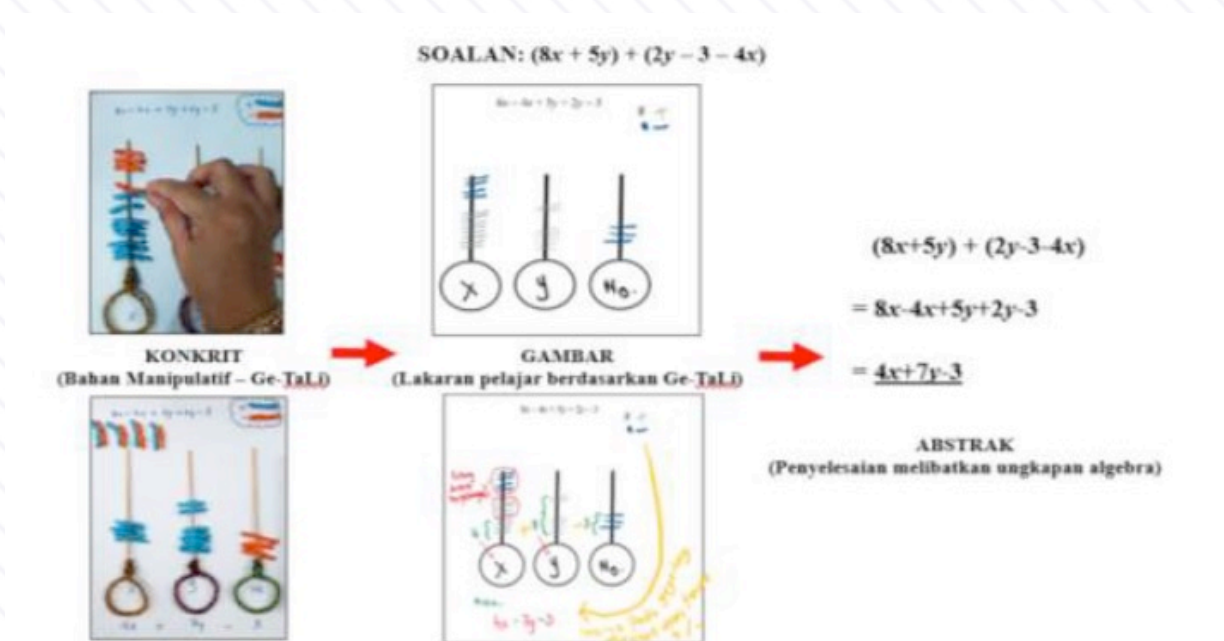
## **Metodologi Kajian**

Reka bentuk kajian ini adalah berbentuk kuantitatif di mana kajian ini dijalankan di sebuah sekolah menengah daerah Alor Gajah, Melaka. Dalam kajian ini, modul pembelajaran

berbantuan bahan manipulatif tanah liat bagi topik ungkapan algebra digunakan bersama instrumen ujian pra dan ujian pasca yang masing-masing mengandungi 10 soalan subjektif. Ujian pra dan ujian pasca dijalankan kepada 31 orang pelajar tingkatan satu sebelum dan selepas sesi pembelajaran menggunakan modul pembelajaran berbantuan bahan manipulatif. Responden dipilih secara pensampelan bertujuan iaitu pelajar daripada satu kelas yang ditetapkan oleh bahagian pentadbiran sekolah. Data kajian ini dianalisis menggunakan perisian *Statistical Package for Social Science (SPSS)* Versi 29.

### Intervensi Modul Pembelajaran Berbantuan Bahan Manipulatif Tanah Liat

Modul pembelajaran yang menggunakan bahan manipulatif seperti tanah liat telah dibangunkan. Menurut Bone (2020) bahan manipulatif adalah berkesan bagi topik yang abstrak seperti algebra. Tanah liat dipilih sebagai bahan manipulatif kerana tanah liat terbukti dapat membantu meningkatkan pencapaian pelajar dalam bidang matematik (Rahayu et al., 2022). Modul ini menggunakan kaedah *Concrete Representational Abstract (CRA)* iaitu suatu kaedah yang dimulakan dengan penggunaan bahan manipulatif kemudiannya daripada pengetahuan yang diperolehi, pelajar menterjemahkan ke dalam bentuk lakaran dan seterusnya kepada penyelesaian ungkapan algebra yang abstrak. Rajah 1 menunjukkan kaedah CRA yang digunakan dalam modul pembelajaran berbantuan bahan manipulatif tanah liat ini.



Rajah 1 Kaedah Concrete Representational Abstract (CRA) dalam Modul Pembelajaran Bahan Manipulatif Tanah Liat

Modul pembelajaran berbantuan bahan manipulatif tanah liat telah dibangunkan dan di uji kesahan serta kebolehpercayaannya. Kesahan kandungan modul telah dilakukan dengan memilih lima orang pakar yang terdiri daripada pensyarah universiti awam, guru cemerlang matematik dan guru kanan mata pelajaran sains dan matematik dan guru-guru matematik yang berpengalaman dalam bidang algebra khususnya topik ungkapan algebra. Kesahan kandungan telah mencapai nilai CVI 0.98 yang menunjukkan kesahan kandungan modul

pembelajaran berbantuan bahan manipulatif tanah liat ini tinggi dan diterima. Manakala nilai alfa Cronbach kebolehpercayaan modul pembelajaran berbantuan bahan manipulatif tanah liat yang diperoleh daripada kajian rintis adalah 0.872 yang menunjukkan modul boleh digunakan.

### Dapatan Kajian dan Perbincangan

Instrumen ujian pra dan ujian pasca dianalisis menggunakan perisian *Statistical Package for Social Science* (SPSS) Versi 29. Kajian ini menggunakan analisis secara deskriptif bagi melihat keberkesanan modul pembelajaran berbantuan bahan manipulatif tanah liat. Jadual 1 menunjukkan nilai min dan sisihan piawai pencapaian pelajar bagi kedua-dua ujian yang telah dijalankan.

**Jadual 1 Min dan Sisihan Piawai Pencapaian Pelajar**

N	Ujian	Min	Sisihan Piawai
31	Pra	52.87	27.921
	Pasca	77.97	20.901

Berdasarkan Jadual 1, nilai ujian pra bagi kumpulan pelajar ini adalah 52.87 dengan nilai sisihan piawai 27.921. Bagi ujian pasca pula, nilai min meningkat kepada 77.97 dengan sisihan piawai 20.901. Peningkatan min ini menunjukkan modul pembelajaran berbantuan bahan manipulatif dapat membantu meningkatkan pencapaian pelajar tingkatan satu dalam topik ungkapan algebra.

Dapatan ujian pra dan ujian pasca menunjukkan bahawa pelajar tingkatan satu dapat meningkatkan kefahaman dan kemahiran mereka ketika menggunakan modul pembelajaran berbantuan bahan manipulatif. Modul pembelajaran yang menggunakan bahan manipulatif tanah liat ini memberi impak yang positif kepada peningkatan pencapaian pelajar dalam topik yang abstrak seperti ungkapan algebra. Kenyataan ini disokong oleh Abdullah dan Leow (2017) dan Rahayu et al. (2022).

Maka, guru perlu menjalankan peranan dalam menyediakan kaedah yang berkesan bagi meningkatkan pencapaian pelajar dalam topik ungkapan algebra sekali gus di dalam mata pelajaran matematik. Penggunaan modul pembelajaran di kalangan pelajar dapat meningkatkan daya fikir dan bertukar pandangan antara satu sama lain.

### Kesimpulan

Kajian ini adalah satu kajian mengenai keberkesanan modul pembelajaran berbantuan bahan manipulatif tanah liat khususnya bagi pelajar tingkatan satu. Secara umumnya, penghasilan bahan bantu mengajar adalah penting demi melahirkan pelajar yang berkemahiran dalam bidang algebra dan matematik. Selaras dengan kehendak Kementerian Pendidikan Malaysia, guru perlu lebih kreatif dalam menyediakan bahan bantu mengajar bagi sesi pembelajaran yang lebih berkesan. Hasil kajian ini menunjukkan modul pembelajaran berbantuan bahan manipulatif tanah liat dengan kaedah CRA adalah bahan bantu mengajar yang berkesan terhadap peningkatan pencapaian pelajar dalam topik ungkapan algebra.

## Rujukan

- Abdullah, M. F. N. L., Leow, T. W. (2017) 'Kesahan dan kebolehpercayaan instrumen penilaian sendiri pembelajaran geometri tingkatan satu' *Malaysian Journal of Learning and Instruction*, 14(1), 211-265.
- Abdul Rahman N. (2017) 'Pendekatan Gamifikasi Dalam Pengajaran Dan Pembelajaran Terhadap Murid Tingkatan Dua Bagi Topik Ungkapan Algebra'. Universitas Nusantara PGRI Kediri, 01, 1-7, Retrieved from <http://www.Albayan>.
- Adnan, M., Abidin, Z. A., Mustam, A. A, Maat, S. M., Sutama, S., Prihaswati, M., Zulnaidi, H. (2021) 'The ability and analysis of student's error in the topic of algebraic expression', *Journal of Physics: Conference Series Journal of Physics*.
- Alshatri S.H.H., Wakil K., Jamal K., Bakhtyar R. (2019) 'Teaching Aids Effectiveness in Learning Mathematics' *International Journal of Education Research Review*, 4(3), 448-453.
- Daud, Md. Y., Ayub, A. S. (2019) 'Student Error Analysis Learning Algebraic Expression: A Study in Secondary School Putrajaya. *Creative Education*, 10. <https://doi.org/10.4236/ce.2019.1012189>
- Kementerian Pendidikan Malaysia (2015), *Dokumen Standard Kurikulum dan Pentaksiran Matematik Tingkatan 1*.
- Manandhar N. K., Pant B. P., Dawadi S. D. (2022) 'Conceptual and Procedural Knowledge of Students of Nepal in Algebra: A Mixed Method Study', *Contemporary Mathematics and Science Education*, 3(1), <https://doi.org/10.30935/conmaths/11723>
- Omar, M. S., Saad, N. S., Dollah, M. U. (2017) 'Penggunaan bahan bantu mengajar guru matematik sekolah rendah', *Jurnal Pendidikan Sains & Matematik Malaysia*, 7(1).
- Rahayu E., Ramadhan S., Guswati N., Seprya R., Inmaryanto (2022) Penggunaan Alat Peraga Edukatif Media Tanah Liat Untuk Meningkatkan Kemampuan Mengenal Bentuk Geometri Pada Anak Usia Dini. *Jurnal Pendidikan dan Konseling*. 5(1). Doi: <https://doi.org/10.46963/mash.v5i01.437>.
- Teh G.L, Shah R.L.Z.R.M., Idrus N.M. (2020) 'Analisis keperluan bagi pembangunan modul matematik tingkatan 1 untuk pengekaln pengetahuan konseptual dan prosedural', *Journal of Science and Mathematics Letters*, 8(2), 86-99.
- Yao F.J., Abdullah M.F.N.L., Adenan N.H., Yee H.J. (2021) 'Kajian keperluan pembangunan modul latihan berasaskan kemahiran berfikir aras tinggi bagi topik ungkapan algebra tingkatan satu', *Jurnal Pendidikan Bitara UPSI*, 14, 33-40.

**Paper ID:** 1571060945

**Name:** Qianqian Kong & Harmi Izzuan Bin Baharum

**Paper Title:** Understanding Cooperative Attitude, Behavior, and Effectiveness of Cooperative Learning: A Value-Based Approach

**E-mail:** kongqianqian@graduate.utm.my

## 1. Introduction

Driven by advancements in computer-supported learning, Johnson & Johnson (2002) highlighted a shift from single-learner-based patterns to cooperative-learning-based patterns. As the digital world evolves, Cooperative Learning (CL), now one of the most common forms of active learning, has garnered growing attention from researchers and the public for its role in developing critical skills such as communication, collaboration, and problem-solving, which are essential for navigating the 21st-century digital landscape (Jacobs & Ivone, 2020; Johnson & Johnson, 2018). Researchers have demonstrated that CL positively impacts students' psychological well-being, social skills, academic achievement, and social relationships (e.g., Yamarik, 2007; Johnson & Johnson, 2009; Tolmie et al., 2010; Lavasani & Khandan, 2011; Van Ryzin & Roseth, 2018). Yet, despite its overall effectiveness CL may not be well received by all students, with some finding it less effective or even unappealing (e.g., Bonwell & Eison, 1991). Value theory offers insights into these preferences or aversions by suggesting that specific value orientations can help understand the apprehensions about frequent interactions and collaboration with others (e.g. Schwartz, 2013).

According to value theory, there is a universal structure of ten fundamental values, which are organized into a circular structure, indicating that human motivation is organized similarly across different societies (Schwartz, 2015). Prior research has demonstrated the predictive capability of values in shaping attitudes (Boer & Fischer, 2013) and subsequent behavior (Bardi & Schwartz, 2003). Schwartz (2013) examined cooperative behavior in social dilemmas and revealed that SE values, including power, achievement, and hedonism, tend to generate the least amount of cooperation. ST values, including benevolence and universalism, promote greater cooperation. OC values, including self-direction and stimulation, and C values, including security and tradition, are generally less relevant in this context. Researchers have identified ST values as a vital predictive factor for the commitment to CL (Bogaert et al., 2012; Choi & Yoon, 2018; Pletzer et al., 2018; Filippou et al., 2021). There is a dearth of literature on the influence of ST values on the interaction of cooperative attitude, behavior, and effectiveness in the context of CL.

Homer and Kahle (1988) devised a Value-Attitude-Behavior (VAB) model that suggests that an individual's behavior reflects their values and attitudes and emphasizes the mediating function of attitudes between values and behaviors. The efficacy of the model has been thoroughly tested and applied in diverse domains, including its use for elucidating career attitude (Shim et al., 1999), for predicting voting intentions related to wilderness preservation (Vaske & Donnelly, 1999), in research on tourism industry (Han et al., 2019), and teachers' conservative behavior and openness to change and self-transcendence behaviors (Tal & Yinon, 2002). There has been limited application of the model in the context of CL. Further research is warranted given the importance of understanding how personal values influence attitudes and behavior. We examine the role that ST values may play in the cooperative attitude, behavior, and effectiveness of CL.

## 1.1 Personal value orientations

Schwartz (2015) identified ten fundamental values, which are classified into two pairs of higher-order values, creating two dimensions: openness to change versus conservation (OC values vs. C values) and self-enhancement versus self-transcendence (SE values vs. ST values). However, researchers have reported that the distribution of personal value orientation varies in different nations (e.g., Hofstede, 1980; Schwartz, 1992; Schwartz, 2003; Knutsen, O., 2009; Feng, 2011). For instance, in collectivist nations like China, values such as wealth, power, and authority are given greater significance (Schwartz, 1992). Feng (2011) has also revealed that Chinese respondents preferred C values and SE values more than their American counterparts in the fifth wave of the World Values Survey.

Besides, differences in age, education level, and gender should be considered when researchers investigate personal value orientations (Schwartz et al., 2006). For example, researchers found that being older tends to be strongly correlated with having more traditional as opposed to more modern value orientations (e.g., Webber, Coombs, & Hollingsworth, 1974). Fung et al. (2016) also revealed that across cultures, older people had lower endorsement of agentic personal values and higher endorsement of communal personal values than younger people. Given the significant improvements in security and prosperity that young adults in China have experienced over the past few years, it is worth investigating whether they are increasingly prioritizing SE and OC values over ST and C values.

Nevertheless, Heim et al. (2017) observed that Chinese students scored highest on the two higher-order dimensions of values compared to their Russian and German counterparts, highlighting the daily value conflicts young Chinese individuals face as they navigate Confucian traditions and rapid economic development. In addition, Liu et al. (2021) found that individualism is on the rise in developed cities like Shanghai, while traditional collectivism is diminishing. Conversely, young individuals strongly adhere to ST and C values in cities such as Qingdao, which are more influenced by Confucian culture. Therefore, we hypothesize that young students influenced by Confucian culture are more likely to prioritize self-transcendence (ST) values over self-enhancement (SE) values and conservation (C) values over openness to change (OC) values.

## 1.2 Personal value orientations and cooperative attitude

Katz (1960) indicated four attitude functions: utilitarian, ego-defensive, value-expressive, and knowledge functions, while the value-expressive function of attitudes articulates central values. Researchers suggest that people use values to justify their attitudes, especially when value-expressive attitudes are concerned (Kristiansen & Zanna, 1988; Maio & Olson, 1994). Researchers across different populations have found a connection between values and corresponding attitudes (e.g., Boer & Fischer, 2013; Filippou et al., 2021). For example, Boer & Fischer (2013) demonstrated that self-transcendence (ST) values relate positively to fairness/pro-environmental and care/prosocial attitudes. In school settings, Filippou et al. (2021) demonstrated that pre-service teachers strongly endorsed self-transcendence (ST) values rather than self-enhancement (SE), and their adherence to ST values was also positively associated with their beliefs and attitudes regarding CL methods.

However, some researchers indicated a cooperative attitude generated from a utilitarian perspective (Huang, 2006; Ostrom, 2012; Nguyen et al., 2023). For example, Nguyen et al. (2023) pointed out that a cooperative attitude comes from the perceived



benefits of CL. Huang (2006) pointed out that the motivation of middle school students in CL is the extrinsic motivation of pursuing group rewards. Consequently, we hypothesize that ST values will positively affect the cooperative attitude.

## **2. Personal values and cooperative behavior**

Values enable individuals to display a particular behavior in a particular situation (Kahle, 1984; Beatty et al., 1985; Verplanken & Holland, 2002; Bardi & Schwartz, 2003; Danioni & Barni, 2017; Schwartz, 2017). According to Schwartz (1977) and his norm-activation theory, when an individual's values are triggered, they are motivated to take actions consistent with those values. Bardi and Schwartz (2003) found that behavior associated with stimulation and tradition values were strongly linked to corresponding values, while those associated with hedonism, power, universalism, and self-direction values had a moderate relationship with corresponding behaviors, and security, conformity, achievement, and benevolence values showed only a marginal connection with corresponding behavior.

Schwartz (1992) discovered that individuals with SE values tend to exhibit the lowest levels of cooperation. Conversely, those with ST values tend to be more cooperative. OC and C values do not significantly impact cooperation (Schwartz, 1992). Consequently, we hypothesize that ST values will affect cooperative behavior.

## **3. Value-Attitude-Behavior Hierarchy**

Homer & Kahle (1988) devised a Value-Attitude-Behavior (VAB) model, which suggests that an individual's behavior reflects their values and attitudes and emphasizes the mediating function of attitudes between values and behaviors. The model's efficacy has been thoroughly tested and applied in diverse domains( e.g., Shim et al., 1999; Vaske & Donnelly, 1999; Han et al., 2019). Tal & Yinon (2002) found that values and attitudes could explain teachers' conservative behavior and openness to change and self-transcendence behaviors in school settings. Therefore, we hypothesize that students' adherence to ST values will be associated with a cooperative attitude and behavior, and a cooperative attitude will moderate the effectiveness of ST values and cooperative behavior.

## **4. Effectiveness of CL**

The effectiveness of CL is a widespread topic transcending racial, cultural, and geographic boundaries. However, the arguments on the factors that influence the effectiveness of CL varies (Battistich V. et al., 1993; Slavin, 1996; Johnson & Johnson, 2014; Ellemers et al., 2008; Bogaert et al., 2012; Dzemidzic et al., 2019). For instance, Johnson and Johnson (2014) identified five fundamental elements that every CL framework should contain, which are: positive interdependence, individual accountability, promotive interaction, appropriate use of social skills, and group processing. Dzemidzic et al. (2019) pointed out that successful CL is attributed to students' interpersonal behavior, active participation, communication and support between group members, and the teacher's guidance. Many other factors are deemed significant in determining the effectiveness of CL, which include, but are not restricted to, the training, experience, and instructional approach of teachers; the interpersonal behavior, interdependence, and involvement of students; the personality, attitude, and expectations of individuals; and the management, size, identity, inter-group competition, inner-group trust, and incentives of groups. Given the complexity of CL and its influencing factors, the academic community has not yet reached a consensus on its conclusions. Therefore, we hypothesize that ST values, cooperative attitude, and cooperative behavior will be associated with CL effectiveness.

## 2. Objective

1. To examine whether students influenced by Confucian culture prioritize self-transcendence (ST) values over self-enhancement (SE) values, and conservation (C) values over openness to change (OC) values.
2. To explore the relationship between students' adherence to ST values and their cooperative attitude and cooperative behavior.
3. To determine whether a cooperative attitude mediates the relationship between ST values and cooperative behavior.
4. Hypothesis 6: ST values, Cooperative attitude, and cooperative behavior will be associated with the effectiveness of CL.
5. To evaluate the mediating roles of cooperative attitude and behavior in the relationship between ST values and the effectiveness of CL.

## 3. Methods and Instruments

### 3.1 Participants

Two hundred and fifty-five college students from a local university in Qufu, Shandong province, were invited to participate in this study. Approval was obtained from the university's Human Research Ethics Committee. The survey was administered online, with informed consent obtained from all participants. Prior to completing the survey, participants were provided with information detailing the study's purpose, the implications of their participation, and data protection measures, emphasizing the voluntary and anonymous nature of their involvement. After excluding missing or incomplete responses, 204 valid surveys were collected (mean age = 20.08, SD = 0.642, 183 females). The sample comprised 103 (50.5%) students enrolled in four-year university programs and 101 (49.5%) students in three-year university programs.

### 3.2 Measures

- Personal value orientation

A Chinese version of the Portrait Values Questionnaire (PVQ40) (Schwartz, 2021) was adopted to assess students' personal values orientations. Forty items were presented to the participants, such as: "He thinks it is important that every person in the world be treated equally; He believes everyone should have equal opportunities in life." Participants rated each item on a six-point Likert scale, ranging from 1 (very much like me) to 6 (not like me at all), with lower scores indicating higher orientation. The scale consisted of four sub-scales, namely, ST values (10 items), SE values (7 items), OC values (10 items), and C values (13 items), each measuring a different set of personal values. The internal consistency of the sub-scales was found to be acceptable, with alpha coefficients ranging from .744 to .826, which is acceptable.

- Cooperative attitude, cooperative behavior, and effectiveness of CL

Cooperative attitude, cooperative behavior, and effectiveness of CL were assessed using a self-designed scale. A sample item was "I believe that personal development and

progress can not be separated from the cooperation between people.” A five-point Likert scale was used to estimate the cooperative attitude (consisting of 5 items), cooperative behavior (consisting of 6 items), and effectiveness of CL (consisting of 5 items), ranging from 1 (indicating “not at all agree”) to 5 (indicating “completely agree”) to express their level of agreement to various statements, with higher levels of cooperative attitude, cooperative behavior and effectiveness of CL was represented by higher scores. The reliability of the sub- scales was found to be satisfactory based on internal consistency measures, with alpha coefficients ranging from .888 to .938, which is good.

### 3.3 Analytical strategy

SPSS 25.0 and Amos 26.0 were used for data analysis. Due to the variability in scoring between scales, all scales were converted to reverse order in SPSS to ensure consistency in data analysis. Missing values were replaced by their means. To examine our hypotheses and research question, we first established a model to examine the relationship between ST values, cooperative attitude, cooperative behavior, and CL effectiveness (see Fig. 1). We conducted a confirmatory factor analysis to assess the goodness of fit of the measurement model with Amos 26.

## 7. Results and Discussion

### a. Instrument Construction and Validation

To assess the convergent validity of the constructs being studied, we utilized Amos 26. We carried out three primary analyses: (a) evaluating the reliability of indicators, (b) calculating the composite reliability of each construct, and (c) determining the average variance extracted by the construct, according to the suggestion of Fornell & Larcker (1981). The outcomes of these analyses are presented in Table 2. As per the recommended composite reliability (CR) cut-off point of 0.7 (Fornell & Larcker, 1981; Gefen & Straub, 2005), we observed that the CR of all constructs was highly reliable, as depicted in the table. Additionally, the average variance extracted (AVE) was more significant than 0.5 (Fornell & Larcker, 1981), indicating that the latent variables were reliable. The item reliability and internal consistency reliability, evaluated through CR and AVE, provided substantial evidence of convergent validity for the measures on CL used in this study.

Ensuring discriminant validity stands as a pivotal aspect within the realm of research investigations. It serves as a gauge to determine whether the chosen indicators for assessing distinct constructs remain distinctly separate from indicators associated with other constructs. Within our study, particular emphasis was placed on evaluating the discriminant validity among the constructs of Attitude, Behavior, and Effectiveness, employing Amos 26 for this purpose.

Table 3 outlines the correlation matrix for these constructs. A critical criterion in evaluating discriminant validity involves examining the diagonal elements within the corresponding rows and columns, which should surpass the off-diagonal elements (Fornell & Larcker, 1981). The outcomes of this assessment indicated satisfactory discriminant validity at the construct level across all constructs. This implies that each construct exhibits a higher degree of shared variance with its respective items than with items from other constructs.

Gefen and Straub (2005) state that a correlation equal to or exceeding 0.85 signifies inadequate discriminant validity in structural equation modeling. Notably, none of the correlations documented in Table 3 surpass this threshold. Consequently, the measures of

the constructs in the proposed model fulfilled the reliability criteria and demonstrated sound discriminant validity.

Overall, the attained measurement quality met acceptable standards. Hence, the subsequent analyses treated Attitude, Behavior, and Effectiveness as individual variables, affirming their independence and distinctiveness within the study framework.

#### 4.2 Statistical analysis of personal values orientations

The Portrait Values Questionnaire (PVQ40) is a reverse scale in which lower values represent higher similarity while higher values represent lower similarity. Therefore, the lower the score, the more the respondent is inclined toward the value orientation represented by the item. Table 4 shows the participants weighted SE values the least ( $M=2.90$ ,  $SD=.80$ ). The participants weighted ST the most ( $M=2.30$ ,  $SD=.70$ ). OC and C values were moderately endorsed. The weights of C values ( $M=2.49$ ,  $SD=.64$ ) and OC values ( $M=2.42$ ,  $SD=.73$ ) generated a slight difference, which indicates the participants' orientations to open to change and conservation are almost the same.

Table 5 displays the outcomes of the paired sample t-test, which demonstrates that the correlations between the values of self-transcendence (ST), self-enhancement (SE), openness to change (OC), and conservation (C) are significantly correlated. The correlations range from .346 between ST and SE to .762 between ST and C. The findings are consistent with Schwartz's prototypical circular value structure (Figure 2) and indicate the universality of the value theory. The study found that ST was strongly associated with C for Chinese college students, whereas SE was more strongly linked with OC. Additionally, ST and OC, as well as SE and OC, were moderately related. On the other hand, SE and C and ST and SE were only marginally related. Therefore, the structure of motivational conflicts and congruities of values is nearly universal, even though individuals vary significantly in the importance they assign to each value.

#### 1.1 Statistical analysis of the research model

- Confirmatory Factor Analysis

To assess the goodness of fit of the research model, AMOS provided fit statistics such as the Chi-square ( $X^2$ ) and DF. The goodness of fit indices for the statistical model demonstrated a high level of agreement between the observed data and the model, with  $X^2 = 248.666$ ,  $df = 114$ ,  $X^2 / df = 2.181$ ,  $p = .000$ ,  $GFI = .882$ ,  $AGFI = .842$ ,  $CFI = .947$ , and  $RMSEA = .076$ . These values were then compared to the benchmarks suggested by Kline (1998) and Gefen & Straub (2005), and the analysis indicates that the measurement model's fit was satisfactory, as evidenced by the results presented in Table 6.

Based on Kline's (1998) suggested criteria, a relative chi-square value of 3 or lower indicates a model fit that can be considered good. In this study, a relative chi-square index was calculated to be 2.181, indicating a good fit for the models. Furthermore, Comprehensive Fit Indexes (CFI) is .947, which is above 0.90 and demonstrates a good fit for the data as well. The RMSEA fit statistics showed favorable statistics, with a value of .076, which is below the desired cut-off of .08. Additionally, other fit indices, including AGFI, were found to be within acceptable limits, with a value of .842. Therefore, the outcomes of this study demonstrate that the models employed in the research fit the data well, as attested by different fit indices.

#### 4.3.2 Path Analysis

The ongoing research aims to examine the correlation between various constructs, namely ST values, attitude, behavior, and effectiveness of CL. The findings were analyzed using path analysis, and the scalar estimations were demonstrated in Table 7. The table exhibited the non-standardized and standardized estimated values. Standard Error (SE) and Critical Ratio (CR) were presented in different columns, where CR was calculated by dividing the Estimate by SE, also recognized as the t-value, followed by the p-value associated with the hypotheses (McIver & Carmines, 1981).

The results indicated that the regression weight in ST values → Effectiveness in the model was positively significant, which supported our initial expectation. Moreover, the paths ST → Attitude, Attitude → Behavior, ST → Effectiveness, Attitude → Effectiveness, and Behavior → Effectiveness were found to be significant, except for the path ST → behavior. The ST values and cooperative behavior was not significant in path analysis, as illustrated in Table 7. The computed standardized value for the correlation between ST and cooperative behavior was .081, with a corresponding p-value of .151. As the p-value was greater than the standard threshold of .05, the results indicate that there is no statistically significant relationship between ST and cooperative behavior.

#### 4.4.3 Model modification

Based on the findings of ST → behavior, we made necessary modifications to the model presented in Figure 4. Subsequently, we reanalyzed the path analysis and scalar estimations, as shown in Table 8. The results revealed that all variables exhibited significant correlations post-modification.

The modified research model showed satisfactory goodness of fit indices, with  $\chi^2 = 250.719$ ,  $df = 115$ ,  $\chi^2 / df = 2.180$ ,  $p = .000$ ,  $GFI = .882$ ,  $AGFI = .843$ ,  $CFI = .946$ , and  $RMSEA = .076$ . The study compared the obtained values with the benchmarks suggested by Kline (1998) and Gefen & Straub (2005) and found that the measurement model fit was acceptable, as shown in Table 8. Path coefficients and R<sup>2</sup> values for all dependent constructs were presented in Figure 4, which indicated the fraction of variance in these constructs predicted by the models. The study's findings revealed that ST values and Attitude accounted for 59% of the variance in Behavior ( $R^2 = .59$ ), thereby indicating a significant relationship between the two constructs. Furthermore, ST values, Attitude and Behavior in the regression analysis resulted in a prediction of 57% of the variance in Effectiveness ( $R^2 = .57$ ), which is considered an acceptable level of explanation.

Finally, the results in Table 9 showed that the modified model's regression weight in ST → Attitude, Attitude → Behavior, ST → Effectiveness, Attitude → Effectiveness, and Behavior → Effectiveness was found to be significant.

#### 4.4.4 Mediating effects analysis

The results presented in Table 10 reveal significant relationships between several latent variables under investigation. Specifically, the table indicates a direct correlation (.324) between ST and Attitude, a direct impact (.472) between Behavior and Effectiveness, as well as direct impact (.769) between Attitude and Behavior. In addition, the analysis suggests the presence of an indirect effect between ST and behavior, with corresponding values of .250. ST and Effectiveness have both direct and indirect effects on each other. The values of the direct and indirect effects are .111 and .209, respectively. Lastly, the table highlights a direct impact (.282) and an indirect impact (.209) between Attitude and Effectiveness.

The study utilized a bootstrap sampling technique to assess the mediating effects of the latent variables and ensure the accuracy and reliability of the results. The percentile method with 5000 resamples was used to achieve a 95% confidence interval, as Taylor et al. (2008) recommended. Table 11 presents a summary of the outcomes of the mediating effect analysis, which lends additional credibility to the connections identified in Table 10.

In order to assess the relevance of the indirect effects, we adopted the approach suggested by Preacher and Hayes (2008), which involved computing the confidence interval of the lower and upper bounds. Our bootstrapping analysis validated the presence of significant positive mediating effects of attitude in the relationship between ST values and the Effectiveness of CL. The standardized indirect effect was 0.087,  $p < 0.05$  in the Bias-corrected test and Percentile 95% CI test. Further analysis revealed significant chain mediating effects for Attitude and Behavior between ST values and the Effectiveness of CL. The standardized indirect effect was 0.111, and  $p < 0.01$ . The significance of the mediation effects in both ST-Attitude-Effectiveness and the chain mediating effect observed in ST-Attitude-Behavior-Effectiveness are noteworthy. Hence, a valid inference can be drawn that the conceptual model incorporates a consequential chain mediating effect, acting as a partial intermediary.

In the examination, the mediating impact of Attitude was found to contrast unfavorably with the mediation effect generated by the sequential linkage of Attitude and Behavior, indicating that the mediation effect of Attitude was weaker than the mediation effect of Attitude and Behavior combined. However, the mediation effect of Attitude and Behavior is not significantly more substantial than that of Attitude alone. The mediation effect of Attitude in the ST-to-Effectiveness relationship constitutes 28.6% of the overall effect. In contrast, the chain mediation effect involving Attitude and behavior in the ST-to-Effectiveness relationship accounts for 36.8% of the total effect.

#### 4.5 Summary of hypothesis test

Building upon prior empirical inquiry, the hypothesis test results can be extrapolated. A concise summary of these findings is presented in Table 12. The present study aimed to investigate the personal value orientations of local Chinese college students and its impact on CL. The findings indicate a prioritization of ST values over SE values among these students. However, the prioritization of C values over OC values was not supported. Moreover, it was found that ST values have a positive influence on the effectiveness of CL and foster cooperative attitudes. Although cooperative attitudes and behaviors significantly enhance the effectiveness of CL, the study did not find support for the notion that ST values have a significant and positive impact on cooperative behavior in CL. Overall, the findings underscore the significance of ST values and cooperative attitudes in shaping the efficacy of CL among the local Chinese college students.

#### 4.6. Discussion

The article delineates the outcomes of a study scrutinizing the personal values of college students in Qufu, China, and their interplay with CL. The study sought to furnish a holistic comprehension of college students' values, particularly their adherence to ST, SE, OC, and C values, and the consequential influence of these values on cooperative attitude and behavior and the effectiveness of the CL framework.

The study results revealed that the participants gave the highest weight to ST values, while SE values received the least. This finding was expected and indicated the far-reaching impact of Confucian values on contemporary young people. Although Confucianism still influences local college students, C values no longer hold absolute superiority over OC value orientation. This is my due to the increasing openness in China and age-specific characteristics of young people seeking self-expression, individuality, and challenges, gradually leading them to tend toward an open-to-change value orientation. The study also found a significant correlation between ST, SE, OC, and C values, consistent with Schwartz's value theory.

