INTERNATIONAL SOCIETY FOR
EDUCATIONAL INITIATIVES (ISEI)

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

P R O C E E D I N G S
OF EDUCATIONAL
INITIATIVES RESEARCH
COLLOQUIUM *2019*

PREFACE

Assalamualaikum warahmatullahi wabarakatuh and Greetings.

I would like to thank all authors for their contributions in the proceedings. I gratefully acknowledge Universitas Muhammadiyah Jakarta (UMJ) for their collaboration in organising Educational Initiatives Research Colloquium 2019. This collaboration has initiated the publication of this proceeding. This initiative is an effort to promote publication culture among academicians and students through their participation and engagement in this colloquium.

Finally, I would like to thank all parties involved in making the research colloquium and publication of proceedings a success.

DATO DR. MOHAMED NAJIB BIN ABDUL GHAFAR
CHAIRMAN
International Society for Educational Initiatives
Faculty of Social Sciences and Humanities,
Universiti Teknologi Malaysia.

TABLE OF CONTENTS

No.	Content	Page

The Importance of Visualization Skills among Engineering Students

Marlissa Omar[1], Dayana Farzeeha Ali[2], Ahmad Nabil Md. Nasir[3], Mahani Mokhtar[4], Sri Imawati[5]
[1,2,3,4] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia
[4] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: marlissa,utm@gmail.com[1], dayanafarzeeha@utm.my[2], ahmadnabil@utm.my[3], p-mahani@utm.my[4],
immawati83@gmail.com[4]

Abstract: Various educational researches on science, technology, engineering and mathematics (STEM)have been conducted as an effort to help improve students' visualization skills. The studies covered issues such as the needs for engineering students to improve their visualization skills and the significance of visualization skills towards their future. Thus, this paper aims to provide overview on the importance of visualization skills among engineering students, trends of publications as well as the impact of visualization skills on their future career. This paper will review related research which studies visualization skills among engineering students and highlights the impact of good visualization skills towards their career. This paper can provide insight to future researchers and educators who are interested in conducting research pertaining to the use of visualization skills among engineering students.

Keywords: Visualization skills, technical, engineering, graduates

Introduction

Engineering field is one of the most important fields which prepare graduates to become skilful workforce in order to achieve development. Three-dimensional spatial visualization is an extremely important skill in many fields involving science, technology, engineering, and mathematics (Titus & Horsman, 2009). Visualization skills can be defined as the ability to build, manipulate and to graphically interpret images mentally (Isham, 1997; Safarin & Sukri, 2006). According to Martin-Gutierrez et al., (2010), visualization skills are the mental ability to picture images such as three-dimensional images. Similarly, Allen (2010) highlights that visualization skills refer to a person's manner of thought while generating or recalling images in their mind. Thus, visualization is the process of mentally producing or imagining objects or shapes. In addition, it is a complex process which involves scales, disciplines and multiple models to be represented in a direct manner (Schuchardt et al., 2007).

Engineers must have the ability to communicate graphically (Leopold, Gorska & Sorby, 2001; Scribner and Anderson, 2005). This is because engineers communicate with each other mostly by using graphical means more than oral means (Leopold, Gorska & Sorby, 2001; Safarin & Sukri, 2006). Engineers communicate through technical drawing or drafting, which is a way of communicating the technical ideas and therefore they need to be able to visualize images in their mind. It is also very common in people who are working in engineering field to have high visualization skills (Leopold, Gorska & Sorby, 2001; Martin-Gutierrez, Trujillo & Acosta-Gonzalez, 2013).

Visualization skills are used in many engineering-related courses such as calculus, engineering drawing, engineering design, construction, mechanical and some other courses. Visualization skills are most studied in engineering drawing courses and therefore, researchers have conducted studies to determine solutions to visualization skills problems faced by students in this course. According to Contero *et al.,* (2005), engineers used data graphics in order to create good quality graphics. However, engineers need to have good visualization skills in order to produce high-quality data graphics. Engineering students need to