In the proposed model, the authors found that ST → Attitude, Attitude → Behavior, ST → Effectiveness, Attitude → Effectiveness, and Behavior → Effectiveness were significant, but the path ST → behavior was not significant. This is inconsistent with the findings of Schwartz in 2013, which revealed that ST values promote greater cooperative behavior in social dilemmas. This suggests that, given the complexity of CL, Schwartz's conclusions about cooperation cannot be directly applied to CL. It is presumptuous to assume that ST values directly lead to cooperative behavior in CL.

Moreover, ST values significantly affected the cooperative attitude and effectiveness of CL. The bootstrapping test outcomes for the adjusted model substantiated the presence of a noteworthy mediating effect of cooperative attitude between ST values and the cooperative behavior of CL, which proved that, in most cases, ST values directly influence cooperative attitudes rather than cooperative behavior, which is consistent with the findings of Homer and Kahle, whose model underscores the pivotal role of attitudes in mediating the relationship between values and behaviors. Besides, the study also provides evidence of a chain mediating effect of cooperative attitude and cooperative behavior in CL between ST values and the effectiveness of CL.

## **5. Conclusion/Implications for Research/Policy**

The study findings highlight the predominant emphasis of local students on ST values over SE values, indicating a nuanced distribution of personal values. Moreover, the study underscores the mediating role of cooperative attitude and the sequential relationship between cooperative attitude and behavior in linking ST values to the effectiveness of CL.

These results carry substantial theoretical and pedagogical implications in the realm of second and foreign language teaching. This study not only extends the V-A-B model and Schwartz's value theory into the domain of CL but also offers practical insights for educators and curriculum designers. Understanding the interplay between personal values and CL facilitates optimizing grouping strategies based on students' value orientations, fostering more effective implementation of CL activities and tailored CL environments that resonate with diverse learner preferences.

A strategic approach involves incorporating students with an ST value orientation into each group, potentially enhancing cooperative dynamics. Conversely, minimizing the proportion of students with an SE value orientation can mitigate competitive behaviors, nurturing a more cooperative classroom environment conducive to improved academic outcomes.

However, it's essential to acknowledge limitations. One of the limitations of this study is the use of self-developed questionnaires to measure cooperative attitude, cooperative behavior, and effectiveness of CL. While these instruments provided initial validity evidence

within the specific context of this research, their reliability and validity may not match those of well-established questionnaires. Future studies are encouraged to utilize more mature and validated instruments to examine the relationships between these variables. Besides, the study's scope is confined to local college students and relies on a convenience sample, thus limiting the generalizability of findings. Future research would benefit from larger, more diverse samples across various geographical regions to enrich our understanding of the role of personal values in CL and refine grouping strategies accordingly.



**Paper ID:** 1571055007

**Name:** Nuraqilah Nadjwa Miskam & Rohani Othman

**Paper Title:** Seeing Themselves Speak: How Online Video Peer Feedback Transforms Oral Presentations

**E-mail:** nuraqilahnadjwa@utm.my

## **Introduction**

The ability to master effective communication skills such as oral presentation skills is an essential life skill for graduates to cater to the multidisciplinary skills needed in today's workplace. In line with this demand, Malaysia Education Blueprint 2015 - 2025 plan emphasises on developing graduates that are holistic, entrepreneurial, and balanced to address the skills gap that existed between university and the industry demand. However, findings from previous studies have shown that graduates are unable to communicate effectively in a professional setting (Masduki & Zakaria, 2020; Al Riyami, 2021; Win, 2023). One of the contributing factors to this worrying phenomenon is the lack of feedback provision in improving the students' oral presentation skills (Suharni et al., 2022; Bansa 2023). Due to the limited class time, instructors are unable to provide extensive feedback to the students (van Geel & Luttikhuis, 2020; Heidemen & Laury, 2021). Parallel to Shift 9 in Malaysian Education Blueprint 2015 - 2025 (Higher Education) that aims for globalized online learning, the wave of new media has made it possible for innovation of feedback provision to occur with technological support. Online video peer feedback (OVPF) will be able to provide the opportunity for feedback to be provided in a more extensive and detailed manner within a short span of time. By using qualitative approach, this study aimed at exploring the students' experiences of using online video peer feedback as the feedback provider and feedback receiver in improving their oral presentation skills. Students have shown to have experienced positive outcomes when they incorporated and utilised online video peer feedback to facilitate them in improving their oral presentation course.

## **Objective**

There are two objectives in the present study. The first objective is to explore students' experiences of providing online video peer feedback in improving their oral presentation skills. The second objective is to explore students' experiences of receiving online video peer feedback in improving their oral presentation skills.

## **Methods and Instruments**

Qualitative phenomenological research (Creswell & Poth, 2018) was used to explore the students' experiences of using online peer video feedback in improving their oral presentation skills. Students' video reflection was utilized as the research instrument of this study. A total of 44 video reflections from 22 students were collected and analyzed using thematic analysis (Braun & Clark, 2006). In this study, the students were asked to record their oral presentation videos in an online platform known as Flipgrid. They provided and received online video peer feedback to revise and improve their oral presentation skills. Based on their experiences of providing and receiving feedback, students were asked to record their video reflections to share their insights on the use of online peer video feedback to improve their oral presentation skills.

## **Results and Discussion**

There are three themes that reflected students' experiences in providing OVPF to improve their oral presentation skills. Firstly, students faced fear and intimidation as feedback providers due to their lack of confidence and experience. However, some found the experience enjoyable. Secondly, students felt motivated to provide better feedback, as their peers implemented their feedback. This experience was applied in their future practice, especially in the changing learning environment from face-to-face to online. Thirdly, students experienced independent learning by facilitating each other's oral presentation skills. They reflected on their oral presentation performance and used peer video feedback to improve their own. This experience demonstrates their willingness to learn from one another and use peer presentations as a learning model.

On the other hand, three themes emerged from students' experiences in receiving OVPF to improve their oral presentation skills. Firstly, the use of OPVF has significantly improved students' oral presentation skills. Students felt more confident and less nervous when they received positive feedback from their peers, which highlighted their weaknesses and provided suggestions for improvement. Secondly, the use of OVPF also provided unlimited practicing and revision opportunities, allowing students to identify and re-check mistakes in their presentations. This online learning environment allowed students to practice multiple times, resulting in improved performance. Thirdly, the immediate availability of peer video feedback has also motivated students to improve their oral presentation skills, as they no longer had to wait for their instructor's feedback. This immediate feedback is crucial for students to overcome their mistakes and weaknesses in their oral presentation.

## **Conclusion**

In conclusion, the integration of online peer video feedback in oral presentation courses can benefit students, language instructors and teachers by making it more student-centered learning which contributes to independent learning. In this study, students can facilitate each other to identify their weaknesses in their oral presentation skills. As students master their oral presentation skills, they will be able to work independently. Students' knowledge construction was supported with the integration of online peer video feedback in their oral presentation course. When peers offered feedback, it is the students' responsibility to decide on what to do the feedback and how they used the feedback provided to improve their oral presentation performance. This strategy will facilitate students to improve their oral presentation performance as they need to analyze the work of others before providing feedback and based on the feedback to their peers, these students will also analyze their own performance and not repeat the same mistakes that they pointed out to their peers. It enables students to develop their sense of control, therefore, taking full responsibility for their own learning. Thus, online peer video feedback could be used as a form of practice in the teaching of oral presentation courses, especially in an online setting due to its capacity to motivate and sustain students' interest in learning oral presentation while creating a student-centered learning environment.

## References

- Al Riyami, T.K. (2021). Omani graduates' English communication skills: employers' perspectives. *Learning and Teaching in Higher Education: Gulf Perspectives*, 17(2), 136-149. <https://doi.org/10.1108/LTHE-01-2021-0007>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Creswell, J. W. & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4<sup>th</sup> edition). Sage.
- Heideman, P. D., & Laury, J. E. (2021). Ultra-Short Presentations with Immediate in Class Public Feedback to Enhance Skill Development with Low Class Time and Instructor Time. *College Teaching*, 70(2), 196-205. <https://doi.org/10.1080/87567555.2021.1913395>
- Masduki, M., & Zakaria, N. (2020). Fulfilling the Demand for Workplace Communication Skills in the Civil Engineering Industry. *Pertanika Journal of Social Science and Humanities*, 28 (4), 3069 - 3087.
- Ministry of Education Malaysia (Higher Education). (2015). *Malaysia Education Blueprint 2015-2025*. Retrieved from <http://www.moe.gov.my/userfiles/file/PPP/Preliminary-Blueprint-Eng.pdf>
- Suharni, Sri Imelwaty., Sesmiyanti., & Lili Perpisa. (2022). The impact of peer feedback on higher education students' oral presentation: a case study. *Tell-Us Journal: Teaching-English-Linguistics-Literature-Usage*, 8(3):141-151. <https://doi.org/10.22202/tus.2022.v8i3.6181>
- Win, Y. W. (2021). The Challenges in Tertiary Level Study in Professional Communication Among University Graduates Through Online Education, *Journal of Effective Teaching Methods*, 1(3), 73-75.
- Van Geel, M. & Luttikhuis, M. (2020). Digital peer feedback to improve students' learning. *48th Annual Conference, Enschede, the Netherlands*. 1276-1279.

**Paper ID:** 1571062646

**Name:** Nuraqilah Nadjwa Miskam & Nurul Farhana Zainudin

**Paper Title:** The Effectiveness of the RC-SE Teaching Module Towards Reading Comprehension and Self-Efficacy for Learning Disability Student

**E-mail:** nuraqilahnadjwa@utm.my

## **Introduction**

According to Adam and Tan (2022) in their book titled Malaysian Education System, Malaysian Education Development Plan (PPPM) 2013-2025 has set targets to provide quality and equal education to all students regardless of their categories. It is aligned with the 4th Sustainable Development Goals (SDG) to provide quality education to all including individuals who have disabilities (Office of the United Nations High Commissioner for Human Rights, 2020). In this regard, students with special needs such as learning disability students are included in the category of students who deserve equal education as mainstream students. Learning disabilities (LD) are disorders in psychological processes related to understanding, use of spoken or written language (Ministry of Education Malaysia, 2018). There are some LD students who are very weak in reading skills and some who read very fluently (Gao, 2021). Although LD students have fluency in reading, they tend to read without understanding the content due to poor comprehension skills in processing combinations of phrases and words (Quinn et. al, 2020, Purity et. al, 2024). Aside from that, LD students tend to have low self-efficacy due to difficulties encountered by them during the learning process (Schunk and DiBenedetto, 2022). This situation also occurred when they are aware that their level of ability and mastery is limited due to failures experienced from previous experiences (Saied, 2021). Special education teachers tend to use traditional conventional teaching methods in the classroom that caused LD students difficulty focusing on the classroom. This is due to lack of guidelines and knowledge to teach LD students especially in terms of interactive teaching that can made LD students easier to understand the content (Kozikoglu and Albayrak, 2022).

## **Objective**

There are three objectives in the present study. The first objective is to study the effectiveness of the implementation of the Reading Comprehension and Self-Efficacy (RC-SE) module towards LD students' reading comprehension in primary schools. The second objective is to study the effectiveness of the implementation of the Reading Comprehension and Self-Efficacy (RC-SE) module towards LD students' self-efficacy in primary schools.

## **Methods and Instruments**

Quantitative quasi-experimental research was used to study the effectiveness of RC-SE teaching module towards LD students' reading comprehension and self-efficacy in primary schools (Creswell and Creswell, 2018). The researcher has developed RC-SE teaching module by using collaborative strategic reading model by Vaughn et. al, (2011) and sources of self-efficacy Bandura (1977) as a guideline for special education teachers. The module has been implemented for eight weeks in two primary schools involving 30 LD students aged 10 to 12 years old. Students' pre and posttest for reading comprehension and questionnaires for self-efficacy were utilized as the research instruments of this study.

A total of 33 tests and questionnaires from the students were collected and statistically analyzed (Creswell, 2018).

## Results and Discussion

The results of the study showed a significant increase in reading comprehension for the experimental group from a mean value ( $M = 14.06$ ) of the pre-test to a mean value ( $M = 18.40$ ) of the post-test with a statistical value ( $Z = -3.431$ ,  $p < 0.05 = 0.001$ ). The findings proved that the module developed was effective towards LD students' reading comprehension. The finding is aligned with the study by Yon et.al, (2024) that indicate collaborative strategic reading is effective in improving students reading comprehension.

The results obtained for the sources of self-efficacy's variable (mastery experience<sup>a</sup>, vicarious experience<sup>b</sup>, verbal persuasion<sup>c</sup>, emotional and physiological state<sup>d</sup>) in the experimental group also showed a significant increase of mean values ( $M = 11.67^a$ ,  $12.13^b$ ,  $11.00^c$ ,  $8.80^d$ ) for the pre-test to the mean value ( $M = 12.27^a$ ,  $13.07^b$ ,  $12.87^c$ ,  $11.27^d$ ) of the post-test with a statistical values [ $(Z = -1.260$ ,  $p < 0.05 = 0.008)^a$ ,  $(Z = -2.858$ ,  $p < 0.05 = 0.004)^b$ ,  $(Z = -2.492$ ,  $p < 0.05 = 0.013)^c$ ,  $(Z = -2.884$ ,  $p < 0.05 = 0.004)^d$ ]. ). The findings proved that the module developed also was effective towards LD students' self-efficacy. It is aligned with the study by Lee and Lee (2023) that sources of self-efficacy may influence students' engagement and self-efficacy in class.

Therefore, it can be concluded that with effective and suitable intervention, self-efficacy can be increased, and it has a positive effect on their academic performance. This is supported by a study conducted by Miller and Kass (2019) who found that the right and appropriate approach and support can help increase the self-efficacy belief of an individual with a disability.

## Conclusion

Overall, the RCSE teaching module was successfully developed and implemented for eight weeks towards LD students in primary school. The development of the teaching module that used collaborative reading strategy model consisting of four levels and four sources of self-efficacy became a contribution to special education field. Effective and interesting learning strategies by implementing teaching modules need to be applied to help special education teachers in improving reading comprehension and self-efficacy of the LD students. The findings of this study have proven that this module is very beneficial in terms of learning about reading comprehension in particular and as well as aiding to improve the psychological element in them.

## References

- Adams, D., & Tan, K. L. (2022). Malaysian education system. In *Routledge eBooks* (pp. 1-18). <https://doi.org/10.4324/9781003244769-1>
- Bandura, A. (1977). Self-efficacy: Toward a Unifying Theory of Behavioral Change. In *Psychological Review* (Vol. 84, Issue 2).
- Creswell, J. W., & Creswell, J. D. (2018). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches Fifth Edition* (Fifth Edit). SAGE Publisher.

- Gao, Y. (2021). Effective Interventions on Reading Fluency for Students with Learning Disability. *Xue Xi Yu Jiao Yu*, 9(4). <https://doi.org/10.18282/l-e.v9i4.1722>
- Kementerian Pendidikan Malaysia. (2018). *Kurikulum Standard Sekolah Rendah Pendidikan Khas (Masalah Pembelajaran)*.
- Kozikoglu, I., & Albayrak, E. N. (2022). Teachers' attitudes and the challenges they experience concerning individualized education program (IEP): A mixed method study. *Participatory Educational Research (PER)*, 9 (1), 98-115.
- Miller, E., & Kass, E. (2019). Enhancing Self Efficacy and Grit: How Educational Teams Can Promote Inner Strengths of Students With Disabilities in Inclusive Schools. *EDULEARN19 Proceedings*, 1(July), 2003-2011. <https://doi.org/10.21125/edulearn.2019.0550>
- Purity, Kebebe, Wakati., Jessina, Muthee., Tom, Abuom. (2024). Influence of Teaching Strategies on Reading Comprehension on Learners with Learning Disabilities in Selected Public Primary Schools in Kyuso Sub-County, Kenya. *International journal of research and scientific innovation*, XI(V):1175-1187. doi: 10.51244/ijrsi.2024.1105079
- Quinn, J. M., Wagner, R. K., Petscher, Y., Roberts, G., Menzel, A. J., & Schatschneider, C. (2020). Differential co-development of vocabulary knowledge and reading comprehension for students with and without learning disabilities. In *Journal of Educational Psychology* (Vol. 112, Issue 3, pp. 608-627). <https://doi.org/10.1037/edu0000382>
- Saied, Bishara., Shani, Kaplan. (2021). Inhibitory Control, Self-Efficacy, and Mathematics Achievements in Students with Learning Disabilities. *International Journal of Disability Development and Education*, 1-20. doi: 10.1080/1034912X.2021.1925878
- Schunk, D. H., & DiBenedetto, M. K. (2022). Self-Regulation, Self-Efficacy, and learning Disabilities. In *IntechOpen eBooks*. <https://doi.org/10.5772/intechopen.99570>
- Vaughn, S., Klingner, J. K., Swanson, E. A., Boardman, A. G., Roberts, G., Mohammed, S. S., & Stillman-Spisak, S. J. (2011). Efficacy of collaborative strategic reading with middle school students. *American Educational Research Journal*, 48(4), 938-964. <https://doi.org/10.3102/0002831211410305>
- Yejin, Lee., Eunju, Lee. (2023). Structural relationships of other-based sources of self-efficacy with self-efficacy and class engagement in mathematics and physical education. *The Korean Journal of Educational Psychology*, doi: 10.17286/kjep.2023.37.3.02
- Yon, A., E., Halimah, Halimah., Ida, Nuraida. (2024). The Effectiveness of Collaborative Strategic Reading (CSR) in Improving Students' Reading Comprehension. *Journal of Language Teaching and Research*, doi: 10.17507/jltr.1504.27

**Paper ID:** 1571046034

**Name:** Yee Siew Ching & Zainudin Hasan

**Paper Title:** Internationalization of Student Mobility for Higher Education Malaysia

**E-mail:** siewchingg@gmail.com

## **Introduction**

A recent global trend is the formation of higher education hubs and internationalization of higher education (MOE, 2015,p.8-1;Vidya & Gauri,2014). The first UNESCO World Conference on Higher Education in 1998 and publication in OECD which is "Internationalization of Higher Education (OECD,2023) and "Internationalization and Trade In Higher Education" (OECD,2023) and they became important reference for discussion.

Globalization, a commercial term was introduced worldwide in the early 2000s but for most educators the term is considered too commercial, so the term internationalization was the preferred term used in 2010. The supply and demand in the educational sector reacted aggressively in the process of internationalization trade market. The concept entails multi dimension development in various industries which also a drive for the development in Industry Revolution 4.0. The tremendous environment changes brought the society urge to seek for high technologies in human capital. The consequences pushed the human resources to the extreme in producing multi-talented labour to cope with the demand. In 2019, there are 5.3 million students involved in international student mobility to reap the facilities offered to study abroad. (Project Atlas, 2019). Thus, the statistic shows that there will be 8 million students are participating in student mobility by the year 2025. Multinational companies are the gigantic power that emerged as a strong economy market Asian country. This is the main motivation for countries in Asia such as Singapore, Japan, China, Malaysia and Philippine to prepare as the destination in student mobility especially in tertiary education locally and internationally.

The development in the Malaysia higher education system has been much more connected to societal development or domestic needs. In modern society, international factors such as globalization, internationalization and trade in higher education have great influences on the Malaysia higher education system (Allam, 2019). Internationalization opens the boundaries of language, cross cultural, broaden global perspectives and experiences. This encourage more universities pay extra attention and afford in internationalization of student mobility as the number of students studying abroad is multiple up from 2000 and 2019. According to Ministry of Higher Education Malaysia, 92415 international students pursued their higher education in Malaysia either in public or private universities in 2018. Individual mobility and personal academia practices transfer are also the mass reason in the era of internationalization (Allen, 1988). There are 100 private universities and 340 private colleges in Malaysia which enrolled 25000 international students in year 2019. (Yojana Sharma,2012) The rapid growth of educational institutions reflected the increment of demand in tertiary education from worldwide and the competency from Malaysia academia sector become the destination of student mobility.

The competencies of Malaysia were outstanding in academia research programs, students' experiences both inbound or outbound, local hospitality and the efficiency of administrative staff of each university. In Malaysia Education Blueprint 2015-2025 (Higher Education), global prominence, transformed Higher Education delivery and globalized

online learning were drafted earlier in the strategies. Due to the governance efforts, Malaysia was chosen as the most popular study destination from ranking 25 rise to ranking 9 in 2015 overtake the developing countries such as Australia etc. (UNESCO,2016) Targeted number of foreign students is 250000 in year 2025 resulted from the blueprint.

The main principle in the blueprint based on valued-for-money to attract most countries in the process of student mobility. To build Malaysia as an international education hub, the MOE increased the quality in academia curricular program and researchers to ensure that the certification is well recognized worldwide. Besides, universities branding system to differentiate Malaysia with its peer in the competitive market by creating a niche zone such as EduCity in Medini Nusajaya Johor. Thus, it will create more visibility and presence of Malaysia in the international arena to attract interest and awareness from international students. Furthermore, diversification of administrative staffs and students is the strength to concrete the student mobility program.

For example, University Technology of Malaysia (UTM), which sit at the 187<sup>th</sup> place in QS worldwide ranking board build up the prestige among others local universities and the quality education system in the university become the top choice in student mobility. The research will study the mutual influences of cross culture in higher educational environment.UTM have 4781 PhD students. As of Dec 2020, UTM has 13858 outbound mobility students and 11591 inbound mobility students. ( UTM,Office of Strategy & Corporate Affairs ,March 2021). UTM is one of the research universities and developed rapidly in research study.

The triangulation relationship for lectures, international students and the administrative staffs occurs as the culture exchange which brought up the transnational bridge to link with the global. The cross-culture impact may emerge the benefits and improvement for the university in future enrolment so that we could be the role model for other universities in Malaysia. The development in internationalization in Malaysia university is on the appropriate track of national educational planning which to develop Malaysia as EduHub in Southeast Asia. Globalize the competition in higher education increase stronger formation of strategic alliance to introduce UTM academic cultures to another country. Malaysia university play a role model in internationalization of student mobility program in Malaysia.

**Method** Participants in this study included undergraduates and postgraduate international students from a public university in Johor. Participants were recruited through university email lists around the campus. Inclusion criteria required participants to be currently enrolled as full-time students, while exclusion criteria ruled out individuals with previous international study experience. The research applied qualitative which enquired the research to understand the philosophy of the research which needed more in depth understanding whereby the data is interpreted or built on the ideas from the analysis of the data. Qualitative researcher is the study and access to the thoughts and nature being of the research participants which bring depth study in experiences of each sample data. (Jane Sutton, 2015). Qualitative research is based on the induction from the interaction with the nature being to generate unexpected data/result with the reasonable explanation and dynamic consequence from the study. In this research, qualitative method was used to explore the inbound outbound experience on the postgraduate students in UTM through the process of internationalization in student mobility, to analysis the process applied by the administrative staff in International Affair Unit and to develop a model for internationalization in student mobility in UTM . Qualitative research is the research produced the study in descriptive method from oral and writing from the study of



behaviours, perspective and motivation from the third party in depth through the depth study procedure in qualitative research method. From the study, the result present that the process of internationalization of student mobility in UTM bring positive impact in the university research field achievement, and the good will in international platform among other competitors locally or internationally. Furthermore, the study of foreign postgraduate experiences produces a guideline and reference for students who plan to participate in student mobility in UTM. A development on model for internationalization of student mobility encourage the university, private colleges and institutions to understand more the procedures in the flow of internationalization of student mobility. Therefore, researcher is the key instrument in every research with the active involvement collecting sample data which consider a main factor to approach the participant with the discussion of the subject. (Moleong, 2004). Descriptive method is suitable in the study of qualitative to investigate the reality facts in social life (Cozby, 2009). Clearly prove that research could be carried out from quantitative and qualitative as the fundamental in research field. Based on the holistic approach and academia study in the research title, the researcher prefers to apply qualitative approach in this study. In this research, qualitative method is applied because the method is closed to the objectives in the study which to explore the experience of foreign postgraduate, analyse the process of student mobility and evaluate the process for the local community in the process of internationalization of student mobility in UTM. Qualitative research provides completeness in the study and mutual understanding to the nature being and reality in academy study among the foreign postgraduates, administrative staff and local community compare the quantitative method. With this, the researcher seeks for further studying on the relationship in the method of triangulation and acting as a reference for other researchers in the future.

**Demography :** The foreign student in Malaysia university. The researcher seeks for the experience from both gender and from tertiary education in Malaysia. The researcher also collecting the data from different countries background to explore various experiences from the point of view of each country in Malaysia university. During the interview, English is the main language to communicate but there is still communication barrier with the participant except two of the respondents who have been two years in Malaysia. There is another population contributed to the research. The administrative staffs served in Malaysia university. The researcher selected the demography of the population who attended the interview based on their working experiences. The working experience is critical in exploring the process of internationalization on student mobility in Malaysia university. According to the table above, there are four female participants attended the interview because the population of administrative staffs are mainly female compare with male. (Jabatan Perangkaan Malaysia, 2019 ; Ministry of Higher Education, 2019). The others demography is student from bachelor's degree and master's Degree courses in Malaysia university. For those staying in the campus, the respondents have more time spent with the international students. The data collected from the local community respondents is important to explore the process in internationalization on student mobility from the local perspective and the data also significant in developing the model of internationalization on student mobility in Malaysia university.

**Ethical Considerations:** The study was approved by the School of Education in the university. Participants were assured of their confidentiality and anonymity, with data stored securely and only accessible to the research team. Informed consent was obtained from all participants before data collection, and they were informed of their right to withdraw from the study at any time without penalty.

## Results

The findings are the language barriers from three populations throughout the interview protocol. In the semi structure interview questions were designed to find out this topic so that to dig more constructive answer for research question: What is the international students' experience in student mobility process in Malaysia university? The respondent's feedback is Malay language is not their mother language and this language is new to them. The researcher looked at data triangulation to reach the completeness of the study. During the interview with the administrative staff to answer research question: What is the process in internationalization on student mobility faced by local administrative staff in Malaysia university? For the administrative the must face the student affairs once they step into the university. In the other words, they are the communication bridge among the student and the university for all times. In some university in Malaysia, they are staff not well versa in English as well therefore language barrier is one of the challenging elements in this study. The researcher explored the issue among the local community which is in the campus of the university in Malaysia. The respondents, responded to the research question three: What is the attitude of local community towards internationalization on student mobility process in Malaysia university? When first step into the university, the registration is the first contact whereby the international students need to proceed with some documentation. The international student and the staff would need to have deep conversation to get the procedures done.

Social and cultural barriers was discovered as the next challenges from the participants either from the foreign students, administrative staff, and local community in Malaysia university. From the statistic showed by Ministry of Higher Education, students involved in internationalization on student mobility are from Middle East, Southeast Asia, Africa, South Africa and few from European. (MOHE,2010).

Academic Challenges experience by the foreign student in the process of internationalization on student mobility in Malaysia university. The learning environment is different for Malaysia and other countries. The internationalization on student mobility is the trend to have to intercultural waves in creating a new atmosphere of learning for both parties. The international student shared their experiences and comparison with their own country.

Financial Difficulties experience by the foreign student in the process of internationalization on student mobility in Malaysia university. The financial issue is the factor beyond the control of the international student. The fluctuation in the money market influenced the financial ability among the international student during the process of student mobility. According to the international student especially those financial aid is from the support of the family.

Psychological Difficulties experience by the foreign student in the process of internationalization on student mobility in Malaysia university. Experience of psychological difficulties was found in most of the international students during the process of internationalization on student mobility. The importance of the international students receiving the warmest welcome from the university and local community is crucial to encourage them when they first arrive to calm their emotion and spiritual support for them. (Bender et al, 2019). The social-emotional adjustment is the critical part when they are far away from their homeland especially which the cultural and language background is different, thus they felt threatening. (Brusting et al, 2021).

## Discussion

### **The Challenges of Internationalization on student mobility in Malaysia university. Language Barriers**

The international students are the individual from various countries who reside temporarily in Malaysia to pursue their tertiary education in different methods of student mobility such as educational program exchange, credit transferred program or pursuing higher education in specialized fields. (Paige, 1990) In Malaysia context, the internationalization on student mobility program increased from year to year according to the statistic presented by Ministry of Higher Education 2020. For Malaysia which is a country rich with multi ethnic and multi lingua is great challenge for the foreign student who participate in Malaysia university.

The key issue explored in this chapter is the language barrier in new countries and the host country is a critical topic in internationalization on student mobility (Gebru, M. and Yuksel-Kaptanoglu, I., 2020). The national language for Malaysia is Bahasa/Malay, even though English as the second language for the country still there is minority could speak or communicate fluently. The international student from the country with English as native language still faced the difficulties of accents issue when communicating with the local community. Language is the most important bridge in all aspects of the international student life either in lecture hall, campus or routine. The issue affected the study of the international student whereby some of the lecturers have the different slangs and accent when giving lecture. The international students felt frustrated and demotivated when they faced the difficulties in the academic.

Furthermore, the language barrier created a lot of mess in the international student life when communicating with administrative staff. The international students complained that the administrative staff majority could not speak fluent English either serious accent problem. The international students faced difficulties especially in scholarship, enrollment documents and student visa problems. When the communication at the front desk failed, the international student had to visit again and again to get the procedures done. The international student feedback on this matter that feedback from the administrative staff was not clear enough due to their poor English. Furthermore, for those international students who bonded by the scholarship, the requirement of the documentation is the dominant part for the sponsor to release the scholarship each semester to the awardees but because of communication error, the procedures were being delayed and postpone. When these circumstances prolong, the international student will be in financial difficulties then their routine life would be affected. The worst part is that the foreign students could not retain their final exam result if their tuition fees were unsettled by the sponsor.

Moreover, not only communication problem the international student will face but there are no guidelines for first coming to the university and finds the lecture hall, the foreign students could not easily find the building and faculty because of all names in Bahasa. This result was supported by the literature by identifying there are two major categories of adjustment that international students must cope with. (Yusliza & Chelliah, 2010)

The challenges of language difficulties brought hardship for the international students in mingling around with the local students. Their own accent is creating the barrier of communication with the local society and in the other hands the local community not proficient in English making a lot of misunderstanding and jokes in their life (Marginson, et al, 2010). When making friends with the local community especially in campus easily getting misunderstood and miscommunication when both parties are not at the same channel of

communication which would make them felt not welcome. When the international student was isolated by the local community, loneliness, homesick and depression will attack their emotion. From time to time, the pressure will become a deep psychological issue for the international students which will be brought up for discussion in the next paragraph.

Another study found that language barrier restricted the international student in participating in festivals, events, campus life, co- curricular activities, social gathering etc especially in making new friendship. The complete isolation in the new environment became the roof cause in depression and pressure of the foreign student. The situation became worse when the student was burdened with the heavy assignment work which is new adjustment for the student to adapt. Studies have shown that international students with high proficiency in language have better achievement in the process of internationalization on student mobility. (Yeh & Inose, 2003)

### **Academic Challenges**

The process of internationalization on student mobility in Malaysia university dove the Malaysia academic system toward a new paradigm. For the international student who received the different education background from the native country and the host country, another adjustment the international student must bear with is the academic structure in Malaysia university. Under the process of internationalization on student mobility in Malaysia university, among the international student the mentioned that the academic system, teaching methodology and the faculty supervisor is the issue the foreigner must overcome. This data finding was supported by the previous research stated that the academic system, lecturers, and the teaching methodology are the categories of difficulty faced by the international students. (Al-Zubaidah & Recharads, 2009)

The teaching and learning methodology in most universities in Malaysia is student centre based, practical and research base. The student required to plan for the individual assignment and research; it is problematic for those students who not equipped with the assignment or academic research skill from the foundation at the native country. Furthermore, the understanding of the lecture, the professors' teaching and grading style (Zhou, Freg & Bang,2006), collecting notes, asking question during lecture, lecture participation and visiting the faculty supervisor became a challenge for the international students (Miandy & Hashim, 2019). From chapter four, the data illustrated that most of the international student's complaint that the method of teaching in Malaysia university is incompatible from the native country. The Malaysia university professor or faculty supervisor is emphasizing in producing individual assignment, journal and publishment of article which invisibly created a great pressure for the international student which learning methodology is vary from the host country.

The challenge did not stop here for international student in the process of internationalization on student mobility. The lecture with serious Bahasa accent will drive the international student especially the PhD students from quitting. The supervisor professor is the key person for the research study students, the international student found that the communication with the native professor is a big burden for the students to digest the information. Furthermore, from the data analysis in chapter four, the international students faced the misunderstanding and miscommunication such as lack of time for discussion, unclear feedback. This statement was supported by pointing out that the problem such as supervision of the supervisor professor lack of useful feedback, lack of discussion time, different perspective or expectation, cultural background cause discrimination (Blunt & Li,1998). The conflict delayed the research progress and the

graduation period in one extreme case. The case was resolved when the international students choose to change to new supervisor, some students quit and there is international student choose to have careful discussion so that the progress of research would not be delayed. (Adrian & Kimberly, et. Al, 2007)

Besides, the assignment group in the class became problematic for the international students because most of the local community choose not to join them in a group. Teamwork is the most observed situation happening in Malaysia university. The reason is the communication problem. The international student had to do adjustment in sharing the knowledge and learnings, interacting actively in assignment group to be accepted by the local community, and adapt into the host country learning environment. The situation hinders the international student from discovery the full potential in academy. To break the communication barrier, there are international student choose to learn Bahasa slowly by hoping they can be accepted by the local community. The international students had the hardship went through the challenges.

### **Social & Cultural Challenges**

According to the result of chapter four, the international student has also faced the social and cultural challenges in the process of internationalization on student mobility. The international students came from various country especially from Middle East, South Africa, and China in Malaysia university. The social and cultural adjustment is the most challenging because it related to food, lifestyle, religion, and habit.

All the international students have the problem with the food and restaurant inside the campus. These international students not satisfied with the quality of food and the hygiene of the restaurant inside the campus. In fact, these international students have no idea where to find for suitable food. The local cuisine is spicy, oily, and sweet which is not adaptive by the foreign students which is totally different from their native country. These international students faced the difficulty in the adjustment of taste of food because there is prohibited to cook inside the hostel. Some the international students faced diarrhoea, vomiting and food poisoning at the beginning. This has been a headache for all the international students in Malaysia university.

Besides, the result from the chapter four illustrated that the transportation is one of the problems these international students faced in one of the universities in Southern Malaysia. The international students found inaccessible for public transportation inside the campus and the shuttle buses provide by the university not running in time, The huge environment of the university became inconvenience when the public transportation is not in schedule. These international students felt helpless when missed the bus for those living outside the campus. The transportation issue is another adjustment these international students must overcome. Many of the international students mentioned that there are many choices of public transportation in their country such as local shuttle buses, monorail, train, or LRT. Even though there is a GRAB or INDRIVE services inside the campus, but these international students mentioned that the cost is high and unaffordable.

Ultimately, the social and cultural background of Malaysia which is multi-ethnic, multi-religion and multi-dimension of society creating a fascinating environment for these international students. Most of the international students from the country with monoculture and mono language such as China. When these international students arrived in Malaysia university, these foreign students felt the cultural shock. The population in local has the different way of living and habit which made the international students could not adapt at the beginning.

The way of greeting the elderly especially the lecturers, administrative staff and the faculty supervisor must be in the proper manner. Besides, the gesture when greeting to each other also different from each ethnic in Malaysia. These international students who used to hug another when greeting with each other are unaccepted by the local society. When the norm of their practice unaccepted locally, these international students felt isolated and not welcome. The culturally different made these international students developed psychological difficulties. These group of international students felt depressed, muscle tense, not appetite, sleepless and restless. When these symptoms attacked these international students, the focus and concentration in the study is decrease and again it would demotivate the foreign student in pursuing the study in Malaysia university. There is partially of the international student's complaint that quitting is the first thought across when the emotion was unstable and unease.

Furthermore, the weather of Malaysia which is one season all over the year affected these international students' normal life as well. Malaysia is considered summer all over the year which is hot and humid at all times created disturbances to the international student. These international students could not tolerate with the hot sun compared the summer in the native country. Some of these international students affected by red rashes or some skin illness due to the weather in Malaysia. The international student needs to attend to clinic often whenever there is raining season in Malaysia.

Social and cultural impact need to take times to adapt with. These international students who stayed in Malaysia for more than two years, the comments are the language barrier had to be removed then only the local society will accept them and make friend with them.

Conclusion

The internationalization of student mobility in higher education presents a dynamic and transformative opportunity for Malaysia (Suzanne E. , 2019). Over the past few decades, Malaysia has positioned itself as a significant player in the global education landscape, attracting a diverse cohort of international students. The country's strategic initiatives, such as the establishment of education hubs, quality assurance frameworks, and scholarship programs, have contributed to its appeal as a preferred destination for higher education.

The motivations driving international students to Malaysia include access to quality education, affordable tuition fees, cultural diversity, and the opportunity to learn in English. Malaysia's multicultural environment and strategic location in Southeast Asia further enhance its attractiveness. However, the journey is not without challenges. Financial barriers, visa regulations, and cultural adaptation issues are persistent hurdles that need to be addressed. To sustain and enhance the internationalization of student mobility, Malaysia must continue to invest in infrastructure, streamline visa processes, and provide robust support systems for international students. Institutions should prioritize creating inclusive and supportive environments that celebrate cultural diversity and promote global citizenship. Collaboration with international partners and stakeholders is essential to foster academic exchanges, joint research initiatives, and cross-border partnerships. Policy makers must remain proactive in shaping policies that facilitate the seamless mobility of students while ensuring quality and equity in education. By addressing these challenges and leveraging its strengths, Malaysia can solidify its position as a global education hub, contributing significantly to the global knowledge economy and fostering a more interconnected and understanding world. The continued internationalization of student mobility will not only benefit individual students but also enrich Malaysian society, drive economic growth, and enhance the country's global standing. By embracing this potential, Malaysia can pave the way for a future where education transcends borders and fosters a truly global community.

## References:

- Adrian, S. R. T., Noels, K. A., & K. T. (2007). Conflict between international graduate students and faculty supervisors : Toward effective conflict prevention and management strategies. *Association for Studies in International Education*, 11(1). <https://doi.org/10.1177/1028315306286313>
- Ahmad Naqiyuddin Bakar. 2008a. *Towards a new mode of governance in Malaysia: Policy, regulatory and institutional challenges of digital convergence*. Tesis Ph.D. University of Hull.
- Allam Hamdan, Huda Alhalwaki (January, 2019) : Factors affecting the implementation of internationalization strategies in higher education institutions: evidence from Bahrain, [Ahlia University](#); [International Journal of Management in Education](#) 13(1) : doi:[10.1504/IJMIE.2019.10016609](https://doi.org/10.1504/IJMIE.2019.10016609).
- Allen,Patrick (1988): *Faculty Development in Higher Education-A Literature Review*,Digital Commons @ George Fox University <https://digitalcommons.georgefox.edu/cgi/viewcontent.cgi?article=1067&cont>
- Ayoubi and Al-Habeibeh, (2006) : *An investigation into international business collaboration in higher education organisations: A case study of international partnerships in four UK leading universities*. *International Journal of Educational Management* 20:380-396;doi:10.1108/09513540610676449.
- Azizi Yahya, Shahrin Hashim, Jamaludin Ramli, Yusof Boon & Abdul Rahim Hamdan (2007) : *Penyelidikan Menguasai Dalam Pendidikan : Teori Analisis dan Interpretasi data*.Kuala Lumpur.PTS Profesional Publishing.
- Beech , S. E. (2019). *Conclusion : Developing a theoretical framewqork of internationalisation student mobility*. <https://doi.org/10.1007/978-981-13-7442-5-9>
- Cozby, P.C. (2009). *Methods in Behavioural Research* (10th ed.). McGraw Hill. ISBN : 0071281029, 9780071281027Baporikar, (2013),Source Title: Strategic Role of Tertiary Education and Technologies for Sustainable Competitive Advantage;DOI: 10.4018/978-1- 4666-4233-1.ch006.
- Bogden & Biklen, (2007) : *Qualitative Research for Education: An Introduction to Theory and Methods*. 5th Edition,Allyn & Bacon, Boston.
- Choudaha, R. (2017) : Three waves of international student mobility (1999–2020); *Studies in Higher Education* 42(5):1-8; DOI:10.1080/03075079.2017.1293872.
- Cooper, Levin and Campbell, (2009) : The growing (but still limited) importance of evidence in education policy and practice; *Journal of Educational Change*. DOI:10.1007/S10833-009-9107-0.
- Cozby, P.C. (2009) : *Methods in Behavioural Research*. 10th Edition, McGraw Hill. ISBN : 0071281029, 9780071281027.

Creswell, J. W. (2011) : Educational Research Planning: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. Publisher: Pearson Education, ISBN: 9780131367395.

Creswell, J. W. (2012). Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.). Boston, MA: Pearson.

Creswell, J. W. (2012). Qualitative inquiry & research design: Choosing among five approaches (4th ed.). Thousand Oaks, CA: Sage. American Journal of Educational Research. 2015, Vol. 3 No. 11, 1455-1468, doi: 10.12691/education-3-11-17.

Gebru, M. and Yuksel-Kaptanoglu, I., 2020 : *Adaptation Challenges for International Students in Turkey*. doi: [10.4236/jss.2020.89021](https://doi.org/10.4236/jss.2020.89021)

Jabatan Perangkaan Malaysia, 2019 ; Ministry of Higher Education, 2019

Jane Sarton, 2015 : Qualitative Research: Data Collection, Analysis, and Management. <https://doi.org/10.4212/cjhp.v68i3.1456>

Miandy & Hashim, (2019) : *INTERNATIONALISATION OF HIGHER EDUCATION IN MALAYSIA: INSIGHTS FROM HIGHER EDUCATION ADMINISTRATORS*. AEI Insights: An International Journal of Asia-Europe Relations, Vol 5, Issue 1, 2019, ISSN: 2289-800X.

MOHE, 2010

Suzanne E. Beech, " Conclusion : Developing a Theoretical Framework of Internationalisation Student Mobility." Doi

UNESCO (1997). UNESCO Statistical Yearbook 1997. Paris: UNESCO. UTM, Office of Strategy & Corporate Affairs , March 2021

Vidya & Gauri, (2014) : *INTERNATIONALIZATION OF HIGHER EDUCATION AND ITS IMPACT ON ENHANCING CORPORATE COMPETITIVENESS AND COMPARATIVE SKILL FORMATION*. *Procedia - Social and Behavioral Sciences* 157 (2014) 203 - 209; International Relations Conference on India and Development Partnerships in Asia and Africa: Towards a New Paradigm (IRC-2013).

Yojana Shama, 2012. <https://asef.org/wp-content/uploads/2020/10/UWN-Universities-in-Europe-and-Asia-must-collaborate.pdf> 6



**Paper ID:** 1571054322

**Name:** Haihang Zhang, Jamiah Baba & Changli Yuan

**Paper Title:** Comparative Study on the Implementation of Blended English Teaching in Private and Public Universities in China

**E-mail:** 2022966983@student.uitm.edu.my

## Introduction

We inhabit a world of swift change, where emerging technologies are already reshaping everyday life (McDiarmid&Zhao,2023). In contemporary times, the rapid advancements in ICT (Information and Communication Technologies) are impacting various domains, including education. The conventional approach of using blackboards and verbal teaching in classrooms is gradually being supplanted (Jong & Tan, 2021). Due to advancements in technology and changes in teaching methods aimed at delivering content and involving students in collaborative learning, blended learning has become increasingly popular, particularly in higher education(Shin et al., 2018).

Blended learning is an innovative concept that combines the benefits of traditional classroom teaching with ICT supported learning, encompassing both offline and online learning (Dangwal, 2017). This educational approach is referred to as a hybrid innovation in pedagogy, blending traditional and modern methods of teaching and learning (Margolis, 2018). This approach is gaining popularity in many prestigious universities worldwide due to its ability to enhance learning standards, increase exam pass rates, offer flexible scheduling, and eliminate distance barriers (Rasheed, et al., 2020). Furthermore, blended learning has garnered increased acceptance among educators (Atwa et al., 2022). In China, the blended learning mode stands out as a leading educational reform and is increasingly being adopted in higher education language learning (Wang & Nuttall, 2018).

However, there are significant challenges in the practical application of blended learning. The development of blended learning in China is still in progress both in private and public university.They share certain characteristics, yet also exhibit distinct attributes (Naidu& Derani, 2016). Private universities in China, like those worldwide, typically rely on funding from student tuition fees and occasionally receive donations from external sources. In contrast, public universities are predominantly funded by the government (Deephouse & Suchman, 2008). This financial setup places a heavier burden on private universities, with more than 90% of their revenue derived from tuition fees. As a result, this financial dependence significantly impacts campus operations, recruitment efforts, and the quality of education and research (Lin, et al., 2005). In addition, administrative freedom is another characteristic of private universities, allowing them to design more innovative curricula and learning environments (Yuk, 2019).

In discussing public and private university curricula, EFL (English as a Foreign Language)benefits significantly from blended learning. This approach revolutionizes EFL education by reducing reliance on traditional methods and promoting flexible, anytime/anywhere learning (Rahim, 2019). With limited class hours, technological approaches are crucial for lifelong learning (Ju & Mei, 2018). Blended learning allows EFL educators to facilitate language practice both inside and outside the classroom.

Based on the differing scales and characteristics of public and private universities, this paper aims to explore the implementation of blended learning in EFL courses across these types of institutions. By examining the advantages of blended learning relative to traditional teaching methods, the study seeks to determine which type of university better leverages the benefits of blended learning. This paper aims to explore how public and private universities can more effectively utilize the advantages of blended learning in EFL to achieve optimal outcomes by addressing the following research questions:

1. How do teachers at public and private universities perceive the blended learning model? 2. How do students at public and private universities perceive the blended learning model?

1. What are the differences between public and private universities in providing online learning platforms and technical support?
2. What are the differences in teaching effectiveness between public and private universities within the blended learning model?

### **Method**

This study employed a qualitative research design, as it is effective in capturing participants' diverse perspectives and learning experiences, allowing researchers to explore complex phenomena in depth (Creswell & Poth, 2018). Qualitative research fundamentally involves asking open-ended questions like how and why, whose answers are not easily quantified (Cleland, 2017). It typically involves direct personal experiences, with the goal of achieving a deep understanding (Peterson, 2019). The study primarily uses semi-structured interviews to compare the perceptions of blended learning between instructors and students in public and private universities. It also examines the support provided for blended learning and the effectiveness of blended learning in both types of institutions, aiming to determine which type of university is more suitable for blended learning.

### **Participants**

The study was conducted in one private university and one public university in Guiyang, China. The private university was developed with the support of the public university. Both institutions share similarities in educational philosophy, school organization, textbooks, and syllabi. To compare the perceptions of blended learning among EFL students and teachers in both universities, the study was conducted within the same educational system and using the same textbooks, thereby eliminating the impact of differences in course difficulty. For example, if the courses at the public university were more challenging than those at the private university, and the exams were also more difficult, students and teachers at the public university might question the effectiveness of teaching and blended learning. Therefore, selecting a public and a private university that use the same textbooks, educational philosophy, and objectives helps to eliminate confounding factors such as varying course difficulties and testing differences.

According to Marshall et al. (2013), single case study should typically include between 15 and 30 interviews. Therefore, this study will interview twenty participants: five students and five teachers (including one head of the EFL course) from one private university, and five students and five teachers (including one head of the EFL course) from one public university. To understand the support provided for EFL course from both universities, purposeful sampling was employed to invite the heads of the English programs at both institutions for interviews. The head directors recommended the other four teachers from each university. Five students,

identified as relatively active in their EFL classes, were nominated by their teachers. To protect their privacy, the students from the private university are designated as PRS1, PRS2, etc., while the teachers are labeled as PRT1, PRT2, etc. The students from the public university are named PUS1, PUS2, etc., and the teachers are referred to as PUT1, PUT2, etc.

### **Instruments**

Two semi-structured interview protocols were utilized, providing a flexible framework where target teachers and students were asked a series of questions. These questions were not be strictly ordered, allowing participants to freely discuss their experiences. Open-ended questions will prompt participants to express their ideas and perceptions, with the sequence of subsequent questions determined by their responses (Dearnley, 2005). Through these semi-structured interviews, this study aims to explore the perceptions and effectiveness of EFL in blended learning among private and public university populations. Two distinct semi-structured interview protocols were used: one for students and one for teachers. The same interview protocol was used for teachers from both types of universities, and all students used the protocol prepared for students. The interview protocols had been validated by two experts specializing in English prior to data collection.

### **Results**

Data collection and organization were primarily conducted based on three aspects: perception of blended learning with first three questions, technical support of blended learning from question four to six, and teaching effectiveness of blended learning from question 7 to 8. Additional one more question for head of EFL were added at last in teachers' interview. The perception of blended learning addresses RQ 1 and RQ2, technical support of blended learning addresses RQ 3, and teaching effectiveness of blended learning and extra question for head address RQ 4.

The findings for first question is whether blended learning is currently being utilized. All respondents indicated that they are indeed using blended learning. The results for the second question regarding the perception of blended learning in EFL courses under the perception of blended learning are as follows: Nine out of ten students from private university and public university hold positive attitude about EFL learning within the environment of blended learning. However, one of the students from the public university had an opposing view: *"I don't think blended learning has helped me. On the contrary, it has somewhat increased my burden, making EFL learning more complicated."*(PUS2)

All five teachers from the private university and five teachers from the public university held positive views on blended learning. They almost unanimously agreed that blended learning is impactful and beneficial. For example, some teacher said: *"Blended learning is excellent. I am continually learning and exploring. It has taught me a lot of new content."*(PRT1) *"I can accept blended learning, and many of my colleagues around me also use this method for teaching."* (PUT5) Question 3 addresses the advantages of blended learning. According to responses from 10 teachers, comprising both private and public university educators, nine emphasized the flexibility in time and space that blended learning offers. Among them, three public university teachers and two private university teachers highlighted that blended learning, in contrast to the singular mode of traditional teaching, can stimulate learning interest among certain students and create opportunities for student interaction and participation. Additionally, two out of five private university teachers mentioned the high-quality online resources are available, such as excellent

courses shared on platforms like the outstanding teachers online platform. These resources help mitigate the shortage of faculty expertise in private universities, allowing private university students to learn from top university instructors. *"Blended learning allows students to access some teaching content online at any time and place. This flexible learning mode can reduce students' stress and sense of urgency, making their self-directed learning more effective. Additionally, students can access high-quality courses online, providing them with the opportunity to participate in classes from top universities which offers them a new learning experience."*(PRT1) *"Blended learning can enhance interactions between students, and between students and teachers. Many students may be passive listeners in offline classes and reluctant to participate in discussions. Conversely, in online learning, they feel there is enough space and inclusivity to participate, making them more willing to express their views and ideas."*(PUT4)

The second dimension concerns the technical support for blended learning. Both the student and teacher interview outlines address the online learning platforms and tools used. Both universities utilize the Ismart online learning platform, which complements the textbook materials for online auxiliary teaching. Additionally, due to private universities' funding from social donations and tuition fees, which allows for greater discretionary spending, private university students and teachers also use paid platform resources purchased by the university. These resources include explanations for CET (China's National College English Test) helping to mitigate the shortcomings of private universities in terms of teaching resources compared to public universities. This enables students to access broader and more advanced learning concepts and knowledge.

*"I use Ismart for online learning and sometime we will listen some outstanding professor's lecture which is related to our topic and CET "*(PRS3)

Students generally identified two main issues with the quality of online platforms: untimely updates and the problem of some content requiring payment, as mentioned by two public university students. They expressed a desire for free software options. Another complaint from public university students was slow Internet speed, which was not mentioned by private university students in their interviews. *"I am relatively satisfied with the current online learning platforms, but it would be better if more content could be updated in a timely manner."*(PUS3)

The final dimension focuses on the instructional effectiveness of blended learning. The students were also asked whether has been a change in learning outcomes due to blended learning. All ten students, from both public and private universities, reported positive changes. Two public and three private university students noted improvements in final grades and CET scores. Additionally, two private university students mentioned increased learning initiative, shifting from passive to autonomous learning. One public university student reported improved English language skills, moving from being afraid to speak to actively engaging in conversations, attributed to online group discussions. Regarding the teacher questionnaire on the impact of blended learning, all ten teachers reported positive effects on student' learning. Two public university teachers noted that online components make offline sessions more manageable, with preliminary online assignments and tests enhancing learning efficiency. Three private university teachers highlighted that online resources, like superior CET lectures and engaging activities, boost student interest and performance in EFL learning. Additionally, one teacher from each type of university observed that students value face-to-face interactions more and are more engaged in offline discussions, increasing the frequency and quality of in-person interactions with

teachers. The interview outline for teachers included one extra question for EFL department heads at public and private universities about the transition from traditional learning to blended learning. Both expressed approval of blended learning and noted several development issues. Head from private university: *"As the head of the EFL department, I've seen some great changes moving from traditional learning to blended learning in recent years. These changes are mainly seen in the higher interest and engagement from students, better academic performance, and access to better learning resources. I also listen to feedback from students and teachers to adjust the content, constantly improve online resources, and open more online learning platforms. We also adopt the OBE (Outcome-Based Education) approach—focusing on what students need in their English foundation and tailoring the learning background accordingly, which wasn't possible with traditional teaching methods."* Head from public university: *"I think blended learning is an inevitable trend as we move into an information society. The diverse learning model benefits students, teachers, and schools, though it does bring some challenges. Overall, the benefits outweigh the drawbacks. The challenges we face, such as needing more supervision for students, more training for teachers, and greater investment in equipment from the school, are things we need to address."*

## **Discussion**

The study primarily conducts interviews and records data across three dimensions of blended learning: perception, technical support, and effectiveness. Both private and public universities show adoption of this model, consistent with previous research (Pappano, 2015; Mozelius & Rydell, 2017). Students and teachers generally perceive blended teaching as effective (Wang & Nuttall, 2018; Atwa et al., 2022), with students indicating increased interest in learning. However, one public university student finds it burdensome, contrasting with private university students who report no disadvantages, differing from Cao et al.'s (2024) findings. Both types of institutions endorse blended teaching, citing benefits like flexibility and enhanced interaction (Wai & Seng, 2015; Rasheed, 2020; Wang et al., 2021). Challenges mentioned include student supervision issues, particularly in online components, echoing previous discussions (Ocak, 2011; Radovan & Kristl, 2017). Teachers in private universities express greater concern over student discipline and management, impacting learning outcomes.

Regarding technical support for blended learning, there is limited research distinguishing between private and public universities. This study found notable differences: private university students praised the diversity and modernity of resources, while public university students criticized outdated video content. This disparity is attributed to the greater financial freedom and higher tuition fees of private universities, which necessitate better software and hardware. This finding contrasts with studies focused solely on higher education institutions (Cuesta Medina, 2018; Altay & Altay, 2019), showing that private universities can offer better flexibility and support. Teachers from both types of universities generally agree with students on technical support. Public university teachers reported adequate resources, whereas private university teachers noted that additional online courses from top universities enhance learning. This finding contrasts with Ding's (2021) suggestion that teachers need more training. The teachers in this study are capable of handling current technological aspects, supporting Sandanayake's (2019) emphasis on the need for up-to-date online resources.

The third dimension concerns the effectiveness of blended learning. Interviews with students from both private and public universities affirmed its positive outcomes. Four

students reported improved grades, and two private university students noted increased abilities and confidence, aligning with previous research (Poon, 2013; Broadbent, 2017). Teachers primarily highlighted the advantages of blended learning. One private university teacher observed that students value face-to-face learning more and that teacher-student interaction has increased, contrasting with Cao et al.'s (2024) findings on negative student attitudes. This indicates that there are differences between classes, and it is likely that this particular teacher's effective methods led to students actively engaging with the teacher. The effective implementation of blended learning by teachers is an essential factor that should not be overlooked.

Additionally, we posed an extra question to the heads of EFL programs at public and private universities, comparing blended learning with traditional learning from a macro and management perspective. Both heads stated that blended learning has brought positive changes in terms of grades and student abilities compared to traditional learning. The public university head focused more on future challenges, while the private university head emphasized current adjustments, actively seeking feedback from teachers and students, continuously optimizing the online learning component, and increasing investment to fully leverage the advantages of blended learning. This also reflects the characteristics and development directions of public and private universities, consistent with the comparisons made by many scholars (Naidu & Derani, 2016; Babacan & Ceviz, 2020) regarding the characteristics and development directions of public and private universities.

## **Conclusion**

This study examined attitudes and perceptions of blended learning among students and teachers at a public and a private university. Both groups acknowledged benefits such as improved student performance, diverse teaching methods, and increased engagement. However, public university students found online content outdated, whereas private universities quickly met students' needs with the latest materials. Blended learning effectively engages private university students with weaker foundational skills and less interest in EFL learning. Teacher supervision helps address poor self-discipline among these students, fostering good study habits. Public university students generally have better study habits, making increased supervision particularly beneficial for private university students. Interviews with EFL heads revealed that private universities focus more on current developments and adjustments, while public universities look towards future trends. With greater flexibility in finances and curriculum design, private universities can promptly address and resolve issues, achieving better EFL learning outcomes and maximizing the advantages of blended learning.

## **Recommendations**

Given the financial flexibility and ability to quickly adapt, private universities are particularly well-suited for blended learning. Private universities should continue to invest in the latest learning technologies and diverse content to keep students engaged. Strengthening teacher supervision and support systems can address students' self-discipline issues, fostering better study habits. Additionally, regular feedback mechanisms should be implemented to continuously improve the blended learning experience. By leveraging these advantages, private universities can maximize the benefits of blended learning, enhancing EFL learning outcomes and overall student engagement.

## Acknowledgements

I sincerely thank my supervisor, Dr. Jamiah Binti Baba, for her invaluable guidance and support throughout this research. Her expertise was crucial to the success of this study. I also appreciate the faculty and students at one public university and one private university in Guiyang, China.

## References

- McDiarmid, G. W., & Zhao, Y. (2023). Time to rethink: educating for a technology-transformed world. *ECNU Review of Education*, 6(2), 189-214.
- Altay, I. F., & Altay, A. (2019). A Review of Studies on Blended Learning in EFL Environment. *International Journal of Curriculum and Instruction*, 11(1), 125-140.
- Atwa, H., Shehata, M. H., Al-Ansari, A., Kumar, A., Jaradat, A., Ahmed, J., & Deifalla, A. (2022). Online, face-to-face, or blended learning? Faculty and medical students' perceptions during the COVID-19 pandemic: a mixed-method study. *Frontiers in medicine*.
- Babacan, Ş. & Ceviz, M. (2022). Public school and private school geography teachers' views of distance education. *International Journal of Geography and Geography Education (IGGE)*, 45, 53-66. <http://dx.doi.org/10.32003/igge.935366>
- Broadbent, J. (2017). Comparing online and blended learner's self-regulated learning strategies and academic performance. *The Internet and Higher Education*, 33, 24-32.
- Cao, Y., Jeyaraj, J. J., & Razali, A. B. (2024). Attitudes and Perceptions of English as a Foreign Language Students on Blended Learning and Learner Autonomy in a Private University of China. *International Journal of Learning, Teaching and Educational Research*, 23(1), 549-571.
- Cleland, J. A. (2017). The qualitative orientation in medical education research. *Korean journal of medical education*, 29(2), 61.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches*. SAGE.
- Cuesta Medina, L. (2018). Blended learning: Deficits and prospects in higher education. *Australasian Journal of Educational Technology*, 34(1).
- Dakhi, O., JAMA, J., & IRFAN, D. (2020). Blended learning: a 21st century learning model at college. *International Journal Of Multi Science*, 1(08), 50-65.
- Dangwal, K. L. (2017). Blended learning: An innovative approach. *Universal Journal of Educational Research*, 5(1), 129-136.
- Dearnley, C. (2005). A reflection on the use of semi-structured interviews. *Nurse researcher*,

13(1).

- Deephouse, D. L., & Suchman, M. (2008). Legitimacy in organizational institutionalism. *The Sage handbook of organizational institutionalism*, 49, 77.
- Ding, Z. (2021). Research on the application status and countermeasures of college english blended teaching model under big data. In *Journal of Physics: Conference Series* (Vol. 1955). IOP Publishing.
- Hoxie, A. M., Stillman, J., & Chesal, K. (2013). Blended learning in New York City. *Blended Learning: Research Perspectives, Volume 2*, 2, 196.
- Jong, B., & Tan, K. H. (2021). Using Padlet as a Technological Tool for Assessment of Students' Writing Skills in Online Classroom Settings. *International Journal of Education and Practice*, 9(2), 411-423.
- Ju, S. Y., & Mei, S. Y. (2018). Perceptions and practices of blended learning in foreign language teaching at USIM. *European Journal of Social Sciences Education and Research*, 12(1), 170. DOI:10.26417/ejser. v12i1. p170-176.
- Lin, J., Zhang, Y., Gao, L., & Liu, Y. (2005). Trust, ownership, and autonomy: Challenges facing private higher education in China. *China Review*, 61-81.
- Margolis, A. A. (2018). What kind of blending makes blended learning. *Psikhologicheskaya nauka i obrazovanie= Psychological Science and Education*, 23(3), 5-19.
- Marshall, B., Cardon, P., Poddar, A., & Fontenot, R. (2013). Does sample size matter in qualitative research?: A review of qualitative interviews in IS research. *Journal of computer information systems*, 54(1), 11-22.
- Mozelius, P., & Rydell, C. (2017). Blended learning, Virtual learning environment, Technology-enhanced learning. *Higher education, E-learning. ICTEJournal*, 6(1), 4-13.
- Naidu, P., & Derani, N. E. S. (2016). A comparative study on quality of education received by students of private universities versus public universities. *Procedia Economics and Finance*, 35, 659-666.
- Ocak, M. A. (2011). Why are faculty members not teaching blended courses? Insights from faculty members. *Computers & Education*, 56(3), 689-699.
- Pappano L. (2015). Learning to think outside the box. *Courrier Japan*, ,11: 30-33
- Peng, R., & Fu, R. (2021). The effect of Chinese EFL students' learning motivation on learning outcomes within a blended learning environment. *Australasian Journal of Educational Technology*, 37(6), 61-74.
- Peterson, J. S. (2019). Presenting a qualitative study: A reviewer's perspective. *Gifted Child Quarterly*, 63(3), 147-158.
- Poon, J. (2013). Blended learning: An institutional approach for enhancing students' learning experiences. *Journal of online learning and teaching*, 9(2), 271.



- Radovan, M., & Kristl, N. (2017). Acceptance of Technology and Its Impact on Teachers' Activities in Virtual Classroom: Integrating UTAUT and Col into a Combined Model. *Turkish Online Journal of Educational Technology-TOJET*, 16(3), 11-22.
- Rahim, M. N. (2019). The use of blended learning approach in EFL education. *International Journal of Engineering and Advanced Technology*, 8(5), 1165-1168.
- Rasheed, R. A., Kamsin, A., & Abdullah, N. A. (2020). Challenges in the online component of blended learning: A systematic review. *Computers & education*, 144, 103701.
- Sandanayake, T. C. (2019). Promoting open educational resources-based blended learning. *International Journal of Educational Technology in Higher Education*, 16(1), 1-16.
- Shin Y, Park J and Lee S-g (2018) Improving the integrated experience of in-class activities and fine-grained data collection for analysis in a blended learning class. *Interactive Learning Environments* 26(5): 597-612.
- Wai, C. C., & Seng, E. L. K. (2015). Measuring the effectiveness of blended learning environment: A case study in Malaysia. *Education and Information Technologies*, 20(3), 429-443.
- Wang, H. R., & Nuttall, H. (2018). Blended Learning in China: At the Crossroads. In *Online Course Management: Concepts, Methodologies, Tools, and Applications* (pp.1399-1419). IGI Global. <https://doi.org/10.4018/978-1-5225-5472-1.ch073>
- Wang, N., Chen, J., Tai, M., & Zhang, J. (2021). Blended learning for Chinese university EFL learners: Learning environment and learner perceptions. *Computer Assisted Language Learning*, 34(3), 297-323.
- Yuk, Y. M. (2019, December). Challenges in China's Private higher education, a comparative study on Minban and Independent colleges. In *Web of Proceedings, 4th International Conference on Education & Education Research*, Liverpool, UK (pp. 9-12).
- Zhang, W., & Zhu, C. (2018). Comparing learning outcomes of blended learning and traditional face-to-face learning of university students in ESL courses. *International Journal on E-Learning*, 17(2), 251-273.

**Paper ID:** 1571054882

**Name:** Dayana Farzeeha Ali, Karthiyani Nair Suresh, Nuruljannah Abd Wahab, Aimi Ruzaini Ahmad & Marlissa Omar

**Paper Title:** The Relationship Between Level of Creative Thinking and Visualization Skills Among Students in the Technical and Vocational Education Program

**E-mail:** dayanafarzeeha@utm.my

## **Introduction**

The goal of Sustainable Development through Technical and Vocational Education (TVET) is to produce high quality education globally by 2030. Creative thinking is an important skill in modern education, especially in technical and vocational fields. It involves the ability to think outside the box, generate innovative solutions, and approach problems from new perspectives. In the context of TVET, creative thinking enables students to develop unique solutions to technical challenges, fostering innovation and competence in their future careers (Bereczki & Karpati, 2018). Visualization skills are equally important because they complement creative thinking by enabling students to mentally manipulate and explore complex concepts along with structures through the creation of mental images, diagrams or animations to understand and solve problems. In technical fields, these skills enable students to understand abstract concepts, predict potential issues, and devise effective solutions. Visualization skills help students understand the spatial and functional relationships of different components in a system, which is important in engineering, architecture and other technical disciplines (DeSutter & Stieff, 2017). Although creative thinking and visualization are important to enable students to solve complex problems and drive innovation in engineering education, these important skills are often under-discussed in the current TVET system. This study aims to fill this gap by assessing the level of creative thinking and visualization skills among TVET students and exploring their relationship. This research emphasizes the importance of integrating creative thinking and visualization into the TVET curriculum. This integration is important not only for academic success but also to prepare students to face the challenges of the modern workforce, where innovation and adaptability are key (Malik, 2018). The findings are expected to provide valuable information for educators and policy makers to improve teaching strategies and curriculum design, fostering an environment that encourages creativity and visualization in problem solving.

## **Objective**

This study has three main objectives: to identify the level of creative thinking among TVET students, to assess their visualization skills, and to explore the relationship between these two competencies. This research aims to highlight the importance of integrating creative thinking and visualization into the TVET curriculum. These skills are important not only for academic success but also to prepare students for the challenges of the modern workforce. These findings are expected to provide valuable information for educators and policy makers to improve teaching strategies and curriculum design, fostering an environment that promotes creativity and visualization in problem solving.

## **Methods and Instruments**

This research uses a quantitative approach, using a structured questionnaire to collect data from 73 TVET students at UTM. The questionnaire was designed to measure students' creative thinking and visualization skills. It includes items that assess various aspects of these skills, such as the ability to generate original ideas, solve problems creatively and visualize complex structures. The data collected was analyzed using SPSS software, with descriptive statistics used to summarize the data and inferential statistics used to explore the relationship between variables. This study ensured the reliability and validity of the instrument through pilot testing and expert review.

## **Results and Discussion**

The results show that TVET students at UTM exhibit moderate levels of creative thinking and visualization skills. Descriptive statistics show that most students can generate creative solutions and describe complex structures to some extent. However, there is a diversity of these skill levels among students. Inferential statistics revealed a significant positive relationship between creative thinking and visualization skills, indicating that students who are strong in one area tend to excel in others.

Creative thinking skills enable students to approach problems from different angles, which is crucial in technical fields where innovative solutions are often required. For instance, students with high creative thinking abilities were more adept at finding multiple solutions to engineering problems, indicating a flexibility in thought processes (Feist et al., 2017). Visualization skills help students understand and retain complex information. Students who scored high on visualization tests were better at comprehending spatial relationships and could more easily interpret technical drawings and diagrams. This skill is particularly beneficial in subjects such as engineering and architecture, where spatial understanding is essential (Contreras et al., 2018; Lau et al., 2021).

The study found that students with higher levels of creative thinking generally performed better academically. This correlation suggests that fostering creative thinking can have a direct impact on students' overall academic success. Educators should consider incorporating activities that stimulate creative thinking into their curriculum (Glăveanu et al., 2020). Furthermore, visualization skills were found to be strong predictors of a student's ability to innovate. Students who could effectively visualize concepts were more likely to come up with original ideas and solutions. This finding underscores the importance of developing visualization skills to enhance students' innovative capacities (Medina Herrera et al., 2019; Tsortanidou et al., 2019).

The study also identified several challenges in developing creative thinking and visualization skills among students. These include a lack of resources, insufficient training for educators on how to teach these skills, and a curriculum that often prioritizes rote learning over creative and critical thinking (Kim et al., 2019). By integrating creative thinking and visualization exercises into the curriculum, educators can better prepare students for the demands of the modern workforce. This integration can lead to more innovative and competent graduates who are well-equipped to tackle real-world problems (Husain, 2023; Iwuanyanwu, 2020).

Based on the findings, the study recommends that educators adopt a more holistic approach to teaching. This includes using project-based learning, encouraging group work that fosters collaborative problem-solving, and incorporating technology that enhances visualization, such as CAD software for engineering students (Koretsky & Magana, 2019; Maspul, 2024; Vila et al., 2017). This study not only highlights the current levels of creative

thinking and visualization skills among TVET students but also provides actionable insights for improving these essential skills. The findings emphasize the need for educational reforms that prioritize higher-order thinking skills to produce graduates who are not only knowledgeable but also innovative and adaptable.

## Conclusion

The study concluded that improving creative thinking and visualization skills among TVET students is essential to achieve high quality education and prepare students for future challenges. These skills are interrelated and can be developed through targeted educational strategies. These findings have significant implications for educators, curriculum designers and policy makers. Integrating creative thinking and visualization into the TVET curriculum can lead to more innovative and competent graduates. Future research should focus on developing and testing specific interventions to improve these skills and explore their impact on students' academic and professional success. This study provides a foundation for such efforts, highlighting the importance of creativity and visualization in technical and vocational education.

## References

- Bereczki, E. O., & Karpati, A. (2018). Teachers' Beliefs About Creativity and Its Nurture: A Systematic Review Of The Recent Research Literature. *Educational Research Review*, 23, 25-56.
- Contreras, M. J., Escrig, R., Prieto, G., & Elosúa, M. R. (2018). Spatial Visualization Ability Improves With and Without Studying Technical Drawing. *Cognitive Processing*, 19, 387- 397.
- DeSutter, D., & Stieff, M. (2017). Teaching Students to Think Spatially Through Embodied Actions: Design Principles For Learning Environments In Science, Technology, Engineering, And Mathematics. *Cognitive Research: Principles and Implications*, 2(1), 22. <https://doi.org/10.1186/s41235-016-0039-y>
- Feist, G. J., Reiter-Palmon, R., & Kaufman, J. C. (Eds.). (2017). *The Cambridge Handbook of Creativity and Personality Research*. Cambridge University Press. <https://doi.org/10.1017/9781316228036>
- Glăveanu, V. P., Beghetto, R. A., Benvenuti, M., Bourgeois-Bougrine, S., Chaudet, C., Chirico, A., Corazza, G. E., de Saint Laurent, C., Dysthe, O., Essonnier, N., Gaggioli, A., Kynigos, C., Mazzoni, E., Ness, I. J., & Trgalová, J. (2020). Creative Learning in Digital and Virtual Environments During COVID-19 and Beyond. In *Creative Learning in Digital and Virtual Environments* (pp. 162-179). Routledge. <https://doi.org/10.4324/9781003094630-9>
- Husain, F. N. (2023). Impact of Multiple Intelligences and 21st Century Skills on Future Work Force. *International Education Studies*, 16(3), 16.
- Iwuanyanwu, P. N. (2020). Nature Of Problem-Solving Skills For 21st Century STEM Learners: What Teachers Need to Know. *Journal of STEM Teacher Education*, 55(1), 4.
- Kim, S., Raza, M., & Seidman, E. (2019). Improving 21st-Century Teaching Skills: The Key to Effective 21st-Century Learners. *Research in Comparative and International Education*, 14(1), 99-117.

- Koretsky, M. D., & Magana, A. J. (2019). Using Technology to Enhance Learning and Engagement in Engineering. *Advances in Engineering Education*.
- Lau, S., Joshi, N., & Pang, M. F. (2021). Visual Instruction to Enhance Teaching of Technical Subject to Design Students. *International Journal of Art & Design Education*, 40(1), 165-183.
- Malik, R. S. (2018). Educational Challenges In 21st Century and Sustainable Development. *Journal of Sustainable Development Education and Research*, 2(1), 9. <https://doi.org/10.17509/jsder.v2i1.12266>
- Maspul, K. A. (2024). Enhancing Project-Based Learning in STEM Education with Integrated Technology and Coding. *Journal of Intelligent Systems and Information Technology*, 1(1), 16-24.
- Medina Herrera, L., Castro Pérez, J., & Juárez Ordóñez, S. (2019). Developing Spatial Mathematical Skills Through 3D Tools: Augmented Reality, Virtual Environments and 3D Printing. *International Journal on Interactive Design and Manufacturing (IJIDeM)*, 13, 1385-1399.
- Tsortanidou, X., Daradoumis, T., & Barberá, E. (2019). Connecting Moments of Creativity, Computational Thinking, Collaboration and New Media Literacy Skills. *Information and Learning Sciences*, 120(11/12), 704-722.
- Vila, C., Ugarte, D., Ríos, J., & Abellán, J. V. (2017). Project-Based Collaborative Engineering Learning To Develop Industry 4.0 Skills Within A PLM Framework. *Procedia Manufacturing*, 13, 1269-1276.

**Paper ID:** 1571054209

**Name:** Lifeng Fan & Zakiah Mohamad Ashari

**Paper Title:** Trends and Insights in Academic Procrastination of Students: A Bibliometric Analysis

**E-mail:** siewchingg@gmail.com

## 1. Introduction

Procrastination is defined as the voluntary delay of an intended action despite expecting that the delay will result in a worse outcome (Steel, 2007). This behavior, which is widespread in various human activities, is now particularly notable in academic environments. Academic procrastination is considered the postponement of tasks and activities related to learning and research. It involves students voluntarily delaying planned academic actions despite knowing that such delay will likely lead to adverse outcomes (Steel & Klingsieck, 2020).

Academic procrastination has a negative impact on students as well as the education system as a whole. Academic procrastination profoundly impacts students' learning outcomes and psychological well-being. It can not only reduce academic performance and self-efficacy but also trigger a range of negative emotions, such as anxiety, depression, and self-blame, which can have long-term adverse effects on students' mental health (Amani Nezhad et al., 2022; Asberg & Bendtsen, 2023; Huntley et al., 2022; Rajapakshe, 2021; Wang et al., 2022). Moreover, frequent procrastination behaviors can impair students' time management abilities, hinder the development of effective self-regulation and discipline skills, and subsequently affect their academic performance and daily life (K.S et al., 2023). Additionally, academic procrastination poses significant challenges to the entire educational process, from primary and secondary education to higher education, affecting the efficiency and effectiveness of the educational system (Kaur & Jena, 2022; Xue et al., 2021).

This study aims to analyze trends in academic procrastination-related publications using bibliometric analysis, providing insights for future research. Furthermore, it offers a visualization of current research trends in student academic procrastination. Data were collected from the Scopus database to answer the following research questions:

1. What is the distribution of academic procrastination-related publications over the past decade?
2. Which journals and authors are most relevant to academic procrastination research?
3. Which countries have made the most significant contributions to the field of academic procrastination research?
4. What are the primary research keywords in the past decade of students' academic procrastination?

## 2. Method

This bibliometric study follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) structure (David Moher et al., 2009). The primary objective of this comprehensive analysis is to elucidate and analyze research on student academic

procrastination over the past decade. This study thoroughly investigates publications, prolific authors and key countries in this field. Additionally, it shows frequently discussed topics and trends within the field. Scopus is recognized as the largest abstract and citation database, containing literature across a wide range of peer-reviewed subjects (Baas et al., 2020). Due to its extensive coverage and reputable standing in scientific paper analysis, the Scopus database was carefully chosen as the primary source for this review on June 4, 2024. The study aimed to retrieve academic articles on student academic procrastination by setting inclusion and exclusion criteria (Table 1). Articles with titles, abstracts, or keywords like "academic procrastination," "academic delay," "learning procrastination," or "learning delay" were selected, focusing on student populations using terms such as "students," "children," "graduates," "pupils," and "adolescents." Only articles published between 2013 and 2023 in social sciences, psychology, and humanities were considered, focusing on research articles published in journals and written in English. These criteria ensured a relevant and manageable set of articles for studying academic procrastination or delay.

Table 1 Inclusion and Exclusion Criteria

Search Queries	Inclusion Criteria	Exclusion Criteria
TITLE-ABS-KEY ( "academic procrastination" OR "academic delay" OR "study procrastination" OR "learning procrastination" ) AND ( "students" OR "children" OR "graduates" OR "pupils" OR "school-aged children" OR "adolescents" OR "teenagers" OR "undergraduates" OR "postgraduates" ) AND PUBYEAR > 2012 AND PUBYEAR < 2024 AND ( LIMIT-TO ( SUBJAREA , "SOCI" ) OR LIMIT-TO ( SUBJAREA , "PSYC" ) OR LIMIT-TO ( SUBJAREA , "ARTS" ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( SRCTYPE , "j" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )	students n=801	non-student ( eg. teachers , researchers etc.)
	The year of 2013-2023 n=606	>2013 and in 2024 n=195
	Social science, psychology and arts and humanities n=464	Subject areas in medicine, Computer Science, Business, etc. n=142
	Article n=425	Review, book chapter, Conference paper, etc. n=39
	Journal n=423	Book series n=2
	English language n=375	Other languages n=48

Detailed inclusion and exclusion criteria ensured that the selected literature was highly relevant to the study topic and up-to-date. The PRISMA framework outlines the entire process of systematically screening and selecting the literature, enhancing the scientific rigor and reliability of the research methodology, thereby ensuring the high quality and credibility of the research findings (Figure 1).

### 3. Result

This section presents the bibliometric research results on students' academic procrastination. Covering a decade of research data, it provides multifaceted insights into this evolving field. The content includes annual distribution, influential journals and countries, prolific authors, and main research keywords. The aim of this comprehensive analysis is to depict the current state of global research on students' academic procrastination over the past ten years, identify the fundamental elements driving this scholarly inquiry, and offer a comprehensive perspective on the study of students' academic procrastination.

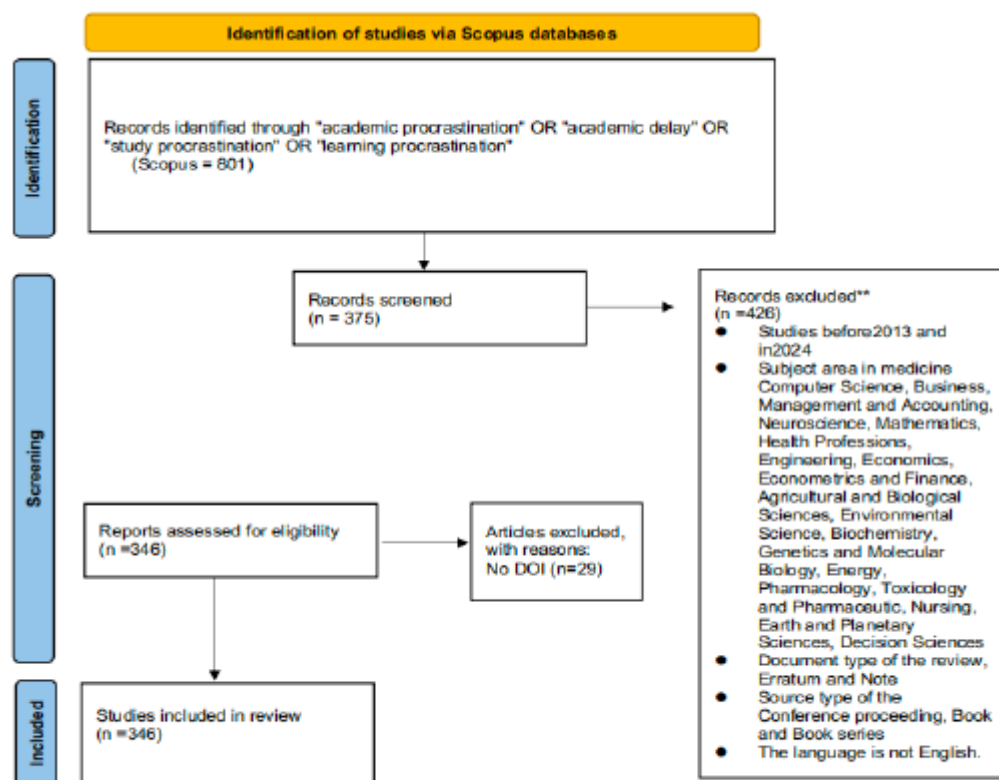


Figure 1 PRISMA framework for this review

### 3.1 Yearly Distribution of Publications

Figure 2 displays the annual publication count on students' academic procrastination from 2013 to 2023. The data reveals a significant increase in research publications over this decade. From 2013 to 2015, the number of publications was relatively low, with fewer than 20 articles per year. There was a notable rise in 2017, reaching a peak of approximately 30 articles. Between 2018 and 2020, the number of publications remained stable, averaging between 30 to 40 articles annually. However, starting in 2021, there was a sharp increase in publication numbers, with peaks of around 70 articles in 2022 and 80 articles in 2023. This trend indicates that research on students' academic procrastination has garnered increasing attention over the past ten years, particularly in recent years, with a marked rise in related studies. This reflects the growing academic interest in this phenomenon, establishing academic procrastination as a significant research issue within the education sector.

### 3.2 Most Relevant Journals and Authors in Students' Academic Procrastination Research

A search of the Scopus database identified the top five of the most relevant journals on this topic. Detailed information about these journals, including total publications (TP), total citations (TC), citation score, most cited article, times cited, is presented in table 2. As shown in Table 2, the most relevant journal in the field of academic procrastination research is



"Frontiers in Psychology," with a total publication count of 22,447 and a total citation count of 119,948, and a citation score of 5.3. Following this is "Current Psychology," published by Springer Nature, with a total publication count of 4,238, a total citation count of 19,554, and a citation score of 4.6. The most cited article in "Frontiers in Psychology" discusses procrastination behavior in computer-based learning environments and has been cited 69 times. In "Current Psychology," the most cited article models variables of problematic internet use and social media use, with 55 citations. Additionally, "Learning and Individual Differences" is another significant journal in the field, with a total publication count of 327, a total citation count of 2,163, and a citation score of 6.6. The most cited article in this journal explores the impact of using motivation regulation strategies on academic procrastination, academic performance, and well-being, cited 118 times.

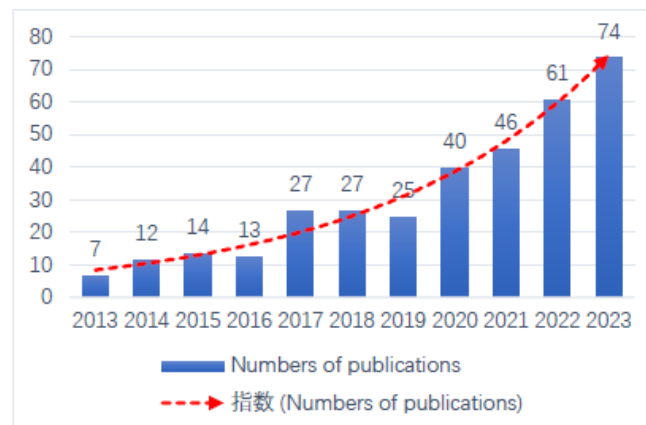


Figure 2. The distribution of students' academic procrastination by year

Table 2 Top 5 journals in academic procrastination among students

	Journals	TP*(2020-2023)	TC*(2020-2023)	Ctie Score (2023)	Most Cited articles	Times Cited
1	Frontiers In Psychology	22,447	119,948	5.3	Procrastinating behavior in computer-based learning environments to predict performance: A case study in Moodle	69
2	Current Psychology	4,238	19,554	4.6	Modeling of variables related to problematic internet usage and problematic social media usage in adolescents	55
3	Learning And Individual Differences	327	2163	6.6	Effects of using motivational regulation strategies on students' academic procrastination, academic performance, and well-being	118
4	Personality And Individual Differences	2,137	18,171	8.5	Procrastination, personality traits, and academic performance: When active and passive procrastination tell a different story	96
5	Electronic Journal Of Research In Educational Psychology	120	144	1.2	Gender differences in the relationship between academic procrastination, satisfaction with academic life and academic performance	76

Note: TP= Total Publications, TC= Total Citation

On the other hand, another aspect of question 2 investigates the most prolific authors. Table 3

details each author's total publications (TP), total citations (TC), h-index, the most cited article and times cited, and their affiliated academic institutions. These data reveal the level of recognition their research has received within the academic community.

Table 3 presents detailed information on the top 10 most productive authors in the field of academic procrastination research. These authors have made significant contributions to the study of academic procrastination. The most prolific author was "Dresel, M." with a total number of publications of 130, with the most h-index of 28, in addition to a total of 2307 citations, and the author is from Info Universität Augsburg. Followed by "Fries, S." with a total number of publications of 92, with an h-index of 28, in addition to a total of

2093 citations, and the author is from University of Münster. These two authors are far ahead of the other authors.

Table 3 Top 5 most productive authors in academic procrastination research

	Name	TP*(2020-2023)	TC*(2020-2023)	H-index	Most cited article	Times cited	Affiliation
1	Fries, S.	92	2,093	28	Effects of using motivational regulation strategies on students' academic procrastination, academic performance, and well-being	118	University of Münster
2	Grunschel, C.	26	709	14	Effects of using motivational regulation strategies on students' academic procrastination, academic performance, and well-being	118	Universität Bielefeld
3	Hen, M.	32	543	12	Academic Procrastination, Emotional Intelligence, Academic Self-Efficacy, and GPA: A Comparison Between Students With and Without Learning Disabilities	124	Tel-Hai College
4	Bäulke, L.	12	127	6	Interrelations between motivational regulation, procrastination and college dropout intentions	40	Universität Augsburg
5	Dresel, M.	130	2,307	28	Interrelations between motivational regulation, procrastination and college dropout intentions	40	Info Universität Augsburg

Note: TP= Total Publications, TC= Total Citation

### 3.3 Most Productive Countries in Students' Academic Procrastination Research

Analyzing the countries with the highest number of publications in the field of academic procrastination research and their collaborative relationships reveals the global distribution of research efforts and international collaborations, highlighting which countries have significant influence in this domain.

Figure 3 displays the most productive countries in the field of academic procrastination research. Specifically, China, Turkey, and the United States have the highest research output, each publishing 47 related articles, demonstrating their significant contributions to this field. International collaboration enhances scientific research performance. Meanwhile, figure 4 illustrates the cooperative relationships among different countries in the field of academic procrastination research. It shows that the United States, China, and Germany are the primary research nations, collaborating closely with multiple countries. The cooperation between the United States and China and between the United States and Germany is particularly prominent, indicated by thicker lines representing frequent collaboration.

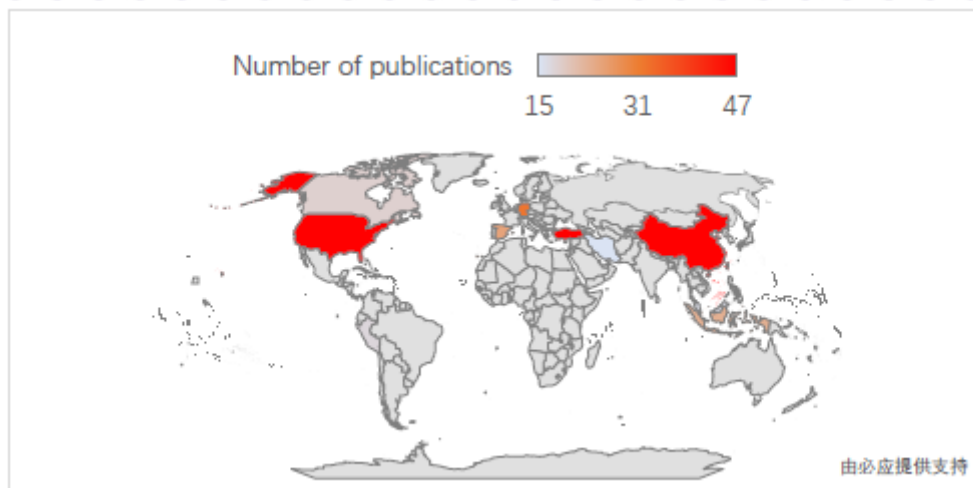


Figure 3 A map based on the most productive countries in students' academic procrastination research



Figure 4. A map based on the relationship of co-authorship with countries

### 3.4 Primary Research Keywords in Students' Academic Procrastination

Visualization analysis was conducted using Vosviewer software. The analysis of all 57 keywords appearing in the literature revealed the major themes and trends within the research field. This process effectively displayed the distribution of keywords, providing a solid foundation for further discussion and analysis. Figure 5 maps the co-occurrence relationships of all keywords from the Scopus database. The keyword with the highest co-occurrence (Oc) of 224 and a link strength of 538 is "academic procrastination," followed by "procrastination" (Oc = 88). Other frequently co-occurring keywords include "university" (Oc=68), "self-regulation" (Oc=38), "self-efficacy" (Oc=34), "motivation" (Oc=21), "self-control" (Oc=18), and "perfectionism" (Oc=14). Additionally, Figure 6 analyzes the co-occurrence of author keywords. The most frequently appearing keyword is "academic procrastination," with an occurrence of 224 and a total link count of 182, followed by "procrastination" (Oc=61). Other keywords such as "university students" (Oc=35), "self-efficacy" (Oc=33), "self-regulation" (Oc=28), "academic achievement" (Oc=17), and "academic performance" (Oc=11) are also included in the map. Since these keywords were actively chosen by the authors, they represent the core concerns of scholars studying academic procrastination. In addition, the keywords in the figures show that academic procrastination research is not limited to specific educational stages but also involves students in various professional fields, such as medical students.

#### 4. Discussion

The number of publications on academic procrastination has steadily increased over the past decade, with a significant rise in 2022 and 2023. This trend indicates growing academic interest in the study of academic procrastination. This trend is likely related to the challenges posed by home-based learning during the COVID-19 pandemic. Students faced multiple challenges associated with online learning, including the need for independent study, lack of interaction with teachers and peers, and difficulties in time management. This learning mode led many students to exhibit academic procrastination behaviors, deliberately delaying academic tasks, which has drawn significant academic attention. (Muarifah et al., 2022). Notably, in recent years, the number of related publications from China has rapidly increased on the international stage. An increasing number of Chinese scholars have conducted in-depth research on student academic procrastination across different educational stages and disciplines. This phenomenon may be related to China's unique cultural background and parenting styles (Khalid et al., 2019; Li et al., 2023). Additionally, as Chinese students face increasing academic anxiety and competition, academic procrastination has become a critical issue that requires urgent attention. This has prompted researchers to intensify their focus and efforts on this area of study (Yang et al., 2019).

However, the overall volume of research remains relatively low. Bibliometric analysis indicates that over the past decade, research on student academic procrastination constitutes only a small fraction of the overall academic research. This suggests that while academic attention to this issue has grown, it is still insufficient compared to other fields in educational psychology. This limitation in research quantity may affect our comprehensive understanding of academic procrastination and the development of effective intervention strategies. Future research should expand the scope and sample size to more fully uncover the causes and effects of academic procrastination.

Furthermore, despite the increasing research on students' academic procrastination, the existing studies primarily focus on university students and adolescents. Research on younger students, particularly elementary school students, remains scarce. Researchers are interested in academic procrastination in higher education because it is prevalent among university students, with an estimated 80% exhibiting procrastination behaviors, making this topic highly relevant (Gonzalez-Brignardello et al., 2023). Additionally, university student samples are easier to obtain and more receptive to academic research, facilitating efficient study conduction (Ziegler & Opdenakker, 2018). Thus, ignoring academic procrastination among younger students could result in an incomplete understanding of this phenomenon and miss crucial opportunities for early intervention and educational strategies.

Moreover, researchers widely acknowledge a significant relationship between academic procrastination and students' academic performance (Aldalham, 2023; Cheng et al., 2023; Shaked & Altarac, 2023; Xu et al., 2023). Over the past decade, the literature has primarily focused on internal psychological factors such as self-efficacy, self-regulation, perfectionism, and motivation, all of which significantly impact academic procrastination. Lower self-efficacy is correlated with higher procrastination (Yang et al., 2021), while strong self-regulation skills help students manage time and resources effectively, reducing procrastination (Amani & Arbabi, 2020; Ghufuron & Suminta, 2022; Herndon & Bembenuddy, 2017). Perfectionism, involving high standards and fear of failure, often leads to procrastination as students delay tasks to avoid potential failure (Walton et al., 2020; Sepiadou & Metallidou, 2023). Motivation also plays a crucial role, with intrinsic motivation



## 5. Conclusion

This study conducted a bibliometric and visualization analysis of 346 articles from the Scopus database related to academic procrastination among students, revealing the current state and trends in this research field. The findings indicate an increasing academic interest in student academic procrastination over the years, with a significant rise in related studies during the pandemic. The analysis identified the most influential journals, countries, and authors, highlighting that the United States, China, and Germany are the major contributors to this field, and that "Frontiers in Psychology" is a key platform for publishing related research. Keyword analysis showed that self-efficacy, self-regulation, and academic performance are the primary focuses of researchers. The findings underscore the necessity of further exploring the issue of academic procrastination, particularly among younger students. Future research should pay more attention to this demographic and investigate the impact of external factors such as family and teacher support on academic procrastination, providing a more comprehensive understanding of the phenomenon and offering more effective guidance for educational practice.

## 6. Limitation

This study has several limitations. First, it used only the Scopus database, excluding others like Web of Science and JSTOR, potentially missing important research. Second, the keywords might not cover all related studies, risking omissions. Limiting the study to the past ten years excluded earlier research, affecting the understanding of long-term trends. Only English-language publications were included, ignoring research in other languages. Lastly, the study primarily reveals trends and patterns without explaining the complex causality. Future studies could address these limitations by integrating multiple databases, expanding keywords and time frames, and using various methods for a systematic literature review.

In conclusion, bibliometric and visualization analysis provides a comprehensive overview of the research field of academic procrastination among students, enabling the quick identification of research themes, trends, and hotspots. Additionally, these methods reveal collaboration networks among researchers and the impact of research outputs, offering valuable references for further research and practice in addressing student academic procrastination.

## References :

- Aldalham, M. S. (2023). The Effect of Using Social Networks on Students Academic Performance in Saudi Universities [Article]. *Information Sciences Letters*, 12(2), 799-806, Article 21. <https://doi.org/10.18576/isl/120221>
- Amani Nezhad, J., Abazari, F., Mardani, A., Maleki, M., & Hebda, T. (2022). Happiness and Achievement Motivation among Iranian Nursing Students: A Descriptive Correlational Study. *Biomed Res Int*, 2022, 4007048. <https://doi.org/10.1155/2022/4007048>
- Asberg, K., & Bendtsen, M. (2023). Evaluating the effectiveness of a brief digital procrastination intervention targeting university students in Sweden: study protocol

- for the Focus randomised controlled trial. *BMJ Open*, 13(7), e072506. <https://doi.org/10.1136/bmjopen-2023-072506>
- Baas, J., Schotten, M., Plume, A., Côté, G., & Karimi, R. (2020). Scopus as a curated, high-quality bibliometric data source for academic research in quantitative science studies. *Quantitative science studies*, 1(1), 377-386. [https://doi.org/10.1162/qss\\_a\\_00019](https://doi.org/10.1162/qss_a_00019)
- Bong, M., Hwang, A., Noh, A., & Kim, S. I. (2014). Perfectionism and motivation of adolescents in academic Contexts [Article]. *Journal of Educational Psychology*, 106(3), 711-729. <https://doi.org/10.1037/a0035836>
- Cavusoglu, C., & Karatas, H. (2015). Academic Procrastination of Undergraduates: Self-determination Theory and Academic Motivation. *Anthropologist*, 20(3), 735-743. <https://doi.org/Doi%2010.1080/09720073.2015.11891780>
- Cheng, S., Xie, K., & Collier, J. (2023). Motivational beliefs moderate the relation between academic delay and academic achievement in online learning environments [Article]. *Computers and Education*, 195, Article 104724. <https://doi.org/10.1016/j.compedu.2023.104724>
- David Moher, Alessandro Liberati, Jennifer Tetzlaff, Douglas G. Altman, & Group, D. t. P. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Annals of Internal Medicine*, 151(4), 264-269. <https://doi.org/10.7326/0003-4819-151-4-200908180-00135> %m 19622511
- Gonzalez-Brignardello, M. P., Sanchez-Elvira Paniagua, A., & Lopez-Gonzalez, M. A. (2023). Academic Procrastination in Children and Adolescents: A Scoping Review. *Children (Basel)*, 10(6). <https://doi.org/10.3390/children10061016>
- Huntley, C., Young, B., Tudur Smith, C., Jha, V., & Fisher, P. (2022). Testing times: the association of intolerance of uncertainty and metacognitive beliefs to test anxiety in college students. *BMC Psychol*, 10(1), 6. <https://doi.org/10.1186/s40359-021-00710-7>
- K.S, V. M., Rajkumar, E., Lakshmi, R., John, R., Sunny, S. M., Joshua George, A., Pawar, S., & Abraham, J. (2023). Influence of decision-making styles and affective styles on academic procrastination among students. *Cogent Education*, 10(1), Article 2203598. <https://doi.org/10.1080/2331186x.2023.2203598>
- Kaur, A., & Jena, D. P. C. (2022). Academic Procrastination and School Environment: A Study of Senior Secondary School Students. *Scholars Journal of Arts, Humanities and Social Sciences*, 10(2), 66-73. <https://doi.org/10.36347/sjahss.2022.v10i02.005>
- Khalid, A., Zhang, Q., Wang, W., Ghaffari, A. S., & Pan, F. (2019). The relationship between procrastination, perceived stress, saliva alpha-amylase level and parenting styles in Chinese first year medical students [Article]. *Psychology Research and Behavior Management*, 12, 489-498. <https://doi.org/10.2147/PRBM.S207430>
- Li, Y., Dong, W., Tang, H., Guo, X., Wu, S., Lu, G., & Chen, C. (2023). The effect of parenting styles on Chinese undergraduate nursing students' academic procrastination: the mediating role of causal attribution and self-efficacy [Article]. *Frontiers in Psychology*, 14, Article 1167660. <https://doi.org/10.3389/fpsyg.2023.1167660>
- Muarifah, A., Rofiah, N. H., Mujidin, M., Mohamad, Z. S., & Oktaviani, F. (2022). Students' academic procrastination during the COVID-19 pandemic: How does adversity quotient mediate parental social support? [Article]. *Frontiers in Education*, 7, Article 961820. <https://doi.org/10.3389/feduc.2022.961820>
- Rajapakshe, W. (2021). The Impact of Academic Procrastination, Self-Efficacy, and Motivation on Academic Performance: Among Undergraduates in Non-State Universities in Sri Lanka. *Asian Journal of Education and Social Studies*, 14(3), 25-38. <https://doi.org/10.9734/ajess/2021/v14i330356>



- Shaked, L., & Altarac, H. (2023). The possible contribution of procrastination and perception of self-efficacy to academic achievement [Article]. *Journal of Further and Higher Education*, 47(2), 197-214. <https://doi.org/10.1080/0309877X.2022.2102414>
- Steel, P. (2007). The nature of procrastination: a meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychol Bull*, 133(1), 65-94. <https://doi.org/10.1037/0033-2909.133.1.65>
- Steel, P., & Klingsieck, K. B. (2020). Academic Procrastination: Psychological Antecedents Revisited. *Australian Psychologist*, 51(1), 36-46. <https://doi.org/10.1111/ap.12173>
- Wang, Q., Kou, Z., Du, Y., Wang, K., & Xu, Y. (2022). Academic Procrastination and Negative Emotions Among Adolescents During the COVID-19 Pandemic: The Mediating and Buffering Effects of Online-Shopping Addiction [Article]. *Frontiers in Psychology*, 12, Article 789505. <https://doi.org/10.3389/fpsyg.2021.789505>
- Xu, Z., Gao, X., Wei, J., Liu, H., & Zhang, Y. (2023). Adolescent user behaviors on short video application, cognitive functioning and academic performance. *Computers & Education*, 203, 104865. <https://doi.org/https://doi.org/10.1016/j.compedu.2023.104865>
- Xue, X., Wang, Y., Li, H., Gao, J., & Si, J. (2021). The association between mathematical attitudes, academic procrastination and mathematical achievement among primary school students: the moderating effect of mathematical metacognition. *Current Psychology*, 42(10), 7953-7964. <https://doi.org/10.1007/s12144-021-02133-4>
- Yang, X., Liu, R.-D., Ding, Y., Hong, W., & Jiang, S. (2021). The relations between academic procrastination and self-esteem in adolescents: A longitudinal study. *Current Psychology*. <https://doi.org/10.1007/s12144-021-02075-x>
- Yang, Z., Asbury, K., & Griffiths, M. D. (2019). An Exploration of Problematic Smartphone Use among Chinese University Students: Associations with Academic Anxiety, Academic Procrastination, Self-Regulation and Subjective Wellbeing. *International Journal of Mental Health and Addiction*, 17(3), 596-614. <https://doi.org/10.1007/s11469-018-9961-1>
- Zhao, W., Wang, X., Li, J., Li, Q., & Chen, C. (2022). "Time is My Own Treasure": Parental Autonomy Support and Academic Procrastination Among Chinese Adolescents [Article]. *Psychology Research and Behavior Management*, 15, 2773- 2782. <https://doi.org/10.2147/PRBM.S373033>
- Ziegler, N., & Opdenakker, M.-C. (2018). The development of academic procrastination in first-year secondary education students: The link with metacognitive self-regulation, self-efficacy, and effort regulation. *Learning and Individual Differences*, 64, 71-82. <https://doi.org/https://doi.org/10.1016/j.lindif.2018.04.009>

**Paper ID:** 1571053118

**Name:** Samijah Ruwiyah, Fatin Phang & Nor Farahwahidah Ab Rahman

**Paper Title:** Nominal Group Technique (NGT) in the Development of a Physics Oral Questioning Model for Matriculation College Teachers

**E-mail:** ruwiyah@graduate.utm.my

## Introduction

The use of oral questioning by teachers is a critical pedagogical approach that can significantly influence the learning process. In the context of physics education at matriculation colleges, effective oral questioning can stimulate critical thinking, deepen conceptual understanding, and encourage active student participation. However, the development of an effective verbal questioning model requires a structured and systematic approach. This study explores the Nominal Group Technique (NGT) as an alternative strategy for designing and developing a comprehensive oral questioning model tailored specifically for physics teachers at matriculation colleges. NGT is known for its ability to harness collective expert opinion in a structured manner (Vahedian-Shahroodi et al., 2023), making it suitable for identifying and prioritizing key elements of effective oral questioning. By involving experts in physics education, the study aims to develop a robust model that can be adopted and adapted by teachers to enhance their instructional practices.

## Objective

The primary objective of this study is to design and develop an oral questioning model for physics teachers at matriculation colleges using the Nominal Group Technique. This involves several objectives:

1. To identify the key elements of effective oral questioning in the context of physics education at matriculation colleges.
2. To achieve a consensus among experts on the importance and priority of these elements.
3. To convert expert opinions and votes into quantifiable data that can inform the development of the model.
4. To refine and finalize the elements of the oral questioning model based on expert feedback and consensus

## Methods and Instruments

This study employed the Modified Nominal Group Technique (NGT), a structured method designed to gather and synthesize expert opinions. The NGT process involved five key stages (Yahaya et al., 2020):

1. **Research Briefings:** Experts were briefed on the objectives of the study and the NGT process. This stage ensured that all participants had a clear understanding of the task at hand.

2. **Idea Generation:** Each expert independently generated a list of elements they deemed essential for effective verbal questioning in physics education. This stage aimed to capture a wide range of ideas without the influence of group dynamics.
3. **Sharing and Discussing Ideas:** Experts shared their ideas with the group. This facilitated a rich discussion, allowing experts to clarify their ideas and understand different perspectives.
4. **Voting Through Questionnaire:** Experts voted on the importance of each identified element using a structured questionnaire. The votes were converted into percentages to quantify the level of agreement among experts.
5. **Presentation of Findings:** The results of the voting process were presented to the experts. This final stage involved a discussion on the findings and the selection of the final elements to be included in the oral questioning model.

The instrument for this study was developed from the final elements formed. These elements were included in a questionnaire. The questionnaire was created using Google Forms and subsequently uploaded online to the NGT WhatsApp group for further action by the experts. A 7-point Likert scale was used to assess the experts' level of agreement with the oral designed questioning elements in developing a model for oral questioning by physics teachers at matriculation colleges. The data collected from the experts were analyzed to determine the level of consensus and to prioritize the elements based on their perceived importance.

## Results and Discussion

The study initially identified 23 elements of effective verbal questioning through the idea generation stage. These elements encompassed a range of techniques and strategies that physics teachers can use to enhance student engagement and understanding. During the sharing and discussion stage, experts provided valuable insights and clarifications, which helped refine the list of elements. The voting process, conducted through a structured questionnaire, allowed experts to rate the importance of each element on a scale. The votes were converted into percentages, providing a clear quantification of expert consensus.

The analysis of the voting results revealed that while there was broad agreement on many elements, certain elements were deemed more critical than others. The final list of 24 elements was determined based on the highest percentage scores, reflecting the collective prioritization by the experts as follows.

### Enhanced List of Oral Questioning Elements

1. 1 Use of various levels of questions according to the Physics Matriculation Curriculum Specification (C1 to C4).
2. Use of different types of questions according to the Physics Matriculation Curriculum Specification (C1 to C4).
3. 3 Open questions posed to all students in the class.
4. Questions focused on learning objectives.
5. Questions encouraging student responses.

6. Lecturers giving students time to think before answering.
7. Rephrasing questions for clarity.
8. Two-way interactions between lecturer-student and student-student.
9. Questions that stimulate student interest in Physics.
10. Suitable intonation in oral questioning.
11. Lecturer knowledgeable about questioning methods based on Physics teaching objectives.
12. Lecturer skilled in oral questioning according to students' cognitive levels.
13. Lecturer with specific questioning strategies in Physics.
14. Questions starting from a lower level in the teaching process.
15. Clear and unambiguous questions.
16. Questions suitable for content according to Physics Matriculation Curriculum Specification (C1 to C4).
17. Lecturer capable of providing feedback.
18. Questions encouraging critical thinking.
19. Questions enhancing understanding of Physics concepts.
20. 20 Questions involving active student participation.
21. Questions helping students justify their reasoning.
22. Follow-up questions for further clarification.
23. Lecturer summarizing lessons using easily understood questions.
24. Questions relevant to Physics topics according to Physics Matriculation Curriculum Specification (C1 to C4).

The findings indicated that the Modified NGT was an effective method for gathering and synthesizing expert opinions. The structured approach ensured that all voices were heard and that the final model was based on a robust consensus. The experts appreciated the opportunity to discuss and refine their ideas (Yahaya et al., 2020), leading to a more comprehensive and validated verbal questioning model.

The developed model provides a practical framework for physics teachers at matriculation colleges. By incorporating the identified elements, teachers can enhance their questioning techniques, thereby fostering a more interactive and engaging learning environment. The model's emphasis on critical and probing questions aligns with the goals of physics education, which seeks to develop students' analytical and problem-solving skills.

## **Conclusion**

The study successfully developed an oral questioning model for physics teachers at matriculation colleges using the Modified Nominal Group Technique. The process involved identifying, discussing, and prioritizing key elements of effective verbal questioning, resulting in a final list of 24 elements. The expert consensus achieved through the structured NGT process ensured that the model is both comprehensive and practical.

The findings highlight the value of using NGT in educational research, particularly in contexts where expert opinion is crucial for developing effective teaching strategies. The model provides a valuable tool for physics teachers, helping them to enhance their instructional practices and improve student outcomes. Future research could explore the

application of this model in different educational contexts and evaluate its impact on student learning in real-world settings

**Paper ID:** 1571053722

**Name:** Arkhawan Audil & Hema Rosheny Mustafa

**Paper Title:** From Theory to Classroom: Examining Communicative Language Teaching Practices in Iraq

**E-mail:** faarkhawan2@live.utm.my

## 1. INTRODUCTION

The need for using English primarily for communication is among the priorities of the 21<sup>st</sup> century in teaching languages. This requires introducing innovative methods of teaching to the field of language teaching. This topic is an issue that has been studied for the last 4 decades. The main concern of these studies is the gap in the theoretical understanding of the introduced approaches and their implementation in classrooms.

Many studies have investigated whether a certain approach or a method is appropriate for teaching English in a certain context. These studies also examined contextual factors that lead to challenges in teaching. Both Prabhu (1990) and Bax (2003) reported that when a new method is introduced, the context should be considered before they implement it. Furthermore, studying the relation between contextual factors and instructional methods is necessary to understand teachers' classroom practices. This includes integrating their theoretical understanding of these methods and approaches into their classroom practices. A comprehensive study of this issue can be conducted by collecting evidence from the classrooms and teachers' perspectives on these teaching methods.

### 1.1 Background of the Study

According to Nunan (2003) and Dörnyei (2009), the goal of teaching English has shifted from the traditional methods to the focus on communication, making the communicative approach (CLT) the dominant approach in the 21<sup>st</sup> century. The goal of teaching the language is to improve the learners' communicative competence to use the language in various contexts (Brown, 2000; Richards, 2006a). However, many countries still use traditional methods, consequently affecting learners' communicative competence (Ibrahim and Ibrahim, 2017). Thus, researchers state that effective teaching requires student- a student-centered approach that emphasises communication and offers various opportunities for language use (Savignon, 2001; Richards and Rodgers, 2014).

Such an approach requires communicative principles where Richards and Rodgers (2014) identify five central tenets of CLT: active engagement in communication, authentic and meaningful experience of the classroom activities, balancing accuracy and fluency in language teaching, integration of various language skills, and dynamic, problem-solving learning processes. Although CLT has demonstrated its efficacy in establishing a comprehensive foundation for achieving these objectives on a theoretical level, it remains difficult for many teachers to integrate it into their classroom practices. One reason for these challenges is that many personal and contextual factors could influence their classroom practice. Thus, CLT is still not the ultimate solution for all language learners, especially in EFL contexts. For this reason, Bax (2003) argues for a new approach that prioritizes context in teaching methods and calls it the "context approach".

Islam (2016) emphasizes the discrepancy between CLT's theoretical and practical implementation, suggesting that CLT is not realized in practice as it is in theory. According to Pham (2006), teachers who lack a comprehensive understanding of CLT struggle to adapt their teaching methods to suit the learning environment. Another reason is that they lack proper training (Syarief 2016). As a result, they resort to traditional teaching methods. Conducting extensive classroom-based research helps close the gap between CLT's theoretical and practical aspects and contributes to the language teaching methodology.

## 1.2 Problem Statement

Despite introducing CLT into Iraqi Education system since 2007, researches on indicates that Iraqi students lack sufficient communicative ability to effectively utilize English for communication purposes. A reason for that could be the methodology practiced by the teachers. While CLT is meant to replace the previous methods that could not fulfill learners' needs, Sofi-Karim's (2015) study show that teachers still practice the traditional teaching methods, and their classrooms are still teacher-centered , and this has led to a passive learning experience by learners (Mhamad and Shareef,2014). Therefore, they cannot use English effectively in the real-life outside of the classroom.

Many factors such as resource limits, restrictive curriculum frameworks, and evaluating processes, students motivation and language proficiency are among the obstacles hinder the smooth integration of CLT approach. Hassan and Ghafor (2014) say Iraq's English language program isn't communicative. Instead, it combines grammar-translation, audio-lingual, and communicative approaches. If so, holding teachers accountable for their teaching methods would be unfair.

According to Abdullah (2015), both students and teachers show a favourable attitude toward the implementation of Communicative Language Teaching (CLT). However, Grammar-focused exams in Iraq makes its implementation difficult for both teachers and students. Kamal (2010) concludes that the current examinations for the new English course book "Sunrise" cannot be considered a communicative exam and does not assess all competencies and skills of the learners. Thus, the current examination system does not foster the communicative proficiency of students in English language which ultimately goes against the principles of CLT. Students also lack enthusiasm for learning the English language. This prevents them from learning and improving their language proficiency. Since the assessment system is paper- oriented exam (Ibrahim and Ibrahim ,2017), the students'success is based on grades, as a result, their primary goal is to pass the exams and use memorisation technique and cannot achieve their goals. The statistics by the ministry of Education in Kurdistan region of Iraq shows that less than 50 percent of the grade 12 students passed the national exams for English language in the academic year of 2023-2024. This shows that either students are afraid of taking this test or do not have enough language ability to pass it.

This teacher-cantered methodology prevents teachers and students to communicate effectively. Therefore, Saeed (2015) posits that teachers prioritize the teaching of grammar over other skills and seek to adapt to the current educational and teaching environment. AlAkeeli (2013) also agrees that Iraqi teachers prioritize the teaching of grammar principles over the facilitation of communicative learning and the generation of ideas by students. As Saeed (2015) elucidates, this emphasis on grammar instruction may be the consequence of their lack of understanding of instructional strategies. For this reason, most of classroom activities are repetitive lacking, group work and interaction , consequently do not produce

real conversation (Alkhateeb, 2013). UNESCO (2014) states that the current situation in Iraq indicates that teachers are unfamiliar with Communicative Language Teaching (CLT). Teachers and supervisors need to be trained and educated about CLT. However, the current training is inadequate (Sofi-Karim, 2015) and mainly focuses on subject content knowledge. Thus, this issue needs a study that aims to address past research flaws. A study that examines the issue through classroom observations to investigate the application of CLT in Iraqi classrooms. This study additionally explores teachers' views on classroom problems, classroom activities, and the teaching of speaking skills.

### **1.3 Research Objectives**

The objectives of this research are:

1. To examine Iraqi English language teachers' attitudes towards and implementation of Communicative Language Teaching (CLT) in their classrooms.
2. To identify the difficulties and factors that influence Iraqi English language teachers' implementation of CLT in their classrooms.
3. To explore the types of activities that Iraqi teachers use in their classrooms to promote students' oral proficiency.

### **1.4 Research Questions**

The objective of this research is to address the following questions:

1. To what extent do Iraqi English language teachers' attitudes and classroom practices align with Communicative Language Teaching (CLT) principles?
  - What are Iraqi English language teachers' attitudes towards the Communicative Language Teaching (CLT) approach?
  - How do the classroom practices of Iraqi English language teachers reflect the principles of CLT?
  - To what extent do Iraqi English language teachers implement CLT in their classroom practices to improve students' speaking skills?
2. What are the difficulties teachers encounter in adopting communicative language teaching?
3. What types of activities do Iraqi teachers use in their classrooms to promote students' oral proficiency?

### **1.5 Significance of the Study**

Numerous studies have been conducted on the implementation of CLT in various contexts. However, very few studies have been conducted on the practice of CLT by in-service teachers in the Kurdistan region of Iraq, which examines the challenges they encounter when implementing CLT in the classroom. Consequently, this study aims to address this gap in the research field. Its primary focus is on the implementation of CLT in English language classrooms, the factors that influence its use, and the activities employed by the teachers that improve the students' speaking skills. The study also aims to show any possible discrepancy between teachers' understanding of CLT and their classroom practices.

This study will help in-service teachers use CLT more successfully and avoid traditional teaching approaches. Furthermore, this will raise teachers' knowledge of CLT's



benefits in English education and emphasize communicative teaching. Teachers will understand their teaching environment and use techniques to overcome problems. Teachers are more likely to apply CLT if they know its positive concepts.

This study will help supervisors, teacher trainers, curriculum designers, and school management understand Iraqi public school English language teachers' problems and discover teaching instruments for minimising such difficulties. Educators can devise in-service training to help teachers understand CLT theory and implement it in Iraqi schools. This study investigates concerns uncovered by previous investigations.

## **2 REVIEW OF RELATED LITERATURE**

### **2.1 Communicative Language Teaching (CLT)**

Based on the theory of constructivism is Communicative language teaching (CLT) approach. Researchers (Richards and Schmidt, 2010) and (Richards and Rodgers, 2014) define CLT as a method of teaching a second or foreign language that its goal is to development the communicative competence of the learners. The objective is to facilitate meaningful communication in all classroom activities. This goal is achieved by offering an extensive range of communicative tasks and activities. According to Littlewood (1981), one of the most distinctive characteristics of CLT is its systematic consideration of both structural and functional aspects of language. On the contrary to other methods, this approach is more student-centered and motivational for learning. CLT places equal emphasis on improving fluency and accuracy. Grammar is taught in context and all language skills are equally important in teaching.

### **2.2 The Communicative Classroom and the roles of teachers and students**

Harmer (2003), states that the classroom environment greatly influences students' attitudes and learning abilities. Physical aspects of the classroom, such as table management, can facilitate learning. Since CLT supports using authentic materials, magazines, posters, and realia can promote understanding and support active interaction and communication in the classroom. Thus, both teachers' teaching methods and materials significantly impact student learning. In communicative classrooms, learning takes place, and materials help students attain abilities and be able to use the language for real-life situations (Nunan, 1989).

Authentic materials encompass diverse formats, such as audio, audio-visual, and printed materials. Teachers should carefully select materials that correspond to the language learning objectives. Thus, according to Richards (2006b), authentic materials are better suited to learners' needs, expose pupils to real language, and provide cultural understanding of the target language. Similarly, Larsen Freeman and Anderson (2013) emphasized the significance of utilizing authentic materials, asserting that they allow learners to develop strategies for dealing with language as native speakers use it.

According to Richards and Rodgers (2014), learners play the role of "negotiators" in the learning process to negotiate the meaning of their learning. They do not have to be proficient. Larsen-Freeman and Anderson (2013) describe learners as communicators who actively negotiate meaning, even if they are still not fully proficient in the target language. Meanwhile, teachers have two primary responsibilities: facilitating communication among classroom participants and creating communication-friendly environments (Richards & Rodgers, 2014). They can also act as co-communicators, advisors, facilitators, and

counsellors and supervise students' progress during classroom activities. Teachers' primary responsibilities in the classroom are to motivate and inspire learners to participate actively in communication exercises.

### **2.3 Activities and Role of Instructional Materials in CLT**

According to Larsen-Freeman and Anderson (2013) the most notable feature of CLT is that all actions are communicative and the range of CLT activities is endless. Language-based classroom activities encourage negotiating and information exchange (Richards & Rodgers, 2014). There are two main types of activities, "functional communicative activities" and "social interaction activities", (Littlewood, 1981). In the first, students use communications to carry out functions such as comparing pictures and offering instructions. However, social interaction activities require learners to participate in conversations, role plays, debates, and other interactions.

Conversely, materials are thought to influence classroom interactions and activities. Their primary purpose is to promote communicative language. The three primary CLT materials are task-based, text-based, and realia. Typical CLT materials are text-based. Unlike typical textbooks, its table of contents grades and sequences language practices. Some of these materials are just redesigns of the structural syllabus (Richards & Rodgers, 2014) that claims to be communicative. For example, the Malaysian English Language Syllabus (1975) is a big change from conventional texts. With these materials, a normal lesson contains a topic, a job that tests how well the student understands the theme, practice explaining the situation, a particular stimulation introduction, comprehension questions, and paraphrase exercises. Some materials contain fewer or more components.

### **2.4 Communication Activities for Speaking**

Engaging in communicative activities helps students actively use language for communication. Communicative activities, sometimes called "fluency-based activities," encourage interactive learning and L2 use (Sanna, 2013, p. 21). Communication activities should be interactive, realistic, and relevant to real-life situations in a student-centered classroom (Richard and Rodgers, 1999, p. 163).

Communicative activities or communicative language teaching encompasses both linguistic qualities to teach and a shift in teaching techniques (Harmer, 2003). The purpose is to improve student communication. According to Galloway (1993), the methodology encompasses practical scenarios that require effective communication. Wood (2002) divides activities into functional communication and social interaction. Functional communication activities improve language abilities and functions needed for communication. Social interaction involves active communication, discussions, dialogues, and role plays. There is a wide range of activities that can promote communication among the learners. Among these activities are information gap, jigsaw, communicative games, storytelling, group work, pair-work, discussions, role-plays (Sanna, 2013; Larsen Freeman and Anderson, 2013).

### **2.5 Teachers' Beliefs and Understanding of CLT**

Successful implementation of Communicative Language Teaching (CLT) relies on theoretical understanding and interpretations of its concepts by the teachers. Researchers have defined this understanding as teachers' attitudes (Albahri et al., 2018), perceptions

(Liu and Deris, 2023), cognition (Borg, 2015), and beliefs (Nishino, 2012). All these definitions are used interchangeably. Studying teachers' beliefs and understanding of CLT is important because their beliefs on language education may not be compatible with the activities and principles of CLT (Manzano, 2015), or even with having a positive attitude toward it, but teachers may not practice what they perceive.

Another reason for studying teachers' beliefs is that teachers' beliefs could influence their instructional practices (Pajares, 1992). According to Borg (2015) and Senior (2006), teachers' beliefs are derived from multiple sources. One of the sources of teachers' attitudes about teaching is their personal experience as language learners, which is reflected in their teaching practices. For instance, numerous EFL teachers continue to employ conventional methods such as repetitive practice and rote learning in language instruction due to their own successful experience with these strategies throughout their English language acquisition.

Teachers' ideas can also be influenced by their personal experience with what is most effective for them. Teachers typically embrace effective tactics and steer clear of unsuccessful ones (Senior, 2006). Thus, according to these studies, the teaching methods employed by English as a Foreign Language (EFL) teachers are influenced by a combination of their views, prior experience in learning and teaching, and their competence as educators. Borg (2015) states that these variables are interconnected and can influence the selection of techniques and methods used by teachers in English language instruction.

## **2.6 Difficulties in Teaching Speaking in the EFL Context**

According to Richards (2006a), gaining proficiency in spoken English is the main goal in EFL and it reflects successful teaching of the language courses. Despite its significance, Speaking is considered the most challenging of the four language skills in a foreign language context (Rahimi & Quraishi, 2019). Even persons who have studied English for many years find it difficult (Madrid et al. 2005). One reason is that Oral communication needs body and brain coordination and a basic understanding of grammar and language.

EFL learners encounter two hurdles when it comes to mastering speaking: the difficulty of the skill and the environment. Asfaw et al. (2021) identified several factors impacting the teaching of speaking in Ethiopia. These include inadequate emphasis on speaking lessons, excessive use of mother tongue, learners' poor background, time constraints, restricted classroom activities, inefficient classroom management, fear of making mistakes and shyness, and unequal participation.

## **2.7 Challenges in Implementing CLT in EFL Classrooms**

The implementation of CLT, particularly in the EFL context classrooms, encounters several challenges. This issue is related to the use of traditional teaching methods, where the teaching of grammar and vocabulary is prioritised over speaking (Al-Khatib, 2017). According to Almutrafi (2018), both spoken and written proficiency are important in language learning, and the level of proficiency in these skills is determined by the learner's motivation toward these skills. Despite this, many EFL teachers and learners prioritise grammar because they have limited speaking exposure to the language and rely on text-based assessments that hinder successful language learning (Abate, 2014).

The challenges in adopting CLT can be classified into four categories. First are teacher-related challenges, including teachers' lack of understanding or misunderstanding (Thompson, 1996; Littlewood, 2007) of CLT principles and teachers' practice of traditional methods (Austin, 2003). Second, student-related factors mainly include low language proficiency and fear of making mistakes (Jones, 2007; Mirdehghan et al., 2011). Third is the cultural factors related to the mismatch between teaching practices of native and non-native contexts (Littlewood, 2007; Hu, 2002; Bax, 2003); the last challenge is related to the educational system which includes large class sizes, insufficient materials, and shortcomings in curricula that do not align with the principles of communicative approach (Sofi-Karim, 2015; Abdulkader, 2016).

Research in the field of language methodology indicates that the success of implementing communicative language teaching methodology depends on how these challenges are handled in the classrooms of these contexts. This means that when a method is adopted, the context should be considered; that is why Bax (2003) calls for a "context approach". Other researchers (Jamalzadeh & Shamsavar, 2015; Abdulkader, 2016) believe that the new method should adapt to the local context and consider factors such as teacher preparation, resource availability, and student attitudes. Tackling these obstacles is essential for successfully implementing CCLT in EFL contexts.

### **3 RESEARCH METHODOLOGY**

#### **3.1 Research Design**

This study employs a mixed method approach. It encompasses of both qualitative and quantitative data collection to examine the research issue. According to Cohen et al. (2007), using multiple source of data collection improves the quality of the data. Mixed methods research incorporating both qualitative and quantitative methods can maximise the strengths and minimise the weaknesses of each method (Creswell, 2014). In this regard, Tashakkori & Teddlie (2003) finds this approach more comprehensive in understanding and investigating research issues and questions.

A sequential design is employed in data collection process. This means the qualitative data that was collected through interviews was followed by quantitative data from a questionnaire and classroom observation of the teachers. The emphasis is on the quantitative data (qual-QUANT) to gain understanding from larger population of the research. The qualitative data also helped to improve the questionnaire and gain more comprehensive understanding of the teachers attitude and issues. To enhance the research outcomes, data triangulation was used.

#### **3.2 Research Setting:**

This study was carried out in different high schools is Sulaymaniyah governorate, located in the Kurdistan region of Iraq. The participants were English language teachers.

#### **3.3 Participants and sampling:**

The participants in this study were all English language teachers in high schools. These teachers were selected based on purposive sampling. These teachers were in-service teachers with 3 to 25 years of experience. Ten teachers participated in the interviews, and 16 and 183 teachers answered the questionnaire for the classroom

observations. This number excluded the participants from the interviews to avoid duplicate answers.

### **3.4 Data Collection Tools:**

Three tools were used for data collection, interview, classroom observation, and a survey. The interviews aimed to examine teachers' attitude, experience and teaching expertise. Classroom observations which were video-recorded aimed to examine classroom practices of these teachers. The questionnaire of 38 items aimed to examine teachers' attitude toward CLT, the factors that influence employing CLT, and the type of activities used by the teachers. 3-Point Likert Scale was used to score the responses. These tools helped to answer the research question.

### **3.5 Data Collection Procedure:**

The study was carried out in two stages, first a pilot study was carried out with a small number of teachers to enhance the reliability of the instruments and later the actual study carried out with the study population. During this process, the quantitative data collection followed the qualitative data collection.

### **3.6 Method of Data Analysis:**

The data collected from this study were both qualitative and quantitatively analysed and triangulated. The interviews were analysed first, using Nvivo codes, thematic analysis was used to identify themes. The data from the interview was also used to improve the questionnaire elements. After this, the data from the classroom observations were statistically analysed, using frequencies and percentage. The questionnaire was also statistically, using SPSS, analysed. All the data set were integrated and used to answer the study questions.

## **4 RESULTS**

### **4.1 Teachers' attitudes towards CLT and their implementation of its principles.**

The analysis of the questionnaire (67% of the teachers' responses) show that the teachers have positive attitude towards all CLT principles. Yet, 57% off the teachers believed that students errors should be correctly instantly. This indicate that teachers still have not fully understood CLT principles and the over-teaching of grammar has led to this belief. However, there is a discrepancy between teachers positive attitude and their classroom practices. The analysis of the classroom observations shows this fact that most teachers do not teach communicatively and most of the classroom practices are still traditional, focusing on the teaching of subskills such as grammar and vocabulary . On the hand, the analysis of the questionnaire also shows that teachers very widely (55%) use individual work and whole-classroom teaching technique and the use of communicative activities are very limited. In their interviews they justify this teaching style by explaining that they lack time, resources, and constrains imposed by examination system. The teachers barely use communicative activities and the teaching of speaking is neglected. The teachers attribute this to many factors that hinder them from teaching speaking, at the forefront is the examination system and students' low language proficiency and motivation.

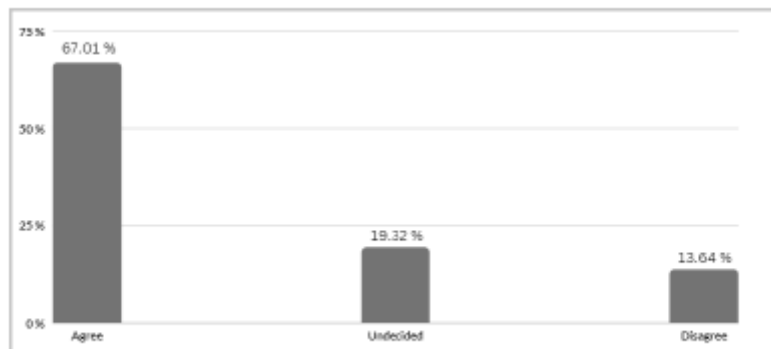


Figure 4.1: Descriptive analysis of (teachers attitude toward CLT principles)

#### **4.2 The difficulties and factors that influence Iraqi English language teachers' implementation of CLT in their classrooms.**

The questionnaire analysis of 16 items shows that the primary difficulties in adopting CLT include limited resources, insufficient training, large class size, assessment system, fear of making mistakes, societal expectations, and low language proficiency of both students and teachers. 68% of the teachers highlighted that lack of authentic materials hinder effective teaching in their schools and this makes it difficult to create an interactive environment. The results also show that the current textbooks lack motivation activities to promote speaking skills of their students. Another issue is the lack of training related to teaching methods. 70% of the teachers believe that there are limited opportunities for teachers to receive training on teaching methods. This indicates that these teachers need practical training to implement CLT successfully. The results show that speaking skills of the students is not assessed (71%) and for this reason there is a high emphasis on teaching and assessing grammar.

The teachers also showed their tendency to use traditional teaching methods as their classrooms are over-crowded (74%) and this strategy helps them to "maintain control over classrooms and save time to complete their textbook topics". The teachers also stated that "students only want to pass the exams and do not care about learning the language". For this reason teachers tend to avoid communicative activities where both time and interaction is required.

Despite studying English from an early stage of school the language proficiency of the students is low (65%) and they are unable to express themselves in English. This could be the reason why they are afraid of making mistakes (78%) and lack self-confidence (70%) that is why they tend to use their first language (68%) in classroom activities. These factors collectively hinder teachers from employing communicative language teaching in Iraqi classroom.

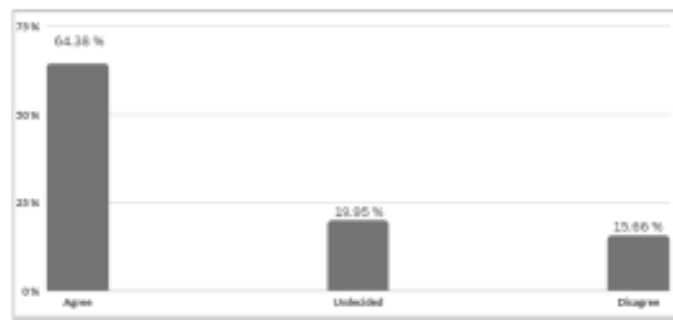


Figure 4.2: Descriptive analysis of (factors influence their implementation of CLT and classroom practices)

### 4.3 The types of activities that Iraqi teachers use to promote students' oral proficiency

For all the types of activities (Pair work, Group Work, Individual Work, Whole-class teaching, Role play, Dialogues, Storytelling, Presentation, Debating, Information gaps, opinion sharing), the respondents to the survey have a higher rate of agreement and positivity towards using five of the teaching strategies, which are individual work, whole-class teaching, role play, dialogues, and opinion sharing. Among these five two have highest rate of use, individual work (53) and whole-class teaching (57%). The reason for this practice is explained in the interviews where the teachers tend to use whole class activities and individual activities to save time and maintain order in their classrooms. The results of the classroom observations also confirmed this result where the most common teaching strategy was individual work and whole-class teaching. Other activities such as dialogue, opinion sharing, role-paly, information gap and interactive activities such as group and pair work were not used. Only one teacher used dialogue activity involving scripted dialogue reading. During the observations it was also noted that during discussion times, students speak their mother tongue rather than English, which presents somewhat challenging issues related to management in classrooms with large number of students.

Meanwhile, two of the eleven strategies (pair work and information gaps) were implemented at a more moderate rate by teachers. However, during the observations very little of pair works were recorded and no information gap activities were implemented by the teachers.

Additionally, the rest of the activities, including group work, storytelling, presentations, and debating, were recorded at a lower rate of utilization by the respondent teachers. This result is similar to what was noted in the classroom observations. Teachers did not use these types of activities.

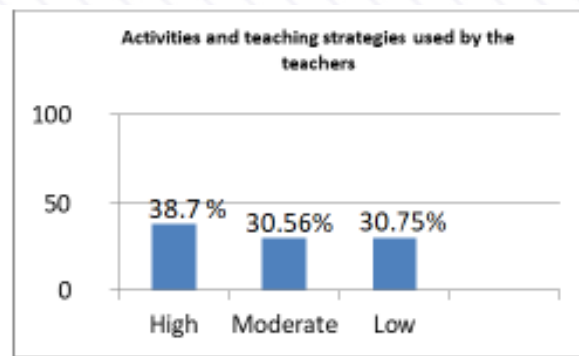


Figure 4.3: Activities and teaching strategies used by the teachers

## 5 CONCLUSION

The findings of this study highlighted the main challenges and factors that hinder the implementation of Communicative language teaching in Iraqi classrooms. Despite having positive attitude towards the approach, teachers are not fully aware of its principles and are unable to implement it effectively. Various factors such as limited training , recourse unavailability, student and teacher-related issues, the educational assessment system and societal expectations hinder the adoption of CLT and affect their classroom practices. The classroom practices of Iraqi teachers contradict the primary principles of CLT and do not promote the spoken language proficiency of the students. Addressing these issues requires a comprehensive approach and policy changes by the Ministry of Education and other stakeholders. They need to review the curricula and adopt a more context- friendly approach for language teaching. The results also call for more support and training for the teachers to bridge the gap between their theoretical understanding of CLT and their classroom practices.

## References

- Abate, E. B. (2014). Prospects and challenges of communicative approach in EFL Context. *Prospects*, 4(25).
- Abdulkader, F. A. (2016). An Investigation of Saudi EFL Teachers' Perceptions of the Appropriateness of Communicative Language Teaching (CLT) in a Saudi Context. *International Journal of Educational Investigations*, 3(6), 42-68.
- Abdullah, B. M. A. (2015). KURDISH STUDENTS' PERCEPTIONS TOWARD COMMUNICATIVE LANGUAGE TEACHING AT A UNIVERSITY IN KURDISTAN REGION IRAQ. *European Scientific Journal, ESJ*, 11(10).
- AlAkeeli, F. S. (2013). Examining Lexical and Grammatical Difficulties Encountered by Iraqi Students in Learning English as a Foreign Language. (PhD thesis), St Clements University.
- Albahri, M. A., Yang, P., & Moustakim, M. (2018). Saudi Arabian tertiary teachers' and learners' attitude towards the communicative language teaching (CLT). *International Journal of Information and Education Technology*, 8(4), 317-321.
- Alkhateeb, M. M. A. (2013). Evaluating Iraqi Primary EFL Curriculum and Textbooks. *JPAIR Multidisciplinary Research*, 12(1).
- Al-Khatib, H. (2017). Revisiting the Communicative Approach: The Tripod Construct. *Arab*



- World English Journal (AWEJ)*, 8(1), 3-15.
- Almutrafi, F. (2018). How learners of English learn best in a foreign language context? A glimpse of the debate over the written versus the spoken form. *Arab World English Journal (AWEJ) Volume*, 9.
- Asfaw Bulbula, D., Alemu Bulti, T., & Yaya Sada, E. (2021). EFL teachers' practices and implementations of speaking activities in Ethiopian English textbooks. *Education Research International*, 2021, 1-11.
- Austin, J. D. (2003). The grammar translation method of language teaching. In: London: Longman.
- Bax, S. (2003). The end of CLT: A context approach to language teaching. *ELT journal*, 57(3), 278-287.
- Borg, S. (2015). *Teacher cognition and language education: Research and practice*: Bloomsbury Publishing.
- Brown, H. D. (2000). *Principles of language learning and teaching: A course in second language acquisition*. Pearson.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education*. In: New York, NY: Routledge.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage publications.
- Dörnyei, Z. (2009). The 2010s. *Communicative Language Teaching in the 21st Century: The "Principled Communicative Approach"*. *Perspectives*, 36(2), 33-43.
- Galloway, A. (1993). *Communicative Language Teaching: An Introduction and Sample Activities*. ERIC Digest.
- Harmer, J. (2003). *The Practice of English Language Teaching*. England: Pearson Education Limited.
- Hassan, F. R., & Ghafor, O. F. (2014). Assessing the suitability of "sunrise" programme to the Kurdish learners of the seventh basic grade in the schools of Erbil city. *Journal of Teaching and Education*, 3(3), 469-482.
- Hu, G. (2002). Potential cultural resistance to pedagogical imports: The case of communicative language teaching in China. *Language Culture and Curriculum*, 15(2), 93-105.
- Ibrahim, M. K., & Ibrahim, Y. A. (2017). Communicative English language teaching in Egypt: Classroom practice and challenges. *Issues in Educational Research*, 27(2), 285.
- Islam, F. (2016). Effectiveness of communicative language teaching at primary level in Bangladesh. (Masters thesis, BRAC University).
- Jamalzadeh, M., & Shahsavari, Z. (2015). The Effects of Contextual Factors on Teacher's Beliefs and Practices. *Procedia- Social and Behavioral Sciences*, 192, 166-171.
- Jones, L. (2007). *The student-centered classroom*: Cambridge University Press Cambridge.
- Kamal, S. (2010). *Introducing A New Format Of Baccalaureate Exam For Sunrise 12*. (Master thesis submitted to college of languages, Salahaddin University).
- Larsen-Freeman, D., & Anderson, M. (2013). *Techniques and Principles in Language Teaching 3rd edition-Oxford Handbooks for Language Teachers*: Oxford university press.
- Littlewood, W. (1981). *Communicative language teaching: An introduction*. In: Cambridge University Press.
- Liu, K., & Diana Deris, F. (2023). Teachers' Perceptions of Communicative Language Teaching Approach in English Grammar Teaching. *Arab World English Journal (AWEJ) Volume*, 14.
- Madrid, D., McLaren, N., & Bueno, A. (2005). TEFL in secondary education. *Granada: University of Granada*, 641-678.
- Manzano, B. A. (2015). English Teachers' Beliefs, Practices, and Problems Encountered in Using Communicative Language

- Teaching (CLT). *International Journal of Education and Research*, 3(3).
- Mhamad, A., & Shareef, M. (2014). Education in Kurdistan: A lost cause. *Fair Observer*. [https://www.fairobserver.com/region/middle\\_east\\_north\\_africa/education-kurdistan-lost-cause-83612/#](https://www.fairobserver.com/region/middle_east_north_africa/education-kurdistan-lost-cause-83612/#)
- Mirdehghan, M., HoseiniKargar, N., Navab, S., & Mahmoodi, T. (2011). Cultural barriers: pros and cons on ELT in Iran. *International Journal of English Linguistics*, 1(1), 15.
- Nishino, T. (2012). Modeling teacher beliefs and practices in context: A multimethods approach. *The Modern language journal*, 96(3), 380-399.
- Nunan D. (1989) *Designing Task for the Communicative Classroom*. National Centre for English Language Teaching and Research, Macquarie University, Sydney.
- Nunan, D. (2003). *Practical English language teaching*: McGraw-Hill/Contemporary.
- Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of educational research*, 62(3), 307-332. Pham, H. (2006). Communicative language teaching: University within diversity. *ELT journal*, 61(3), 193-201.
- Prabhu, N. S. (1990). There is no best method—why? *TESOL quarterly*, 24(2), 161-176.
- Rahimi, A., & Quraishi, P. (2019). Investigating EFL students' poor speaking skills at Kandahar University. *American International Journal of Education and Linguistics Research*, 2(2), 1-9.
- Richards, J. C. (2006a). Developing classroom speaking activities: From theory to practice. *Guidelines-Singapore-Periodical for Classroom Language Teachers Then Magazine for Language Teachers-*, 28(2), 3.
- Richards, J. C. (2006b). *Communicative language teaching today*: Cambridge University Press.
- Richards, J. C., & Rodgers, T. S. (2014). *Approaches and methods in language teaching*: Cambridge university press. Richards, J. C., & Schmidt, R. W. (2010). *Longman dictionary of language teaching and applied linguistics* (4th Edition ed.): Pearson.
- Richards, J., & Rodgers, Th. (1999). *Approaches and Methods in Language Teaching*. New York: Cambridge University Press.
- Saeed, N. R. (2015). Problems of Teaching English in Iraqi Public Schools in Mosul for the Intermediate Stage from the Teachers' Point of View. *Middle East University*, 6(1), 53-60.
- Sanna, M. (2013). *Developing the Students Speaking Skills through Communicative Language Teaching* (Unpublished Master Thesis in Science of the Language). Department of Foreign Languages English Division, Mohamed Khier University of Biskra, Faculty of Letters and Languages, Algeria.
- Savignon, S. J. (2001). Communicative language teaching for the twenty-first century. *Teaching English as a second or foreign language*, 3, 13-28.
- Sofi-Karim, M. (2015). *English language teaching in the Kurdistan Region of Iraq*. (Master thesis, Webster University. Syarief, K. (2016). Communicative language teaching: Exploring theoretical foundations and practical challenges. *Jurnal Ilmu Pendidikan*, 12(3).
- Tashakkori, A., & Teddlie, C. (2003). *Handbook on mixed methods in the behavioral and social sciences*. In: Thousand Oaks, CA: Sage Publications.
- Thompson, G. (1996). Some misconceptions about communicative language teaching. *ELT journal*, 50(1), 9-15.

UNESCO. (2014). UNESCO National Education Support Strategy: Republic of Iraq, 2010-2014. [https://unesdoc.unesco.org/ark:/48223/pf0000216873#:~:text=UNESCO%20Iraq's%20National%20Education%20Support,vocational%20education%20and%20training%20\(TVET\)](https://unesdoc.unesco.org/ark:/48223/pf0000216873#:~:text=UNESCO%20Iraq's%20National%20Education%20Support,vocational%20education%20and%20training%20(TVET))

Wood, D. (2002). Formulaic language acquisition and production: Implications for teaching. *TESL Canada Journal*, 01-15.

**Paper ID:** 1571054215

**Name:** Farha Binti Mohamed Yasin, Suhaidah Binti Hamid, Fatin Phang & Jaysuman Pusppanathan

**Paper Title:** Empowering Student with Drone: A DDR Approach to Expanding the Physics Body of Knowledge and Enhancing STEM Education

**E-mail:** farha81@graduate.utm.my

## Introduction

STEM education is crucial for equipping students with the skills needed for an ever-evolving technological world. However, students often struggle with fundamental concepts, hindering their engagement and proficiency in STEM. This issue is pronounced in the Malaysian secondary school curriculum, where students frequently complete tasks without fully understanding the scientific principles involved. Integrating drone technology into education offers a promising solution. Drones provide interactive and practical learning opportunities that can make physics more engaging and understandable. Integrating drone technology aligns with the broader objectives of STEM education which include improving students' problem-solving skills, knowledge and creativity (Alqahtani et al., 2021; Gyasi et al., 2021). By incorporating practical drone applications, students can engage in active learning, enhancing their analytical skills and understanding of physics concepts (Lee et al., 2023). The integration of drone technology is expected to improve students' skills, prepare them for future technological challenges and contribute to scientific and technological advancements (Makransky & Mayer, 2022).

In previous research, the Design and Development Research (DDR) method has been commonly utilized to design educational models or modules (Arsad & Janan, 2022; Govindasamy et al., 2023; Ismail et al., 2021; Padzil et al., 2021). According to systematic literature review research by Yeung et al. (2024), no existing studies have employed the DDR approach to develop a comprehensive body of knowledge (BOK) for drone technology that focused on fundamental physics concepts. Therefore, this study seeks to develop a BOK for drone technology in physics within Malaysian secondary schools, ensuring the new material aligns with existing educational standards. By emphasizing the practical application of drones, the study aims to promote active learning and enhance students' analytical and problem-solving abilities. The development of BOK utilizes the DDR approach, including needs analysis, design, development and evaluation of its usability within co-curricular activities.

## Research Objectives

The objective of this study is to design and develop a comprehensive drone technology physics BOK for Malaysian secondary schools, aiming to enhance students' engagement and proficiency in STEM disciplines. This objective is achieved through a systematic process that includes three key stages: assessing teachers' needs, identifying core elements and developing content and evaluating the curriculum's usability. The study employs a DDR approach, incorporating both qualitative and quantitative techniques to ensure the instructional materials are empirically grounded.

Firstly, the study examines the needs and requirements of teachers regarding the integration of drone technology into physics education. This involves understanding the current challenges and opportunities faced by educators. Secondly, it identifies the essential topics, skills and concepts that should constitute the BOK for drone technology within the secondary school co- curriculum. This step ensures a comprehensive and structured educational framework. Thirdly, the study collaborates with subject matter experts to construct the content, ensuring it is pedagogically sound and aligned with the identified needs and core components. The goal is to create an engaging and informative curriculum that fosters a deeper understanding of physics through practical drone applications. Finally, the study evaluates the BOK usability and impact on teaching strategies in secondary schools.

By achieving these objectives, the study aims to develop a robust and comprehensive drone technology BOK that significantly enhances physics education and contributes to the overall improvement of STEM education in Malaysian secondary schools. The ultimate goal is to empower students' analytical and problem-solving skills, preparing them for success in a technology-driven world.

### **Methods and Instruments**

In this study, a multi method research design was employed across three distinct phases to ensure comprehensive data collection and analysis. The first phase of the study involves conducting semi-structured interviews to assess the needs and requirements of teachers regarding the integration of drone technology into physics education. Semi-structured interviews are chosen for their flexibility, allowing the interviewer to explore in-depth insights while maintaining a consistent set of questions across participants. The interview guide contains a list of open-ended questions designed to elicit detailed responses about teachers' current challenges, expectations and perceived benefits of incorporating drone technology in their teaching practices.

In the design phase, the Nominal Group Technique (NGT) is employed to identify and prioritize the key components and elements of the drone technology physics BOK. NGT is a structured method for group brainstorming that encourages contributions from all participants and allows for the ranking of ideas to reach a consensus. During NGT sessions, a facilitator guide is used to structure the discussion and ranking sheets are provided to participants to prioritize the identified components based on their importance and relevance. The development phase utilizes the Fuzzy Delphi Method (FDM) to refine and validate the BOK content. FDM combines traditional Delphi Method with fuzzy logic to handle the uncertainty and subjectivity inherent in expert judgments. This method involves multiple rounds of surveys where experts provide their feedback on the proposed curriculum components. Delphi questionnaires are designed to collect expert opinions, with each round refining the content based on the previous feedback until a consensus is reached.

The final phase evaluates the usability of the developed BOK through a survey conducted among teachers and students. The usability questionnaire includes both quantitative and qualitative items designed to assess various aspects of the curriculum's implementation such as ease of use, clarity of content, engagement levels and the overall impact on teaching and learning practices. The survey results provide valuable insights into the practical applicability and effectiveness of the curriculum in real classroom settings. By employing these multiple methods, the study ensures a comprehensive approach to BOK development from understanding needs and designing content to evaluating

usability, ultimately aiming to enhance the integration of drone technology in physics education.

## Results and Discussion

The study aimed to explore and identify the fundamental physics concepts embedded in drone technology particularly as per the requirements of the Malaysian secondary school curriculum (Dokumen Standard Kurikulum dan Pentaksiran (DSKP) Physics for Form 4 and Form 5). The findings are derived from document analysis, open-ended surveys and expert interviews. The results are discussed in terms of the research questions posed at the beginning of the study.

The analysis of the DSKP for Physics for Forms 4 and 5 revealed several key physics concepts that are integral to understanding drone technology. These include:

- **Aerodynamics:** Understanding the principles of flight, including lift, thrust, drag, and weight, is crucial. Drones provide a practical application of these concepts, making them more tangible for students.
- **Energy and Power:** The operation of drones involves the conversion of electrical energy into mechanical energy, highlighting concepts such as energy transfer, efficiency, and power management.
- **Kinematics and Dynamics:** Drones' movement and control require an understanding of motion, velocity, acceleration, and the forces acting on the drone.
- **Electromagnetism:** The role of electromagnetic waves in communication and navigation systems of drones emphasizes the application of these principles in real-world technology.
- **Control Systems:** The feedback mechanisms and stability controls in drones offer practical insights into advanced topics in physics and engineering.

Interviews with subject matter experts provided additional insights into the integration of drone technology into the physics curriculum. Experts agreed that drones could significantly increase student interest and engagement in physics by providing hands-on, real-world applications of theoretical concepts. The use of drones in education was seen as a way to develop critical 21st-century skills, such as problem-solving, critical thinking, and digital literacy. While recognizing the potential benefits, experts noted the need for structured curriculum integration, including teacher training and resource allocation.

Several challenges were identified in integrating drone technology into the physics curriculum:

- **Resource Constraints:** Schools may face limitations in terms of funding for drones and related equipment, as well as maintaining these resources.
- **Teacher Readiness:** There is a need for professional development programs to equip teachers with the necessary skills and knowledge to effectively use drones in teaching physics.
- **Curriculum Alignment:** Ensuring that drone-related activities align with the existing curriculum standards and learning outcomes is crucial for their effective implementation.

The study demonstrates the potential of drone technology to transform physics education by making abstract concepts more tangible and engaging. By addressing the identified challenges and leveraging the strengths of this technology, educators can enhance the

teaching and learning of physics, preparing students for the demands of the modern workforce.

### **Conclusion/Implications for Research/Policy**

This study has significantly enriched the understanding of fundamental concepts and physics education particularly in the context of Malaysian secondary schools. By systematically analyzing the design, development and evaluation processes through the DDR approach which integrates both qualitative and quantitative methods and thorough literature review, the research has contributed to the comprehensive development of the BOK for drone technology. Expert input from various fields has ensured that the BOK is both high-quality and relevant to the Malaysian physics education curriculum.

This study also highlights the successful creation of practical teaching guidelines within the BOK which effectively bridge the gap between theoretical knowledge and practical problem-solving skills thereby enhancing students' innovation competencies. The proposed conceptual framework combines constructivist theory with John Biggs' Constructive Alignment Model through an OBE approach supported by expert consensus. The implementation and evaluation phases confirm the BOK's practical usability in educational settings. This research offers fresh perspectives on physics education and presents useful guidelines for teachers to practically introduce drones to students. It also emphasizes teaching students the basic concepts of drones before engaging in flight activities. Furthermore, this BOK can promote meaningful learning among students that fostering lifelong learning.

However, the study's findings may have limited generalizability due to its focus on Malaysian secondary schools. Future research should consider expanding the scope by designing and developing drone modules for physics education in broader contexts. Overall, this study's findings can guide the development of instructional materials and strategies that enhance active learning, advancing drone technology and physics education. This will guide future research and educational initiatives both in Malaysia and internationally.

**Paper ID:** 1571043502

**Name:** Razifah Othman, Othman Ibrahim, Siti Nuur-Ila Mat Kamal & Haziah Saari

**Paper Title:** Handicraft Heroes: Transferring the Knowledge Torch in Malaysian Crafts, Boh!

**E-mail:** razifah@graduate.utm.my

## Introduction

Crafts such as ceramics, earthenware, textiles and metals are symbols of Malaysia's cultural heritage. Skilled craftsmen have worked diligently to preserve and pass down these traditions through generations, safeguarding knowledge. The sustainability of these crafts depends on the transmission of information from artisans to young apprentices. The term "Handicraft Heroes" aptly captures the dedication and expertise of these craftsmen, while the concept of "passing on the knowledge torch" underscores the process of teaching intricate skills and cultural values. To engage audiences, incorporating terms like "Boh!" or Boss, in discussions can emphasise the importance and immediacy of sharing this knowledge while adding a unique local touch.

The research involved 20 apprentice artisans from craft institutes who specialised in the crafts mentioned during their third years of training. These apprentices play a role in maintaining and advancing their crafts. The main goal of this study is to evaluate the effectiveness of knowledge transfer methods in the handicraft industry. The research seeks to assess the strengths and weaknesses of existing training and educational programs by analysing factors like Knowledge Retention Rate (KRR), Learning Efficiency (LE), Knowledge Depth Index (KDI), Innovation Index (II), and Sustainability Index (SI). Developing strategies to preserve and enhance Malaysia's crafts depends on understanding these aspects and ensuring the conservation of the country's heritage for generations. This study enlightens on how knowledge is passed down in handicrafts and provides recommendations for enhancing these processes to foster a sustainable and innovative craft industry.

## Method

The qualitative data was collected using a combination of methods. Craftsmen supervised a training initiative that involved twenty apprentices, four from each talent category. The evaluation of knowledge was conducted through sensory intuition exercises and talent evaluations. Analytical tasks, process documentation review, and written assessments were implemented to evaluate explicit knowledge. The criteria for evaluation were evaluated using a variety of instruments.

Table 1: Types of assessment instrument, knowledge and method

Instrument	Description	Types of Knowledge	Method
Practical Skills Assessment	Apprentices are evaluated on their ability to perform specific tasks related to their craft, such as batik dyeing, Songket weaving, and wood carving.	Tacit	Quantitative
Sensory and Intuitive	Tasks designed to assess apprentices' sensory skills and	Tacit	Quantitative



Instrument	Description	Types of Knowledge	Method
Skills Assessment	intuitive decision-making.		
Theoretical Knowledge Assessment	Written exams, including multiple-choice and short-answer questions, are used to evaluate explicit knowledge.	Explicit	Quantitative
Process Documentation and Analysis	Apprentices are required to document processes and analyse techniques, providing insights into their understanding and ability to communicate knowledge.	Explicit	Quantitative
Interviews and Observations	Qualitative data was collected through interviews with apprentices and master craftsmen, along with observations of the training process.	Tacit and Explicit	Qualitative

## Results

### Quantitative Analysis

Significant factors explain why quantitative analysis is employed in this situation. Initially, it facilitates the evaluation of the effectiveness of training techniques and the progress of apprentices. The assessment process is standardised across a variety of craft disciplines and training contexts through quantitative analysis, which contrasts with information that provides narrative insights into personal experiences and perspectives to identify trends and patterns. The metrics enumerated above can be used to identify the strengths and weaknesses of the training programs by quantifying factors such as skill retention, learning effectiveness, and creativity. This chart comprises metrics that pertain to apprentices' active engagement in their respective disciplines, knowledge levels, innovative designs, and time spent on learning.

Table 2: Apprentice Performance and Knowledge Transfer Data.

Apprentice ID	Craft Type	Successful (1/0)	Actual Learning Time (Years)	Tacit Knowledge Score (100)	Explicit Knowledge Score (100)	New Designs Introduced	Active Practitioner (1/0)
A1	Various craft	1	4.0	80	90	2	1
A2	Various craft	1	5.0	85	88	3	1
A3	Various craft	0	6.0	70	75	1	0
A4	Various craft	1	4.5	90	92	4	1
A5	Ceramic and earthenware	1	4.0	75	80	2	1
A6	Ceramic and earthenware	1	5.0	85	89	3	1
A7	Ceramic and earthenware	1	4.0	88	87	2	1
A8	Ceramic and earthenware	1	4.5	90	91	4	1
A9	Forest-based	0	6.0	65	70	1	0
A10	Forest-based	1	5.0	78	82	3	1
A11	Forest-based	1	4.0	85	86	2	1
A12	Forest-based	1	4.5	92	93	4	1
A13	Textile-based	1	4.0	84	85	2	1
A14	Textile-based	0	6.0	70	72	1	0
A15	Textile-based	1	5.0	88	89	3	1

Apprentice ID	Craft Type	Successful (1/0)	Actual Learning Time (Years)	Tacit Knowledge Score (100)	Explicit Knowledge Score (100)	New Designs Introduced	Active Practitioner (1/0)
A16	Textile-based	1	4.0	86	87	2	1
A17	Metal-based	1	4.5	91	92	4	1
A18	Metal-based	1	4.0	83	84	2	1
A19	Metal-based	0	6.0	75	77	1	0
A20	Metal-based	1	5.0	87	88	3	1

### 1. Knowledge Retention Rate (KRR)

The concept of Knowledge Retention Rate (KRR) was developed by Bloom, B. S. in 1956. KRR evaluates the extent to which apprentices retain the knowledge imparted by craftsmen. This metric is significant because it indicates the efficacy of the training program and the likelihood that apprentices will be able to apply their newfound knowledge.

$$\text{KRR} = \left( \frac{\text{Number of successful apprentices}}{\text{Total number of apprentices}} \right) \times 100$$

There are 16 successful apprentices out of 20.

$$\text{KRR} = \left( \frac{16}{20} \right) \times 100 = 80\%$$

Analysis: The knowledge transmission process is quite efficient, as the majority of apprentices are able to retain the skills and knowledge they acquire, as indicated by KRR. Nevertheless, there is potential for development in order to guarantee retention.

### 2. Learning Efficiency (LE)

Learning Efficiency (LE) is a concept derived from the work of Gagné R. M. (1985). It evaluates how quickly apprentices acquire proficiency, in their trade in relation, to the learning. This metric is important as it offers an understanding of the efficiency of knowledge transfer and highlights opportunities for improving and refining the learning journey.

$$LE = \left( \frac{\text{Standard learning time}}{\text{Actual learning time}} \right) \times 100$$

Assuming the standard learning time is 5 years we calculate the average actual learning time:

$$\text{Average Actual Learning Time} = \frac{95.0}{20} = 4.75 \text{ years}$$

$$LE = \left( \frac{5}{4.75} \right) \times 100 \approx 105.26\%$$

Analysis: An efficiency rate of 105.26% in learning indicates that newcomers are picking up information faster than the standard. This shows that the teaching methods are effective and that the students are highly skilled.

### 3. Knowledge Depth Index (KDI)

The Knowledge Depth Index (KDI) stems from Anderson and Krathwohl's work in 2001. It measures how well learners grasp knowledge encompassing both aspects. This metric is crucial to ensure that learners not only develop skills but also grasp the intricate and nuanced aspects of the subject matter.

$$KDI = \frac{\text{Average Tacit Knowledge Score} + \text{Average Explicit Knowledge Score}}{2}$$

$$\text{Average Tacit Knowledge Score} = \frac{1637}{20} = 81.85$$

$$\text{Average Explicit Knowledge Score} = \frac{1710}{20} = 85.5$$

$$KDI = \frac{81.85 + 85.5}{2} = 83.675$$

Analysis: An 83.675 KDI rating indicates that apprentices have a grasp of both the hands-on (and theoretical (explicit) aspects of their craft essential for maintaining the quality and craftsmanship of handmade goods.

### 4. Innovation Index (II)

The Innovation Index (II) based on Amabile, T. M. (1996) measures the ability of learners to introduce ideas or approaches within the existing structure. This metric is vital for assessing how well knowledge is being passed on to foster creativity and innovation, both crucial, for the progress and importance of age crafts.

$$\Pi = \left( \frac{\text{Total New Designs Introduced}}{\text{Total Designs}} \right) \times 100$$

Total new designs introduced by all apprentices:

$$\text{Total Designs} = 20 \times 20 = 400$$

$$\Pi = \left( \frac{50}{400} \right) \times 100 = 12.5\%$$

Analysis: The Innovation Index of 12.5% suggests that while the apprentices display some creativity, there is an opportunity to nurture imaginative thinking and the creation of fresh designs. This particular aspect of the training program holds promise for improvement.

### 5. Sustainability Index (SI)

Elkington (1997) introduced the Sustainability Index (SI) which evaluates how sustainable the knowledge transmission process is by considering the participation of practitioners and the economic viability of the trade.

Understanding this index is key to ensuring the long-term viability and support of the craft.

$$\text{SI} = \left( \frac{\text{Number of Active Practitioners}}{\text{Total Number of Trained Artisans}} \right) \times 100$$

There are 16 active practitioners out of 20 trained artisans.

$$\text{SI} = \left( \frac{16}{20} \right) \times 100 = 80\%$$

Analysis: A sustainability index of 80% suggests that experienced artisans are continuing to practise their craft, indicating a high level of sustainability. This implies that the training program effectively equips apprentices to participate in the handicraft industry for an extended period.

### Qualitative Analysis

Five themes were identified in the analysis: learning experiences, challenges, knowledge transfer, suggestions for development, and cultural significance. These themes were identified by transcribing and categorising the interviews and observations in accordance with Cresswell (2018). In order to ascertain the issues and focal points that the participants emphasised, the frequency of each theme was quantified.

Table 3: Thematic Analysis

Theme	Frequency Count (out of 20 students)	Proportion (%)
Learning Experiences	18	90.0
Challenges	16	80.0
Knowledge Transfer	14	70.0
Suggestions for Improvement	12	60.0
Cultural Significance	10	50.0
<b>Total</b>	<b>70</b>	<b>350.0</b>



Figure 1: Themes and frequency count

### Findings from a qualitative analysis

1. The study emphasises that apprentices highly appreciate the opportunity to learn through practical experience and receive personalised guidance from skilled artisans, which they consider essential for their skill development. Hence, practical learning is essential for the effective transfer of knowledge in this particular subject. It is important for training programs to prioritize practical experience and individualised feedback from both participants (Zhang et al., 2020).
2. Both trainees and master artisans identified age and language differences as obstacles to knowledge transfer. To overcome these problems, it is necessary to incorporate context into training approaches and make use of instructional resources.
3. Although apprentices recognised the acquisition of practical skills, they observed deficiencies in their theoretical understanding. Enhancing comprehension can be

accomplished by utilising resources such as instructional videos or succinct instructional guides to supplement the learning process.

- Apprentices indicated a desire for a training period that is exclusively dedicated to achieving mastery in their skill, without any inclusion of courses or assignments.

Table 4: Key Findings from Interviews

Question	Apprentices' Responses	Master Craftsmen's Responses
Learning Experience	- Hands-on experience and direct mentorship were highly valued. - Practical application of skills was critical to their development.	- Personalized feedback and observational learning were crucial.
Challenges	- Mastering intricate techniques was challenging. - Access to sufficient resources for practice was limited.	- Generational gaps made it difficult to convey cultural context.
Knowledge Transfer	- Practical skills were effectively transferred, but there were gaps in theoretical knowledge.	- Current methods were effective but lacked structured educational materials.
Suggestions for Improvement	- Incorporating modern teaching aids, such as video tutorials and written manuals, would enhance learning.	- More frequent workshops and collaborative projects were recommended to enhance learning and creativity.
Cultural Significance	- Felt a strong sense of duty to preserve and promote the cultural heritage of their crafts.	- Emphasized the importance of apprentices understanding the cultural stories and meanings behind the techniques.

Table 5: Observational Focus Areas

Focus Area	Observations on Apprentices' Actions	Observations on Master Craftsmen's Actions
Teaching Methods	- Apprentices learned through demonstration, verbal instruction, and corrective feedback. - Tools and materials were used effectively in the teaching process.	- Used a variety of teaching methods tailored to individual apprentice needs.
Application of Skills	- Apprentices displayed varying levels of proficiency; more experienced students were more confident and precise.	- Addressed common mistakes through immediate feedback and additional practice.
Interaction Dynamics	- Interactions were generally supportive and collaborative.	- Maintained a relationship of mutual respect and shared goals.
Problem-Solving & Creativity	- Encouraged to experiment and find creative solutions.	- Fostered innovation within traditional frameworks.

## Discussion

### Effectiveness of training programs

The training programs, which encompass both practical training and structured theoretical learning, are effectively equipping the apprentices with the requisite skills and knowledge, as evidenced by the high KRR. The significant apprentice retention rate serves as evidence of the effectiveness of craftsmen, in offering support and mentorship to apprentices.

### Competency challenges

While the knowledge retention rate (KRR) showed results, the research revealed that a minority of apprentices (20%) failed to meet the expected level of proficiency. Further investigation could explore the reasons behind this issue, such as challenges in learning gaps, in the curriculum, or external factors affecting the journey.

### **Decline in apprentice interest**

In addition, experienced artisans have noted a decline in apprentices' interest in pursuing and upholding traditional skilled trades or crafts. In a craft school, where there are initially 18 students per class, it is projected that 6 to 1 apprentice will persist until the end of training, which will last for over 2 to 5 years. This trend is attributed to their lack of enthusiasm and view of handicrafts as a career path, with restricted opportunities and no promising prospects.

### **Perception of handicrafts as complex and external socioeconomic factors**

A significant number of apprentices perceive crafts as a profession that primarily offers financial opportunities but limited potential for career progression in the long run. This idea discourages individuals from being involved and committed, leading to higher rates of student dropouts. Additionally, they encounter factors like the desire for paying jobs or societal underappreciation of crafts, which affect their level of commitment.

### **Educational, training gaps, innovation and creativity**

Although training programs are implemented, there may be certain aspects of the curriculum that fail to consider the evolving preferences and needs of apprentices. Incorporating techniques such as marketing and entrepreneurship into the training program could improve its applicability and appeal. The research revealed an Innovation Index (II) of 12.5%, suggesting that current training programs may not adequately foster creativity and novel ideas. In order to preserve the liveliness and attractiveness of the craft, it is crucial to create an environment that fosters both innovation and established methods.

### **Generational shifts**

The disparity in age and experience between skilled craftsmen and newly trained apprentices can lead to difficulties in effectively communicating and understanding each other. Inexperienced apprentices may not completely comprehend the significance and historical value of these trades, which affects their motivation to pursue them. The historical narratives and cultural background associated with these crafts may not resonate with folks who are acclimated to the globalised period. In addition, the challenging and time-consuming nature of handicrafts may appear daunting to apprentices who are used to the benefits of advanced technology (Othman et al., 2023).

### **Conclusion**

The study emphasises the importance of transmitting expertise to maintain Malaysia's history of handicrafts. Although the current training programs are effective in teaching skills, it is crucial to address the gaps in comprehension and promote innovation in order to guarantee the sustainability and advancement of these ancient crafts. By implementing the recommended enhancements and adopting a knowledge transfer approach, stakeholders may more effectively meet the needs of apprentices, preserve cultural heritage, and ensure the long-term success of Malaysian handicrafts. These endeavours will not only safeguard specialised knowledge but also modify it to align with the evolving environment of

contemporary society, rendering handicrafts a compelling and enduring employment option for future generations.

## **Recommendations**

### **1. Curriculum enhancement**

To enhance the curriculum, it is recommended that individuals at all skill levels, both novices and seasoned artisans, employ resources such as video lessons, frequent workshops, and collaborative projects to augment their creative learning process. This approach highlights the significance of creative programs that integrate novel pedagogical methods with the transfer of vital tacit knowledge, fostering innovation while preserving essential skills. In addition, integrating lessons on business acumen might assist apprentices in comprehending the various facets of their trade.

### **2. Cultural significance**

Both groups emphasised their dedication to preserving and commemorating their cultural inheritance through each item. Hence, it is crucial to comprehend the historical significance of their crafts in order to maintain the integrity and authenticity of their techniques. Training programs should include elements that emphasise the narratives and symbolism inherent in each technique and design.

### **3. Mentorship Programs**

Improve mentoring programs by pairing apprentices with skilled craftsmen and younger mentors who can effectively bridge generational and cultural differences, regardless of their personal connections or social standing. To incorporate an additional element, contemplate extending invitations to artists and designers to facilitate workshops.

### **4. Innovation Encouragement**

Offer apprentices the chance to investigate designs and procedures that encourage creativity and innovation within a structured framework. Striking a balance between retaining traditional ways and introducing new ideas is crucial for fostering innovation (Yan & Li, 2023). By integrating technology such as design tools, artificial intelligence (AI), augmented reality (AR), 3D printing, and laser cutting, individuals can expand their range of skills. Facilitate the development of new opportunities for innovation (Wanniarachchi et al., 2020). The objective is to incorporate methodologies that enhance traditional crafts, with a specific emphasis on the motifs associated with these crafts, rather than substituting them with new ones. By fostering a culture of experimentation among apprentices within established practices, they can cultivate a deep understanding and respect for their legacy while also making valuable contributions to its ongoing development.

## **Acknowledgements or Notes**

The Ministry of Higher Education Malaysia's scholarship is the sole source of funding for this research endeavour. We are deeply grateful for their invaluable financial support. In addition, we would like to express our appreciation to the Department of Information Systems at the Faculty of Management in Universiti Teknologi Malaysia, as well as the Information Science Studies Department at the College of Computing, Informatics, and



Media in Universiti Teknologi MARA (UiTM) Negeri Sembilan Branch, Rembau Campus, and UiTM Johor Branch, Segamat Campus, for their constant backing and considerable insights.

## References

- Amabile, T. M. (1996). *Creativity in Context: Update to the Social Psychology of Creativity*. Westview Press.
- Anderson, L. W., & Krathwohl, D. R. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Allyn & Bacon.
- Bloom, B. S. (1956). *Taxonomy of educational objectives: The classification of educational goals* (1st ed.). Longman Group.
- Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Capstone.
- Gagné, R. M. (1985). *The Conditions of Learning and Theory of Instruction*. Holt, Rinehart & Winston.
- Othman, R., Ibrahim, O., Kamal, S. N. M., Ahmad, M. (2023). Charting Digital Humanities: A Bibliometric View of Cultural Heritage. *The European Proceedings of Social & Behavioural Sciences*. <https://doi.org/10.15405/epsbs.2023.11.4>
- Wanniarachchi, T., Dissanayake, K., & Downs, C. (2020). Improving sustainability and encouraging innovation in traditional craft sectors: the case of the Sri Lankan handloom industry. *Research Journal of Textile and Apparel*, 24(2), 111-130. <https://doi.org/10.1108/rjta-09-2019-0041>
- Yan, W., & Li, K. (2023). Sustainable cultural Innovation practice: heritage education in universities and creative inheritance of intangible cultural heritage craft. *Sustainability*, 15(2), 1194. <https://doi.org/10.3390/su15021194>
- Zhang, A., Olelewe, C. J., Orji, C. T., Ibezim, N. E., Sunday, N. H., Obichukwu, P. U., & Okanazu, O. O. (2020). Effects of innovative and traditional teaching methods on technical college students' er craft practices. *SAGE Open*, 10(4), 215824402098298. <https://doi.org/10.1177/2158244020982986>

**Paper ID:** 1571063615

**Name:** Dwi Windyastuti Budi Hendrarti

**Paper Title:** Women's Candidacy Against Patriarchy in Political Parties: Case of Local Election 2024

**E-mail:** dwi.windyastuti@fisip.unair.ac.id

## **Background of the Problem**

The inclusion of women in politics, particularly as candidates for local government positions in Indonesia, remains a significant challenge. Despite various policies and efforts to increase women's representation in politics, and progress in legislative representation, women's participation as candidates for regional heads is still far from ideal. This is inseparable from the strong influence of patriarchal ideology that is still deeply rooted in Indonesian society and political system. Political patriarchy has created various structural and cultural barriers that limit women's access and opportunities to actively engage in electoral politics. These barriers come not only from outside but also from within political parties themselves, which are often still dominated by male perspectives and interests. As a result, the process of women's candidacy for regional head positions is often influenced by considerations that are not always favourable to women.

## **Literature Review**

### *Candidacy*

Candidacy is the process of selecting and nominating individuals for specific political positions, in this context, the position of regional head. Norris and Lovenduski (1995) define candidacy as "the process by which individuals are selected as election candidates by political parties". This process involves various stages, from recruitment, internal party selection, to the determination of official candidates. Candidacy is influenced not only by individual capabilities but also by the strategies of political parties that often consider electability factors and political interests. According to Bagehot (2014), the nomination process in political parties often involves considerations that involve various internal party interests, not just meritocratic.

There are three factors influencing candidacy. First, Institutional Factors Party that is structures and rules that may favour certain types of candidates; Second, cultural factors, that is societal norms and expectations about political leadership. Third, individual factors, that is pPersonal attributes, qualifications, and networks of potential candidates.

Krook (2010) emphasises that the candidacy process is heavily influenced by institutional, cultural, and individual factors. In the Indonesian context, Prihatini (2019) shows that the candidacy process is still very much dominated by party elites who are predominantly male, often failing to consider aspects of gender equality. This becomes an important factor influencing the low level of women's inclusion in regional head nominations.

### *Women's Inclusion in Politics*

Women's inclusion in politics refers to efforts to ensure women's participation and representation in political processes and decision-making. UN Women (2020) notes that although many countries have adopted affirmative policies to increase women's

representation, their implementation is often hampered by patriarchal social and political norms. Krook and Norris (2014) define women's political inclusion as "the process and outcome of integrating women into formal and informal political decision-making structures". This encompasses not only the physical presence of women in political institutions but also their ability to influence agendas and policies.

There many challenges to women's inclusion in Indonesian Politics, such as:

1. Quota Implementation. Hillman (2017) shows that the implementation of the 30% gender quota policy for legislative candidates has not fully succeeded in increasing women's substantive representation.
2. Access to Resources. Dewi (2015) underlines that women's inclusion still faces major challenges, especially in terms of access to political resources and party support.
3. Cultural Barriers . Deeply rooted patriarchal norms continue to influence perceptions of women's leadership capabilities.
4. Structural Obstacles. Political party structures and decision-making processes often marginalize women candidates

### *Political Patriarchy*

Political patriarchy refers to the social-political system that privileges and empowers men while limiting women's access and roles in the public sphere, including politics. Walby (1990) defines patriarchy as "a system of social structures and practices in which men dominate, oppress, and exploit women". In the political context, patriarchy manifests in various forms, from social norms to institutional structures. Connell (2005) mentions that patriarchy creates profound gender inequalities and affects how women are viewed in politics. In the context of Indonesian politics, political patriarchy is often seen in party leadership structures and political policies that marginalise women.

### Manifestations of Political Patriarchy in Indonesia

1. Party Leadership. Political party structures often dominated by male leaders
2. Policy Making. Political decisions that often overlook women's interests.
3. Stereotypes Negative. Stereotypes about women's leadership capabilities.

Prihatini's (2018) research shows that political patriarchy is still deeply rooted in the culture of political parties. This is reflected in the internal party decision-making process that tends to be gender-biased, as well as negative stereotypes towards women's leadership. Rinaldo (2014) also underlines the role of religion and customs in strengthening political patriarchy in Indonesia, which is often used to justify the marginalisation of women in politics.

### *Local Elections (Pilkada)*

Local Elections (Pilkada) in Indonesia are a democratic mechanism for electing leaders at the provincial, district, and city levels. Since the enactment of Law No. 32 of 2004 on Regional Government, Pilkada has been carried out directly by the people. Aspinall and Sukmajati (2016) explain that direct Pilkada has changed the dynamics of local politics in Indonesia, including in terms of candidacy and campaign strategies. In the context of women's participation, Dewi and Curnow (2016) reveal that although direct Pilkada opens up greater opportunities for women's involvement, in practice there are still many structural and cultural obstacles to be faced.

### Dynamics of Women's Participation in Local Election

1. Pre-Candidacy . Women face challenges in gaining party support and building political networks .
2. Nomination Process. Selection often influenced by patriarchal party structures and decision-making.
3. Campaign Period. Women candidates may struggle with resource allocation and media representation.
4. Election and Aftermath

Successful women candidates often face additional scrutiny and challenges in office One important finding is that the success of women candidates in local election often depends on support from political networks that are still dominated by men, which can limit women's political autonomy. Local Election in Indonesia is often influenced by local political dynamics and strong patronage networks, which can hinder women's inclusion as candidates (Setiawan, 2020). Factors such as popularity and political networks are often prioritised over the capabilities of women candidates.

## **Research Methodology**

This research uses a qualitative approach with literature study methods and content analysis. Primary data is obtained through a systematic review of recent academic literature on women's inclusion in politics, candidacy, and Pilkada in Indonesia. Sources include journal articles, books, research reports, and policy documents published in the last 10 years.

Data analysis is carried out using thematic analysis techniques, where the main themes are identified and categorised based on their relevance to the research questions. In addition, data triangulation is also carried out by comparing findings from various sources to increase the validity of the analysis. This approach allows for a deeper understanding of the complexity of the issue of women's inclusion in Pilkada candidacy in Indonesia.

There are 4 stage to analyze result, that is, 1) Data Collection. Conduct a systematic search of relevant literature from various academic databases and online repositories; 2) Selection and Categorisation, select relevant literature and categorise based on the main research themes, 3) Thematic Analysis. Identify and analyse key themes that emerge from selected literature; 4) Synthesise findings and interpret them in the context of women's inclusion in local candidacy.

## **Findings**

### *Patronage Networks in Women's Candidacy*

One important finding in this research is that women who become candidates in Pilkada often have strong patronage networks with political party elites. Aspinall (2014) explains that political patronage in Indonesia is still an important factor in the candidacy process, including for women candidates. These patronage networks can be in the form of family relationships, business affiliations, or long-term political connections. The implications of this phenomenon are quite complex. On one hand, patronage networks can open access for women to enter the maledominated political arena. However, on the other hand, dependence on patronage can limit women's political autonomy and reduce their ability to fight for agendas that favour women's interests more broadly. Furthermore, this practice

can reinforce the perception that women can only enter politics through connections, not because of their capabilities.

#### *Popularity Considerations in Women'*

The second finding shows that the inclusion of women as regional head candidates is often based more on popularity considerations to gain voter support, especially women voters who are the largest voters in electoral politics. Prihatini's (2019) research reveals that political parties tend to choose women candidates who already have a mass base or popularity, such as artists, successful entrepreneurs, or other public figures.

This phenomenon has two sides. On one hand, this can be seen as a pragmatic strategy of parties to increase the chances of winning. However, on the other hand, this approach can ignore aspects of competence and political experience that should be the main considerations in the candidacy process. Furthermore, this practice can reinforce stereotypes that women in politics are only valued for their popularity, not because of their leadership capacity or political vision.

One side there are three advantages for popularity consideration in Women Candiday :Increases visibility of women in politics, Potentially attracts more women voters and Opens opportunities for women from non-political backgrounds. In the other side there are disadvantages of Popularity Based Inclusion : Ignores aspects of competence and political experience, reinforces stereotypes about women's roles in politics and potentially sidelines qualified but less popular women candidates.

Many Implications of Popularity-Based Inclusion. First, re-evaluation of candidate selection criteria. There is a need to reassess the criteria used in selecting candidates to ensure a balance between popularity and competence. Second, importance of women's leadership development programmes political parties and civil society organisations should invest in programmes that develop women's political leadership skills. Third, urgency of political education for society , there is a pressing need for broader political education to help voters make informed decisions based on candidates' qualifications rather than just popularity.

#### *Politicisation of Women's Bodies in Campaigns*

The third fact revealed is the politicisation of women's bodies in the form of the physical appearance of women candidates to obtain electoral vote incentives. This phenomenon reflects the still strong objectification of women in Indonesian politics. Robinson (2018) analyses that the physical appearance of women candidates often becomes the focus of media and political campaigns, sometimes overshadowing discussions about their capabilities and political programmes.

This practice is not only problematic from an ethical standpoint of politics, but also reinforces harmful gender stereotypes. On one hand, it can increase the visibility of women candidates. However, on the other hand, excessive focus on physical aspects can divert attention from the substance and competence of candidates. Furthermore, this practice can make women candidates feel compelled to meet certain beauty standards, which are irrelevant to their abilities as political leaders.

## **Analysis of Results**

### *Impact of Patriarchal Ideology on Candidacy Process*

Analysis of the facts presented shows that patriarchal ideology still has a significant influence on the process of women's candidacy in Pilkada in Indonesia. Political patriarchy not only shapes the structure and culture of political parties but also influences public perceptions of women's leadership. As a result, although there are efforts to increase women's inclusion, the candidacy process is still often trapped in patriarchal logic.

The manifestation of patriarchy in the candidacy process is seen in several aspects. First, dependence on male-dominated patronage networks shows that women's access to politics is still very limited by existing power structures. Second, the focus on popularity and physical appearance of women candidates reflects the still strong objectification of women in politics. Third, the tendency to choose women candidates based on family connections or popularity, not competence, shows that there is still doubt about women's leadership capabilities.

#### *Limitations of the Gender Quota Approach*

Although Indonesia has implemented a 30% gender quota policy for legislative candidates, analysis shows that this approach has limitations in the context of Pilkada. The absence of a specific quota for women regional head candidates means that political parties have no formal obligation to nominate women. As a result, the inclusion of women in local elections candidacy depends more on the political will of parties and other factors such as popularity or political connections. The limitations of the quota approach are also seen from the tendency of parties to fulfil quotas formally without paying attention to the substantial aspects of women's representation. In the context of local election, this could mean nominating women only to meet public expectations or to attract women voters, without giving full support or considering the capabilities of candidates. This shows that a more comprehensive approach is needed to increase women's inclusion in electoral politics, which not only focuses on quantitative aspects but also the quality of representation.

#### *Women Politician less concerned about gender based policy*

Some women candidates are often puppets of patriarchal leaders who could not run for election due to some reasons. Even though some of them have their independence in running for candidacy, they are still less concerned about gender-based policy and women's inclusion.

**Paper ID:** 1571063692

**Name:** Wan Nur Asyura Wan Adnan, Wan Farah Wani Wan Fakhrudin, Norfarizatul Ain Ponidin, Siti Munirah Mohd Ali & Fairuz Umira Azmi

**Paper Title:** Cancer Misinformation in Malaysian Cancer Facebook Support Groups: A Netnographic Approach

**E-mail:** asyura.kl@utm.my

### **Introduction**

Health-related misinformation possess a significant challenge in public health, especially in online environment where unverified information can be easily accessed and widely shared. This study focuses on Malaysian Facebook Cancer Support Groups which serve as important platform to share health-related information and advice among cancer patients, survivors, their family members and caregivers. The significance of this study lies in its potential to identify prevalent misinformation related to cancer and understand the extent to which cancer support groups play their roles in dealing with health-related misinformation. This study employs a netnographic approach as it aims at understanding online communities' behaviour, activities and culture.

### **Objective**

In general, this study aims at exploring cancer misinformation on Malaysian Facebook Support Groups. Specifically, it aims at identifying misinformation on these groups and how these groups deal with cancer misinformation among their group members.

### **Methods and Instruments**

The current study employs a qualitative approach known as netnography. Netnography is a research method that explores online communities' behaviour, activities and culture. It adapts traditional ethnographic techniques to the digital space, which requires researchers to immerse and engage themselves in the online environment that they are exploring either as active or passive observers.

In this study, data was gathered from the interaction in two Malaysian Cancer Facebook Support Groups, focusing on posts, comments, and shared articles related to cancer information. The observation was carried out over two years (2021-2023). Detailed description of the observation was recorded in the researcher's immersion notes. Specific focus was given to the interaction on solicited and unsolicited cancer-related advice and information.

Data was analysed using thematic analysis (Braun & Clarke, 2021) with the purpose of identifying patterns and prominent themes on cancer misinformation on Facebook Cancer Support Groups. In order to identify the misinformation, two medical professionals were appointed to determine whether the data collected contained scientifically inaccurate or misleading information related to cancer.

## **Results and Discussion**

The analysis revealed a considerable amount of misinformation, particularly regarding cancer treatment options, alternative treatment options, and prevention strategies. Common types of misinformation included false claims about miracle cures, unverified herbal treatment, and misleading information on conventional medical practices.

These findings indicate that misinformation exists in the Facebook Cancer Support Groups in Malaysia. Nonetheless, an interesting pattern was identified, in which the moderators and senior members of the groups will always warn members who spread the misinformation. In particular, the findings also highlighted the role of group administrators and members of Facebook Cancer Support Groups in countering misinformation related to cancer.

## **Conclusion and Implications for Research**

The study concludes that cancer misinformation in Malaysian Facebook Cancer Support groups is a significant issue that can adversely affect online communities by influencing patients and family members' decisions and attitudes towards treatment. One of the important findings of this study is that the group moderators and senior members play an important role in counteracting the misinformation in the support groups. By understanding the dynamics of misinformation in these support groups, Facebook cancer support groups should outline strategies to combat misinformation, which also calls for an effort to promote digital health literacy among social media users.



**Paper ID:** IDS-02

**Name:** Siti Nurmaisarah Fkhururazi, Radhiahtul Raehan Mustafa, Siti Fairuz Sujak, Alizah Ali, Madiha Fatin Mohamad, Siti Nur Hadis A Rahman, Nur Nadiah Abdul Manap

**Paper Title:** Tahap Pengetahuan dan Pemahaman Tentang Asas Darah Wanita (Haid dan Istihadah) Dalam Kalangan Orang Awam

**E-mail:** sitinurhadis.arahman@utm.my

## PENGENALAN

Masalah berkaitan dengan tahap pengetahuan dan kefahaman wanita Islam tentang haid dan istihadah dalam konteks kajian ini berlaku kerana kurangnya ilmu pengetahuan yang mendalam telah menjadi isu di mana ramai wanita Islam yang mempunyai pengetahuan asas tentang haid dan istihadah, tetapi mereka mungkin tidak memahami secara mendalam aspek-aspek tertentu seperti hukum fiqh yang berkaitan dengan ibadah dan peraturan agama (Muhamad Arif Azmi, 2021; Siti Fatimah Salleh et al., 2021).

Salah faham atau kekeliruan dalam memahami jenis-jenis pendarahan yang berlaku semasa haid dan istihadah boleh menimbulkan ketidakpastian dalam melaksanakan ibadah seperti solat dan puasa, menimbulkan keraguan dan kekeliruan dalam kalangan wanita Islam (Khotim Fadhli et al., 2021; Noraini Ismail et al., 2016; Saharah Ahmad Mahadi & Wan Yusof Wan Chik, 2018). Kekeliruan tentang haid dan istihadah bukan sahaja berlaku dalam kalangan wanita Islam, malah boleh berlaku dalam masyarakat umum (Khanal et al., 2023; Md. Reshad & Ismail, 2020; Nabiryo et al., 2023). Ramai orang di seluruh dunia mungkin tidak memahami sepenuhnya konsep dan prosedur yang berkaitan dengan haid dan istihadah. Oleh itu, pendidikan dan kesedaran tentang isu ini penting bukan sahaja dalam konteks agama tetapi juga dalam memahami kesihatan dan kebersihan umumnya.

Wanita mungkin menghadapi kekeliruan dalam menguruskan haid dan istihadah dalam kehidupan seharian, termasuk memilih produk kesihatan yang sesuai dan melaksanakan amalan-amalan yang perlu diambil (Nasim Zulekha et al., 2020; Norhafizah Ahmad et al., 2022; Ramsay et al., 2023). Kekeliruan ini mungkin disebabkan oleh penggunaan media sosial dan internet yang menyediakan akses kepada pelbagai maklumat berkaitan haid dan istihadah. Wanita mungkin terdedah kepada pandangan yang salah atau amalan yang tidak sesuai daripada sumber yang tidak sah. Bagaimanapun Siti Asmah Khalid et al., (2022) mencadangkan untuk membangunkan satu aplikasi perisian dalam Playstore atau iCloud untuk menyebarkan pengetahuan dan pemahaman yang betul berkaitan dengan haid dan istihadah kepada pengguna Islam. Terdapat wanita yang masih keliru dan kurang jelas tentang haid mereka apabila kitaran haid yang tidak teratur berlaku. Menurut Hannan Fatini Md Reshad (2020), hal ini turut membawa kepada kekeliruan dalam penentuan hukum sesetengah ibadat apabila kitaran menstruasi berlaku secara tidak normal.

Perubahan dalam pendidikan agama dan transformasi sosial mempengaruhi cara pemahaman ini diserap dalam kalangan wanita Islam. Persepsi wanita Islam terhadap pendidikan agama yang mereka terima memainkan peranan penting dalam mempengaruhi tahap pemahaman mereka tentang haid dan istihadah. Jika pendidikan agama tidak mencukupi atau tidak memberi penekanan yang mencukupi kepada isu-isu ini, maka pengetahuan mereka mungkin terhad. Kajian ini bertujuan untuk mengkaji isu-isu seperti di atas untuk memberikan pemahaman yang lebih baik tentang cabaran dan keperluan untuk pendidikan dan kesedaran tentang haid dan istihadah dalam kalangan wanita Islam di Malaysia.

## **METODOLOGI KAJIAN**

### ***Reka Bentuk Kajian***

Kajian ini menggabungkan pendekatan kualitatif dan kuantitatif untuk mendapatkan pemahaman yang komprehensif tentang pemahaman wanita Islam tentang haid dan istihadah serta mengkaji pelbagai aspek dan salah faham berkaitan.

### **Populasi dan Sampel Kajian**

Populasi kajian ini terdiri daripada wanita Islam di Malaysia yang memenuhi kriteria penyelidikan, dengan jumlah keseluruhan sampel seramai 147 orang. Saiz sampel sebanyak 147 orang dipilih berdasarkan beberapa pertimbangan utama. Pertama, saiz ini mencukupi untuk memberikan perwakilan yang seimbang dari pelbagai kumpulan umur, latar belakang, dan pendidikan dalam populasi wanita Islam di Malaysia. Pemilihan sampel secara rawak mudah memastikan bahawa setiap individu dalam populasi mempunyai peluang yang sama untuk dipilih, yang meningkatkan kebolehpercayaan dan ketepatan hasil kajian. Kedua, merujuk kepada jadual Krejcie dan Morgan, saiz sampel ini adalah mencukupi untuk populasi yang besar, memastikan bahawa hasil kajian adalah sah dan boleh digeneralisasikan kepada populasi yang lebih luas.

Daripada jumlah tersebut, 13 adalah lelaki dan 134 adalah wanita. Sampel dibahagikan mengikut kumpulan umur (19 tahun ke bawah, 20-29 tahun, 30-35 tahun, 36-40 tahun, dan 41 tahun ke atas) dan status perkahwinan (28 bujang dan 115 berkahwin). Tempat tinggal sampel merangkumi pelbagai daerah di Johor seperti Batu Pahat, Muar, Kluang, Segamat, Pontian, Kota Tinggi, Mersing, Ledang, Johor Bahru, Kulai, serta luar negeri Johor.

Kriteria yang perlu dipenuhi oleh wanita Islam dalam kajian ini termasuklah mereka mestilah beragama Islam, berumur 19 tahun ke atas, dan menetap di Malaysia. Selain itu, mereka perlu bersedia untuk mengambil bahagian dalam kajian ini secara sukarela dan memberikan maklumat yang diperlukan dengan jujur dan tepat. Kriteria ini memastikan bahawa sampel yang dipilih adalah relevan dan sesuai dengan objektif kajian.

### ***Instrumen***

Bahagian kuantitatif kajian ini melibatkan penggunaan soal selidik yang telah disediakan dan diedarkan kepada sampel. Soal selidik ini mengandungi soalan berstruktur yang merangkumi pelbagai aspek pemahaman asas haid dan istihadah. Data yang diperolehi dari soal selidik dianalisis secara statistik menggunakan perisian statistik SPSS. Manakala bagi bahagian kualitatif kajian ini memberi tumpuan kepada pemahaman dan pandangan berdasarkan pandangan muktamad dalam mazhab Syafi'i. Pendekatan ini dipilih kerana mazhab Syafi'i memiliki pengaruh yang besar dalam amalan agama di Malaysia, dan pemahaman ini menjadi asas kepada banyak keputusan fiqh dalam konteks negara ini. Kesusasteraan kontemporari dan sumber tradisional digunakan untuk menyokong dan menguatkan pemahaman tentang haid dan istihadah dalam konteks mazhab Syafi'i. Ini termasuk merujuk kepada karya-karya ilmiah dan kitab-kitab fiqh yang mengandungi pandangan mazhab Syafi'i tentang isu ini. Pemahaman dari sumber-sumber ini akan memberi latar belakang teoritikal yang kukuh untuk menerangkan pandangan muktamad dalam konteks semasa.

## DAPATAN KAJIAN DAN PERBINCANGAN

### *Tahap Pengetahuan Wanita Islam Tentang Haid dan Istihadah*

Jadual 1 Tahap Pengetahuan Wanita Islam Tentang Haid dan Istihadah

Item	Kekerapan	Peratus (%)
<b>B1 Adakah anda tahu apa itu haid dan istihadah?</b>		
Ya	146	99.3
Tidak	1	0.7
<b>B2 Tahukah anda tempoh kebiasaan haid?</b>		
Ya	146	99.3
Tidak	1	0.7
<b>B3 Tahukah anda tanda-tanda berhenti haid?</b>		
Ya	145	98.6
Tidak	2	1.4
<b>B4 Adakah anda tahu apa itu istihadah dan bagaimana cara membezakannya dengan haid?</b>		
Ya	130	90.3
Tidak	14	9.7
<b>B5 Tahukah anda tentang amalan-amalan dan hukum-hakam berkaitan haid dan istihadah dalam agama Islam?</b>		
Ya	135	93.1
Tidak	10	6.9

Majoriti responden menunjukkan tahap pengetahuan yang baik mengenai haid dan istihadah. Hampir semua responden (99.3%) menyatakan bahawa mereka memahami apa itu haid dan istihadah. Hasil yang sama diperoleh tentang tempoh kebiasaan haid, dengan 99.3% responden menyatakan bahawa mereka tahu mengenainya. Tambahan pula, sebahagian besar responden (98.6%) bersetuju bahawa mereka mengetahui tanda-tanda berhenti haid. Walaubagaimanapun, apabila ditanya tentang pengetahuan yang lebih mendalam, seperti pemahaman tentang istihadah dan perbezaannya dengan haid, sebahagian besar responden (90.3%) menyatakan bahawa mereka

memahaminya, walaupun terdapat sejumlah kecil responden (9.7%) yang tidak mengetahuinya. Ketika ditanya tentang pengetahuan tentang amalan-amalan dan hukum-hukum berkaitan haid dan istihadah, sebahagian besar responden (93.1%) mengatakan bahawa mereka memahaminya, tetapi ada juga sejumlah kecil responden (6.9%) yang tidak mengetahuinya.

Hasil ini menggambarkan bahawa sebahagian besar responden mempunyai pengetahuan asas mengenai haid dan istihadah, namun pemahaman yang lebih mendalam mengenai topik ini mungkin perlu ditingkatkan oleh sejumlah kecil responden.

### **Tahap Pemahaman Wanita Islam Tentang Haid dan Istihadah**

Hasil kajian menunjukkan majoriti responden mempunyai pemahaman yang baik tentang pemahaman asas haid. Majoriti responden (97.3%) mengakui haid adalah darah yang keluar dari faraj (kemaluan hadapan) wanita pada waktu sihat pada hari tertentu. Selain itu, kebanyakan responden (82.3%) juga bersetuju bahawa perlu sekurang-kurangnya haid mestilah 24 jam berterusan sehari semalam. Tambahan pula, ramai responden (88.4%) bersetuju bahawa tempoh suci antara dua haid adalah 15 hari 15 malam.

Namun begitu, terdapat beberapa soalan yang menunjukkan tahap kefahaman yang lebih rendah. Sebagai contoh, hanya sebilangan kecil responden (43.5%) yang benar-benar memahami istilah "*naqa*", iaitu darah yang keluar secara terputus-putus ketika haid. Selain itu, terdapat juga ketidakpastian pemahaman responden terhadap warna darah haid, di mana sebilangan responden (7.5%) tidak pasti tentang pernyataan ini.

Apabila ditanya tentang kepentingan mempelajari ilmu darah haid, majoriti responden (94.6%) bersetuju bahawa ini adalah fardu ain (tanggungjawab individu) bagi setiap wanita. Namun begitu, masih terdapat sebilangan kecil responden (3.4%) yang tidak pasti tentang perkara ini.

Bagi dapatan tahap pemahaman wanita Islam tentang istihadah pula dapatan daripada tinjauan ini menggambarkan kepelbagaian kefahaman dan pandangan yang wujud dalam kalangan wanita Islam berhubung konsep Istihadah.

Majoriti responden mempunyai pemahaman yang kukuh bahawa istihadah merujuk kepada "darah penyakit" dengan 96.6% bersetuju dengan pernyataan ini, menunjukkan konsistensi dalam tafsiran konsep istihadah dalam konteks yang dimaksudkan. Walau bagaimanapun, terdapat ketidakpastian yang ketara mengenai bilangan kategori haid bercampur istihadah (C2), dengan 67.3% responden menyatakan ketidakpastian.

Perbezaan pendapat juga timbul mengenai waktu yang diperlukan untuk istihadah, baik dalam konteks lamanya waktu suci antara dua haid (C3) dan lamanya masa keluar darah (C4). Kebanyakan responden bersetuju bahawa istihadah boleh berlaku sekiranya darah keluar melebihi tempoh haid tertentu (C5), dan perhatian terhadap anggaran haid adalah berkaitan dengan urusan ibadat (C7).

Namun begitu, terdapat perbezaan pendapat yang ketara berhubung sama ada istihadah boleh berlaku pada kanak-kanak yang mengalami pendarahan sebelum usia tertentu (C6), dan terdapat juga perbezaan pendapat mengenai kategori hukum yang berkaitan bagi wanita yang tidak dapat membezakan antara haid dan istihadah (C8).

Kesimpulannya, tinjauan ini menggambarkan kerumitan dan kepelbagaian pemahaman dan pandangan istihadah dalam masyarakat Islam, yang mungkin memerlukan pendekatan yang lebih terperinci dan pendidikan yang lebih baik untuk mencapai pemahaman dan keseragaman yang lebih besar dalam penerapan kehidupan seharian.

### **Mengenal pasti Hubungan antara Pengetahuan dan Kefahaman Haid dan Istihadah dalam Kalangan Wanita Islam**

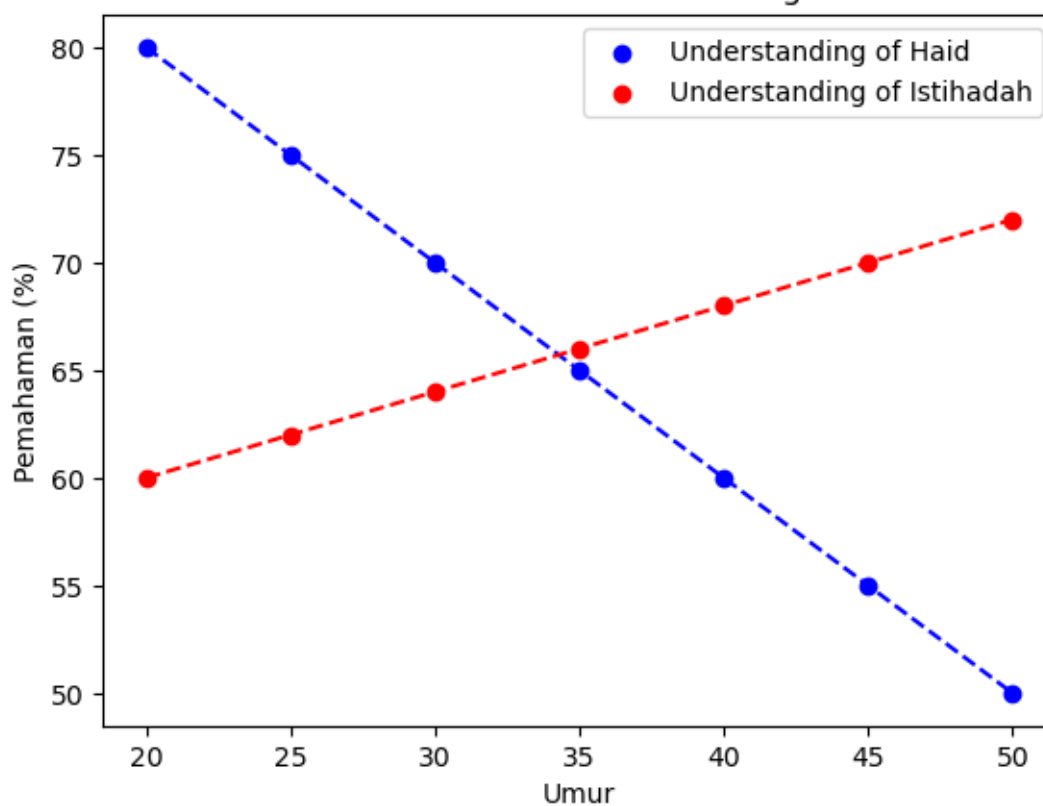
Hasil analisis korelasi menunjukkan terdapat hubungan yang sangat signifikan antara umur responden dengan pemahaman mereka tentang haid, walaupun hubungan ini adalah negatif ( $r = -.229, p = 0.005$ ). Ini menunjukkan bahawa semakin muda umur responden, semakin tinggi kemungkinan mereka mempunyai pemahaman yang lebih baik tentang haid. Walau bagaimanapun, korelasi ini tidak begitu kuat, jadi tidak boleh disimpulkan bahawa faktor umur adalah satu-satunya faktor yang mempengaruhi pemahaman tentang haid.

Bagi umur dan kefahaman asas tentang istihadah pula, tidak ada korelasi yang signifikan antara umur responden dan pemahaman tentang istihadah ( $r = -.081, p = 0.330$ ). Ini menunjukkan bahawa umur tidak memiliki pengaruh yang signifikan terhadap pemahaman tentang istihadah.

Korelasi positif yang sangat signifikan antara pemahaman tentang haid dan pemahaman tentang istihadah ( $r = .591, p < 0.001$ ) menunjukkan bahawa responden yang memiliki pemahaman yang lebih baik tentang haid juga cenderung memiliki pemahaman yang lebih baik tentang istihadah, begitu juga sebaliknya. Ini menunjukkan bahawa pemahaman tentang kedua-dua topik ini berkorelasi positif dalam sampel ini.

Secara keseluruhan, walaupun terdapat hubungan antara umur dan pemahaman tentang haid dan istihadah, faktor lain juga mungkin mempengaruhi pemahaman itu. Oleh itu, tidak dapat disimpulkan bahawa umur merupakan faktor tunggal yang sangat berpengaruh dalam memahami haid dan istihadah. Analisis lanjut dan kajian yang lebih mendalam diperlukan untuk memahami faktor yang boleh mempengaruhi pemahaman ini secara lebih menyeluruh.

**Korelasi antara Umur dan Pemahaman tentang Haid dan Istihadah**



Rajah 1 Korelasi antara Umur dan Pemahaman tentang Haid dan Istihadah

Graf ini menunjukkan titik biru mewakili pemahaman tentang haid, manakala titik merah mewakili pemahaman tentang istihadah. Garis putus-putus biru dan merah menunjukkan trendline untuk pemahaman tentang haid dan istihadah

masing-masing. Berdasarkan graf ini, terdapat korelasi negatif antara umur dan pemahaman tentang haid, di mana pemahaman tentang haid cenderung menurun dengan peningkatan umur. Manakala bagi umur dan kefahaman asas tentang istihadah, tidak terdapat korelasi yang signifikan antara umur dan pemahaman tentang istihadah. Bagaimanapun, terdapat korelasi positif yang signifikan antara pemahaman tentang haid dan pemahaman tentang istihadah.

### ***Pandangan Muktamad dalam Mazhab Syafi'i***

#### **Empat Kayu Ukur Penentu Haid**

Pendefinisian terperinci telah dilakukan oleh para ulama bagi membezakan antara tiga golongan darah yang keluar daripada faraj wanita. Haid bermaksud darah semula jadi yang keluar daripada pangkal rahim wanita pada waktu tertentu dengan cara sihat (Ridwan, 2014). Nifas pula bermaksud darah yang keluar daripada faraj wanita setelah kosong rahim akibat kelahiran (Mujib, M., Huda, A. & Yasin., 2007). Manakala istihadah adalah darah selain haid dan nifas. Ia juga dikenali dengan darah penyakit. Menurut nukilan Taqiyuddin menerusi fiqh al-Syafi'i, istihadah mungkin keluar sekitar waktu haid, darah ini akan keluar disebabkan masalah penyakit atau keradangan pada otot bahagian dalam rahim seorang perempuan (Ridwan, 2014).

Menurut Salim bin Ahmad (2015) dan Abdurrahman bin Abdullah (2016), secara ringkasnya, setiap wanita boleh menentukan haidnya melalui empat kayu ukur utama seperti berikut:

- a. Kedatangan darah tersebut setelah mencapai usia sembilan tahun qamari . Iaitu darahnya kurang 16 hari untuk genap 9 tahun mengikut kalendar islam (Al-Zuhaili, 1997; Ali Achmadi, Muhammad Yasin, Abdullah & Huda, 2002; Ridwan, 2014; Ahmad, 2015; Abdullah, 2016; Abdul Qadir, K.H.M & Mat Desa, A.E., 2017; Ismail, 2021).
- b. Darah yang keluar tidak kurang daripada sehari semalam, iaitu selama 24 jam. (Al-Zuhaili, 1997; Ali Achmadi, Muhammad Yasin, Abdullah & Huda, 2002; Mujib, M., Huda, A. & Yasin., 2007; Ridwan, 2014; Ahmad, 2015; Abdullah, 2016; Abdul Qadir, K.H.M & Mat Desa, A.E., 2017; Ismail, 2021),
- c. Darah yang keluar tidak menjangkau pada hari ke-15 sejak mula melihatnya (al-Zuhaili, 1997; Ali Achmadi, Muhammad Yasin, Abdullah & Huda, 2002; Mujib, M., Huda, A. & Yasin., 2007; Ridwan, 2014; Ahmad, 2015; Abdullah, 2016; Abdul Qadir, K.H.M & Mat Desa, A.E, 2017; Ismail, 2021),
- d. Darah yang keluar pada masa suci selama 15 hari 15 malam (Al-Zuhaili, 1997; Mujib, M., Huda, A. & Yasin., 2007; Ridwan, 2014; Ahmad, 2015; Abdullah, 2016; Ismail, 2021).

Kesemua empat kayu ukur ini sudah diperincikan dalam kitab-kitab agama melalui disiplin ilmu. Maklumat ini biasa dipelajari menerusi had umur kedatangan haid, had masa dan tempoh minima suci antara dua haid. Adapun, ulama Fiqh Mazhab Syafi'i turut membahaskan pengertian tempoh 24 jam sekurang-kurangnya haid. Menurut intipati yang dinukilkan oleh Abdullah (2015) dalam kitabnya "Hukum-hukum Haid, Nifas, dan Istihadah Menurut Mazhab Imam Syafie" yang menjadi kunci utama dalam memahami bab darah wanita telah menyatakan dengan jelas bahawa untuk menghukumkan darah yang keluar sebagai haid, ia perlu mencukupi tempoh 24 jam sama ada secara berterusan sehari semalam atau secara terpisah iaitu terputus-putus pada hari yang lain selagi mana masih dalam tempoh maksima haid. Nukilan yang sama turut dinyatakan oleh Ismail (2021) dan Abdul Qadir, K.H.M & Mat Desa, A.E. (2017).

24 jam secara terpisah juga dikenali sebagai gabungan masa 24 jam iaitu himpunan masa beberapa hari yang boleh dilebarkan masanya sehingga hari ke-15 sejak wanita tersebut mula melihat darah. Jadi, gabungan 24 jam yang didapati

dalam tempoh 15 hari juga layak dihukumkan sebagai haid pada keseluruhan hari tersebut. Tetapi, jika darah yang keluar itu melebihi 15 hari, maka darah tersebut tidak dihukum sebagai haid pada keseluruhan hari tersebut meskipun ia mencukupi gabungan 24 jam. Ini kerana, ia telah bercampur dengan darah istihadah. (Ismail, 2021; Abdullah, 2015) dan Abdul Qadir, K.H.M & Mat Desa, A.E. (2017).

Kaedah 24 jam secara terpisah ini terjadi disebabkan *naqā'* yang wujud menyelangi antara hari-hari darah keluar. *Naqā'* bermaksud darah yang tidak mengalir keluar atau tidak kelihatan ketika kapas dimasukkan ke dalam faraj. Maka, kaedah gabungan ini digunakan khusus untuk menentukan kiraan haid bagi wanita yang mengalami *naqā'* atau darah keluar terputus-putus dalam tempoh 15 hari. Sekiranya gabungan masa darah yang keluar mencecah 24 jam, darah tersebut telah memenuhi ciri dan kayu ukur sebagai haid. Jadi, keseluruhan darah yang keluar dihukum sebagai haid dan tempoh *naqā'* tersebut juga dihukum sebagai haid. Sebaliknya, jika gabungan masa tidak mencecah kiraan 24 jam, darah tersebut dihukum sebagai istihadah (Mansoor bin Ismail, 2021, Nasihah Sakinah Zulkifli Auni, 2021). Menurut Imam Syafi'i, *naqā'* yang berlaku dalam tempoh haid dengan syarat tidak melebihi tempoh 15 hari juga dihukum sebagai haid (Al-Zuhaili, 1997).

#### Empat Kayu Ukur Berlawanan, Penentu Istihadah

Darah istihadah adalah darah yang tidak mempunyai empat ciri darah nifas dan haid. Maka, penentu untuk menentukan darah yang keluar adalah istihadah bukan haid dengan menyemak empat kayu ukur utama haid. Jika gugur salah satu daripada empat kayu ukur tersebut, maka darah tersebut merupakan darah istihadah (al-Zuhaili, 1997; Ahmad, 2015; Abdullah, 2016; Abdul Qadir, K.H.M & Mat Desa, A.E., 2017; Ismail, 2021). Rumusannya seperti berikut:

- a. Kedatangan darah pada usia; sebelum memasuki 9 tahun qamari atau hampir iaitu baki usianya melebihi 16 hari untuk genap 9 tahun mengikut kalendar Islam.
- b. Darah yang keluar kurang daripada sehari semalam, iaitu kurang 24 jam meskipun menggunakan kaedah gabungan jam pada hari yang lain.
- c. Darah yang keluar melebihi 15 hari sejak mula melihatnya.
- d. Haid tidak boleh didahului dengan tempoh suci yang kurang daripada 15 hari 15 malam.

#### Kesimpulan

Kajian ini membincangkan isu-isu berkaitan dengan pengetahuan dan pemahaman wanita Islam tentang haid dan istihadah di Malaysia. Hasil kajian menunjukkan bahawa kebanyakan wanita Islam mempunyai pengetahuan asas tentang haid dan istihadah. Namun didapati terdapat sebilangan responden yang kurang menguasai ilmu asas berkaitan haid dan istihadah. Meskipun soal selidik ini secara asas dan secara terperinci tetapi ia tidak melibatkan sebarang masalah perkiraan dalam menentukan haid mahupun istihadah.

Cadangan agar satu kajian kualitatif diadakan secara langsung dengan responden tentang permasalahan perkiraan haid kerana ini adalah salah satu cara yang tepat untuk mengukur tahap kefahaman wanita terhadap ilmu darah wanita (haid, istihadah dan nifas).

#### Penghargaan

This work was supported by Universiti Teknologi Malaysia Encouragement Research (Q.J130000.3853.31J44)

## Rujukan

- Abdul Qadir, K.H.M & Mat Desa, A.E. (2017). *Untukmu Bidadari: Perbahasan Mengenai Haid, Nifas, dan Istihadhah*. Kuala Lumpur: Rabitah An Nur Resource
- Abdullah, Abdurrahman. (2016). *Penjelasan dan Perincian Mengenai Hukum Haid, Istihadhah, dan Nifas Menurut Mazhab Imam Syafi'i Kaherah*. Dar Osolden.
- Ahmad, Salim. (2015). *Menghilangkan Kekeliruan dengan Menjelaskan Hukum Haid, Istihadhah, dan Nifas.* Amman: Dar An-Nor Al-Mubin.
- Ali Achmadi, Muhammad Yasin, Abdullah & Huda. (2002).. *Al-Muhazzab oleh Abu Ishaq Ibrahim bin Ali bin Yusuf Al-Fairuzabadi*. Johor: Perniagaan Jahabersa.
- Al-Zuhaili, W. (1997). *Fiqh dan Perundangan Islam*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Hannan Fatini Md Reshad. (2020). Analisis Sorotan Literitur Bagi Kajian Darah Wanita. *Jurnal Islam dan Masyarakat*. <https://doi.org/10.37231/jimk.2020.21.1.474>
- Ismail, Mansoor. (2021). *Izalat ul-Iltibas Fi Syarh Tuhfat il-A'izza'*. Kuala Lumpur: Mansoor bin Ismail. Jilid(1). ISBN 978-967-19703-0-0
- Khanal, G., Shrestha, N., Adhikari, K., & Ghimire, U. (2023). Menstruation hygiene management among secondary school students of Chitwan, Nepal: a cross-sectional study. *BMC Women's Health*, 23(1), 395. <https://doi.org/10.1186/s12905-023-02494-x>
- Khotim Fadhli, Azizah Azhari, Muhamad Hamim Thohari, & Kholis Firmansyah. (2021). Peningkatan Pemahaman Haid Melalui Kajian Fiqh Wanita di Desa Barong Sawahan. *Keagamaan: Jurnal Pengabdian Masyarakat*, 2(2), 66-74.
- Md. Reshad, H. F., & Ismail, S. K. (2020). Analisis Sorotan Literatur bagi Kajian Darah Wanita. *Jurnal Islam Dan Masyarakat Kontemporari*, 21(1), 227-234. <https://doi.org/10.37231/jimk.2020.21.1.474>
- Muhamad Arif Azmi. (2021). *Haid dan Istihadah Menurut Mazhab Syafie: Kefahamannya di Kalangan Pelajar Darul Quran Wal Hadiths as Sofa Ampang*.
- Mujib, M., Huda, A. & Yasin. (2007). *Mukhtasar Kitab Al-Umm (Imam Al-Syafi'i) Oleh Husein Abdul Hamid*. Johor: Perniagaan Jahabersa. ISBN 978-983-3817-95-5
- Nabiryo, M., Ondia, M., & Izudi, J. (2023). Behaviors and practices of incarcerated women towards menstrual hygiene in a large urban prison in Uganda: a phenomenological qualitative study. *BMC Women's Health*, 23(1). <https://doi.org/10.1186/s12905-023-02462-5>
- Nasim Zulekha, Saeed Saira, Shahzad Fazeela, Naz Saima, Khan Rana Modassir Shamsheer, & Adeel Muhammad. (2020). Knowledge and Practices Regarding Menstrual Hygiene Among Teen Age Females in Sialkot. *Pakistan Journal of Medical and Health Sciences*, 14(4), 880-882.
- Noraini Ismail, Che Latifah Ismail, Siti Fatimah Sudin, Sharipah Isa, & Ryusda Bakri. (2016). Kefahaman Pelajar Terhadap Fiqh Thaharah (Permasalahan Darah Wanita): Tinjauan di UiTM Cawangan Perlis. *3rd Nternational Conference on Arabic Studies and Islamic Civilization*, 260-269.
- Norhafizah Ahmad, Latifah Abdul Majid, Mohd Arif Nazri, Shakila Ahmad, Intan Farhana Saparudin, & Sharifah Khadijah Syed Abu Bakar. (2022). Amalan Pengurusan Kebersihan Haid Menurut al-Quran dan al-Sunnah. *Journal of Quranic Sciences and Research*, 3(2), 27-35. <https://doi.org/10.30880/jqsr.2022.03.02.004>
- Ramsay, C., Hennegan, J., Douglass, C. H., Eddy, S., Head, A., & Lim, M. S. C. (2023). Reusable period products: use and perceptions among young people in Victoria, Australia. *BMC Women's Health*, 23(1). <https://doi.org/10.1186/s12905-023-02197-3>



- Ridwan, Murtadho. (2014). Terjemahan Kifayah al-Akhyar Fiqh al-Imam al-Syafi'e Oleh Imam Taqiyuddin Abu Bakar bin Muhammad al-Husaini. Johor: Perniagaan Jahabersa. ISBN 978-967-308-467-8
- Saharah Ahmad Mahadi, & Wan Yusof Wan Chik. (2018). Pengurusan Istihadah Menurut Fiqh Islam dan Perubatan. *Asian People Journal (APJ)*, 1(1), 110-124.
- Siti Asmah Khalid, Abdul Razak Abdul Kadir, & Nurul Azhar Ahmad. (2022). Pengetahuan Berkaitan Haid dan Istihadah di Kalangan Guru Islam di Sekolah Kebangsaan Agama Terpilih di Sarawak. *International Journal of Education, Psychology and Counseling*, 7(46), 452-478. <https://doi.org/10.35631/ijepc.746035>
- Siti Fatimah Salleh, Kasimah Kamaruddin, Lukman Abdul Mutalib, & Rogayah Saeed Salameh Alqaraleh. (2021). Analisis Pendidikan Darah Wanita Dalam Kurikulum Rendah di Kalangan Guru Pendidikan Islam. *MALAYSIAN JOURNAL FOR ISLAMIC STUDIES*, 5(1), 78-89. <http://dx.doi.org/>
- Zulkifli Auni, N.S. (2021). Naqo' Realiti Perbezaan Di Antara Naqo' Haid Hukmi, Naqo' Dalam Bab Menyempurnakan Baki Suci Dan Naqo' Dalam Bab 7 Bahagian Istihadhah. Pahang: Albanna Creative Lab Resources. Edisi Khas. ISBN 978-967-16171-2-0

**Paper ID:** 1571046080

**Name:** Wan Farah Wani Wan Fakhrudin, Wan Nur Asyura Wan Adnan, Norfarizatul Ain Ponidin, Siti Munirah Mohd Ali & Fairuz Umira Azmi

**Paper Title:** Constructing Conservation Narratives: A Media Analysis of Greening Malaysia's Biodiversity Initiatives

**E-mail:** wanfarah@utm.my

## Introduction

Biodiversity conservation is an urgent global priority, and Malaysia's Greening Malaysia programme represents a significant national effort toward environmental sustainability. The programme, which includes the ambitious goal of planting 100 million trees by 2025, aims to enhance Malaysia's forest cover, contribute to climate change mitigation, and promote biodiversity. However, the success of such initiatives is not only dependent on the actions taken but also on how these actions are communicated to the public. Media plays a crucial role in shaping public understanding, attitudes, and behaviours toward conservation efforts. Several studies have investigated the critical role language plays in shaping public perceptions and attitudes towards environmental issues (Fujiwara, 2022; Leipold, 2014; Plemenitas, 2004). Leipold (2014) argues that the media is critical in shaping public perceptions of environmental issues and can contribute to more effective environmental policymaking. While there have been studies conducted investigating various types of forestry-related agendas in the Malaysian context (Wan Fakhrudin et al., 2022), they mainly focused on the forestry texts that are produced by forestry professionals that primarily serve as internal documents among forestry professionals.

## Objective

This study seeks to explore the media's role in constructing narratives around the Greening Malaysia programme, focusing on three key objectives:

1. To analyse media narratives surrounding the Greening Malaysia programme.
2. To identify linguistic strategies used to construct conservation narratives.

Through these objectives, the study aims to uncover the underlying values and agendas presented by various stakeholders and to assess the media's effectiveness in promoting public awareness and engagement with biodiversity conservation.

## Methods and Instruments

This research adopts a qualitative approach, using Systemic Functional Linguistics (SFL) to analyse the linguistic construction of conservation narratives in selected news articles. The analysis focuses on transitivity processes and thematic choices, as outlined by Halliday (1994), to understand how actions, agents, and goals are represented in media coverage.

Data collection involved selecting news articles published between January 2021 and January 2025 by major Malaysian newspapers and news portals, including *Bernama*, *The Sun*, *New Straits Times*, *Malaysiakini*, and *The Star*. Although the study aims to analyse a total of 100 articles, the current findings are based on a smaller sample size, reflecting ongoing data collection efforts. The selection criteria for the articles included their focus on the Greening

Malaysia programme, particularly the 100 Million Trees Planting Campaign, and their relevance to the themes of environmental conservation, public engagement, and policy implementation.

### **Results and Discussion**

A significant portion of the media coverage portrays the Greening Malaysia programme as a successful and essential initiative for the nation's environmental sustainability. For instance, a news report from The Sun highlights the achievement of planting over 86 million trees since the campaign's launch in 2021, stating, "*A total of 86.99 million trees have been planted under the 100 Million Trees Planting Campaign since its launch in 2021, signifying the nation's dedication to combating climate change*" (The Sun, 2023). This excerpt exemplifies how the media tends to emphasise the quantitative success of the programme, aligning it with broader global environmental goals such as combating climate change.

The use of terms like "dedication" and "combating climate change" in such reports reinforces a positive narrative, appealing to both national pride and global responsibility. This framing positions the Greening Malaysia programme as a key contributor to Malaysia's commitments under international environmental agreements, thereby enhancing the programme's legitimacy and public support.

Similarly, the New Straits Times reported on the positive public response to the government's campaign, stating, "*The public's response to the government's 100 Million Trees Planting Campaign has been very encouraging, with many participating in the various planting programmes organised nationwide*" (New Straits Times, 2022). This narrative not only highlights the success of the initiative but also suggests a strong public endorsement of the government's environmental policies, creating a sense of collective achievement.

### **Linguistic Strategies in Shaping Public Perception**

The linguistic analysis reveals that the use of transitivity processes and thematic prominence plays a significant role in shaping public perception. Positive actions associated with tree planting and conservation are often foregrounded, while the agents responsible for any potential failings or environmental degradation are either backgrounded or omitted. This selective representation can lead to a skewed public understanding of the actual effectiveness of the Greening Malaysia programme, fostering an overly optimistic view that may not reflect the on-ground realities.

For example, the recurring use of material processes in headlines such as "Over 86 million trees planted" (The Sun, 2023) and "FRIM: More than 73.2 million trees already planted" (The Star, 2022) serves to highlight the actions taken, yet there is little exploration of the quality of these actions or their long-term impact on biodiversity conservation. The frequent omission of actors responsible for the success or failure of these initiatives further abstracts accountability, making it difficult for the public to critically engage with the outcomes of these efforts.

Furthermore, the thematic choices in these articles often position the government and other key stakeholders as the primary agents of positive action, while the broader public is portrayed as passive recipients or beneficiaries of these efforts. This framing reinforces a top-down narrative of conservation, where the public's role in biodiversity protection is limited to supporting government-led initiatives rather than actively participating in or challenging the direction of these efforts.

## Conclusion/Implications for Research/Policy

The initial findings suggest that while the media generally portrays the Greening Malaysia programme in a positive light, there is a need for more critical engagement with the underlying environmental and socio-economic issues. The dual focus on environmental stewardship and economic benefits can obscure the core conservation message, leading to a public understanding that is shaped more by economic considerations than by ecological imperatives.

As the analysis continues, a more nuanced understanding of these narratives will emerge, offering insights into how media reporting can be improved to support more effective and responsible.

**Keywords:** *biodiversity conservation, media analysis, Greening Malaysia, Systemic Functional Linguistics, Appraisal Framework, environmental narratives*

**Acknowledgement:** The project is funded by UPTM under the Geran Penyelidikan Dalaman UPTM (URG) 01/2024.

## References

- Bernama. (2023, March 3). Over 17 million trees planted in Sabah. Bernama. <https://www.bernama.com/en/news.php?id=2309881>
- Fujiwara, S. (2022). Responsibility and the Media: A critical discourse analysis of climate change representations in the U.S and Nigerian news outlets (Dissertation). Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:su:diva-201665>
- Halliday, M. A. K. (1994). *An Introduction to Functional Grammar* (Second Edition). Edward Arnold, London.
- Leipold, S. (2014). Creating forests with words – A review of forest-related discourse studies. *Forest Policy and Economics*, 40, 12-20. <https://doi.org/10.1016/j.forpol.2013.12.005>
- Malaysiakini. (2021, January 29). Greening Malaysia initiative–Some concerns. Malaysiakini. <https://www.malaysiakini.com/letters/561475>
- New Straits Times. (2022, November 5). Good response to government's 100 million tree-planting campaign. New Straits Times. <https://www.nst.com.my/news/nation/2022/11/850431/good-response-govts-100-million-tree-planting-campaign>
- New Straits Times. (2023, March 20). 100 million tree planting campaign undergoes review. New Straits Times. <https://www.nst.com.my/news/nation/2023/03/889914/100-million-tree-planting-campaign-undergo-review>
- The Star. (2022, November 2). Digital tree campaign to drive 100 million trees mission. The Star. <https://www.thestar.com.my/metro/metro-news/2022/11/02/digital-tree-campaign-to-drive-100-million-trees-mission>
- The Sun. (2023, June 2). Over 86 million planted since the launch of 100-million-trees planting campaign. The Sun. <https://thesun.my/local-news/over-86-million-planted-since-launch-of-100-million-trees-planting-campaign-DO12493110>
- Wan Fakhruddin, W.F.W.; Mohd Don, Z.; Hassan, H. (2022). Managing Harvesting for Forest Sustainability in Malaysia: An SFL Perspective. *GEMA Online Journal of Language Studies*, 22 (4), 21-38. <http://doi.org/10.17576/gema-2022-2204-02->

**Paper ID:** 1571054773

**Name:** Nurfarah Athirah Binti Abdullah Sidek & Norazmah Suhailah Binti Abdul Malek

**Paper Title:** Cultural Immersion and Language Acquisition: An Autoethnographic Study of Japanese Students in a Summer School English Programme

**E-mail:** [nurfarah@utm.my](mailto:nurfarah@utm.my)

## **Introduction**

It can be difficult for some non-native speakers to learn and acquire a foreign language. Learning a foreign language in an environment other than one's native tongue might help non-native speakers become more at ease and invigorated in their language acquisition process (McGregor, 2021). The summer school programme conducted at Universiti Teknologi Malaysia has the aim to expose and provide participants with meaningful learning experiences in learning and mastering English language. Participants go through the process of learning and grasping English in interactive activities designed for them, apart from the conventional ones such as in-class presentations and writing activities. Among the interactive activities are treasure hunt, local food hunting and tasting, visiting historical places, doing handicrafts, and interacting with local students. This programme is mostly open to universities in Japan and it has been conducted for several years. Even though this programme can be considered a success based on the positive feedback given by participants, the researchers discovered there is a lack of information on the right approach to conduct the activities and assessments for this programme. Besides, there is also insufficient information on participants' experiences going through the programme. These two issues need to be addressed so that the programme can be more effective in future, and eventually enhance the reputation of the university generally and the faculty specifically in conducting such programme. In seeking the solutions to these two issues, the researchers employed analytic autoethnography to seek and analyse the data. Analytic autoethnography is a form of qualitative research emphasizing self-reflection of the participants and connecting personal insights to cultural, social, and historical contexts (Buckley & Cooper, 2022). By using this method, the researchers would eventually gain a greater grasp of the importance of personal narratives and immersive learning environments in promoting language competency and intercultural understanding among participants.

## **Objective**

This study has three objectives which are to explore the personal journeys of participants through the autoethnography narratives, to understand the strategies used by participants to navigate and overcome language barriers, and to examine the impact of cultural emersion of participants' language proficiency and self-perceptions.

## **Methods and Instruments**

This study employed analytic autoethnography which is a qualitative method that combines aspects of autoethnography with more traditional analytic approaches. Autoethnographers often utilise a range of data collection methods and research tools commonly found in other types of qualitative social research (O'hara, 2018). These methods include participant observation, interviews, conversational engagement, focus groups, narrative analysis, artifact analysis, archival research, journaling, field notes, thematic analysis, description, context, interpretation, and storytelling. They use these methods to create narratives that aim to convey and depict the researcher's lived experiences (along with any co-

participants, if applicable) in connection to the phenomena being studied (Yazan et al., 2020). The intention was to delve deeply into the individual experiences of the participants while also placing them in larger social and cultural contexts.

### **Participants**

The data was gathered from 13 Japanese students between the ages of 19 and 21 from Tokyo University of Agriculture and Technology (TUAT) who joined a summer school programme at Universiti Teknologi Malaysia, Kuala Lumpur. Their English proficiency level ranges from CEFR A1 and B1. However, their proficiency level is not an aspect that is investigated. These individuals were instructed to pen down their daily activities, findings, or situations that happened to them over the two-weeks programme within the journal.

Every individual's log was taken into consideration and analysed. The researchers applied reflexive thematic analysis (Braun and Clarke, 2019) to reach their conclusions. Braun and Clarke's (2019) reflexive thematic analysis (TA) is a qualitative research method emphasising the importance of reflexivity and the researcher's subjectivity in the analysis process. Figure 1 presents a quick overview of the reflexive thematic analysis involved in the process.

# REFLEXIVE THEMATIC ANALYSIS PHASES

BRAUN & CLARKE (2019)

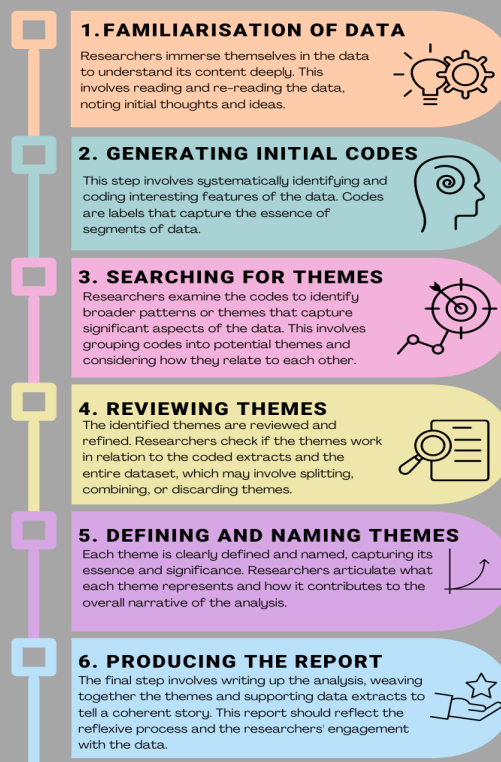


Figure 1: Reflexive thematic analysis phases (Braun & Clarke, 2019)

### Reflexive Thematic Analysis of the Students' Journal Entries

#	Initial Coding	Codes	Themes
<b>1</b>	- Learning about pre-writing processes	Pre-writing and essay skills	<b>Academic Growth and Skill Development</b>
	- Importance of outlining essays		
	- Developing presentation skills	Presentation skills	
	- Practicing English writing and speaking	English proficiency improvement	
<b>2</b>	- Trying local Malaysian foods	Exposure to local food	<b>Cultural Immersion and Intercultural Communication</b>
	- Interacting with local students	Intercultural communication	
	- Learning about different cultural practices		
<b>3</b>	- Feeling nervous before presentations	Nervousness and anxiety	<b>Emotional Journey and Personal Reflection</b>
	- Anxiety about writing essays		
	- Satisfaction after completing tasks	Satisfaction and confidence	
	- Building confidence through positive feedback		
	- Reflecting on strengths and weaknesses	Self-reflection	
<b>4</b>	- Learning from peer presentations	Peer interaction	<b>Social Learning and Peer Influence</b>
	- Discussing topics with classmates		
	- Observing peers' strategies		
<b>5</b>	- Receiving constructive feedback from teachers	Teacher feedback	<b>Guidance and Adaptation</b>
	- Adapting to challenges in writing and presentations	Adapting to challenges	
	- Implementing feedback to improve work		



## Results and Discussion

The results of this study, which have been obtained from the analysis of the students' journal entries, show some important themes related to their experiences in the summer school programme, that accord with the research objectives. These themes represent such aspects as the student's academic, cultural, and personal growth during the time of the programme.

### 1. Academic Growth and Skill Development

One of the most crucial discoveries is the considerable academic growth observed among the students. The participants reviewed substantial improvements in their English proficiency, especially in writing and presentation skills. For instance, the students' knowledge of how to write short articles helped them to come up with ideas for their essays that were then made into an outline, which allowed them to talk coherently, including their brainstorming of ideas. This is in agreement with the **Academic Growth and Skill Development** theme and aligns with the study's objective to understand how students navigate and overcome language barriers. According to Anandamayi and Madhumurthi (2023), those who have a growth mentality are more likely to see obstacles as chances to learn and improve their knowledge and abilities.

Moreover, according to students, the ability to engage with presentations in English, despite the initial nervousness is a guiding factor to the gaining of confidence and the learning of public speaking. These experiences are the best example of the programme's well-planned learning design, which involves both conventional and interactive teaching methods. The writing and speaking tasks incorporated with the constant feedback from the instructors not only improved the students' academic standings but also met the programme's objective of enhancing their English language skills by presenting them with a more simulated environment through immersive learning.

### 2. Cultural Immersion and Intercultural Communication

Cultural immersion was yet another crucial aspect of the students' experiences, which was shown through their own experiences of socialising with local Malaysian students and discovering Malaysian food. This theme of **Cultural Immersion and Intercultural Communication** underlines how the interaction with another culture was behind not only the learning of a new language but also personal growth as well.

The students noted their excitement and interest in tasting local cuisines and engaging in cultural activities. These activities did not only expand their cultural perspectives but also offered opportunities for using English in real-life situations with the local students. The cultural immersion component of the programme also contributed towards further emerged purpose of bringing students to practice English outside the classroom as complementarily to language skills acquired through more organised educational processes in the classroom. The reflections of the students suggest that this kind of cultural exchange had a major effect on their self-perception and view of the world's cultures, addressing the research objective related to the impact of cultural immersion on language proficiency and self-perception. This finding is also aligned with Oigara's (2022) research that found study abroad and other cultural immersion initiatives are thought to enhance students' intercultural competency by giving them first-hand exposure to a variety of cultural contexts. Apart from that, according to Messinger (2022), as a result of reflective interaction with varied cultures, learning experiences become transformative, changing the identities and viewpoints of learners.

### **3. Emotional Journey and Personal Reflection**

The students went through a lot of emotional ups and downs in the course of the programme, with several of them confessing to experiencing anxiety and tension at the early stages of the programme, especially concerning language and addressing an audience. However, these emotions would frequently turn into contentment and a sense of empowerment as they moved on with the programme. This evolution is captured in the theme of **Emotional Journey and Personal Reflection**.

For example, some of the students articulated their fears of standing in front of their colleagues in the early stages of the task, but in due course, they all described the sense of satisfaction they obtained from overcoming such challenges. Receiving positive evaluations from the instructors and peers was crucial in this transformation, supporting students to gain such self-esteem and construct a better self-image as users of the English language. According to van Schie et al. (2023), positive evaluations have the potential to raise self-esteem, which in turn improves one's capacity for social interaction learning. Therefore, this theme illustrates the influence of emotional comfort and encouragement on language acquisition because it motivates learners to use the language even in the face of challenges.

### **4. Social Learning and Peer Influence**

Another key discovery from the study was how much social interaction and peer learning mattered. This can be seen in the theme **Social Learning and Peer Influence**, which came from students reflecting on how valuable they found learning with each other. A lot of students mentioned that they found the presentations and group work to be helpful because it gave them strategies on what to do and not do from an observing/interaction standpoint with their classmates. In addition to enabling the students to practice the language, this social learning environment helped in bringing the students together. Amiruddin et al. (2022) found language acquisition to be improved by constructive interactions among peers that teachers facilitate. So, the motivation and help they received from the other students were important for the students as they were trying to get past their language issues and develop self-esteem. Therefore, this theme reinforces the idea that language skills can benefit substantially from collaborative learning settings, especially in immersive programmes where there is a lot of interaction with the language and their peers.

### **5. Guidance and Adaptation**

Last but not least, teacher feedback, as well as students' responsiveness to adversity, were emphasized in the theme of **Guidance and Adaptation**. Students often spoke of the constructive criticism received from their teachers and how it helped them enhance their written work and their presentation skills. They also spoke about their attempts towards addressing the problems of writing longer essays and making presentations in a foreign language.

Adaptive learning and personalised feedback are two important matters in language education. The students' capacity to receive feedback and demonstrate the courage to change their way of doing their tasks was a crucial aspect of the development of the students in general, especially in terms of their academic growth and self-directed learning. Constructive criticism develops critical thinking and self-evaluation, two crucial meta-skills, in addition to improving content knowledge (Ion et al., 2018). So, this finding supports the research objective to explore the strategies employed by students to overcome language barriers and indicates that, with the requisite instruction, students can easily overcome the difficulties of learning in a new linguistic environment.

## Conclusion and the Implications for Research

In brief, this study has brought out the best practices for the design of lessons and activities for the summer school programme. Through autoethnography, the researchers can 'walk' with the participants when they tell their own stories and by doing so, the researchers get a deeper understanding of how the outcomes of language proficiency and perceptions of self are influenced by complete cultural immersion. Therefore, this study gives researchers, syllabus designers and instructors of summer school programmes the ability to enhance and strengthen the effectiveness of the programmes they are developing.

**Keywords:** Autoethnography, Japanese students, cultural immersion, language acquisition, summer school programme

## References

- Amiruddin, M., Sy, E.N. and Zuhri, M.D. (2022) 'Peer interaction in language learning at SMAN 1 galis pamekasan', *Journey: Journal of English Language and Pedagogy*, 5(2). doi:10.33503/journey.v5i2.2131.
- Anandamayi, S. and Madhumurthi, K. (2023) 'An Assessment on Growth of Knowledge and Skills', *Contemporaneity of Language and Literature in The Robotized Millennium*, 2(2), pp. 31–38. doi:https://doi.org/10.46632/cellrm/2/2/4.
- Braun, V. and Clarke, V. (2019) 'Reflecting on reflexive thematic analysis', *Qualitative Research in Sport, Exercise and Health*, 11(4), pp. 589–597. doi:10.1080/2159676x.2019.1628806.
- Buckley, R., & Cooper, M. A. (2022). Analytical autoethnography in tourism research: when, why, how, and how reliable? *Tourism Recreation Research*, 1–9. https://doi.org/10.1080/02508281.2022.2155784
- Ion, G., Sánchez Martí, A., & Agud Morell, I. (2018). Giving or receiving feedback: which is more beneficial to students' learning? *Assessment & Evaluation in Higher Education*, 44(1), 124–138. https://doi.org/10.1080/02602938.2018.1484881
- Messinger, J.C. (2022) 'Chapter Interculturality in language and culture education', in *Language Education in Multilingual Colombia*. 1st edn. New York: Routledge, pp. 167–171.
- McGregor, J. (2021). An investigation of L2 learning peer interactions in short-term study abroad. *Language learning in study abroad: The multilingual turn*, 72-96.
- O'Hara, S. (2018) 'Autoethnography: The science of writing your lived experience', *HERD: Health Environments Research & Design Journal*, 11(4), pp. 14–17. doi:10.1177/1937586718801425.
- Oigara, J. N. (2022). Cultural Immersion: Exploring Ways to Increase Cultural and Global Awareness Among American College Students. In J. Keengwe (Ed.), *Handbook of Research on Promoting Global Citizenship Education* (pp. 41-57). IGI Global. https://doi.org/10.4018/978-1-7998-9542-8.ch003
- van Schie, C. et al. (2023) 'A boost in self-esteem after positive social evaluation predicts social and non-social learning', *Royal Society Open Science*, 10(5). doi:10.1098/rsos.230027.
- Yazan, B., Canagarajah, S., & Jain, R. (Eds.). (2020). \*Autoethnographies in ELT: Transnational identities, pedagogies, and practices\* (1st ed.). Routledge. https://doi.org/10.4324/9781003001522

## SPONSORS



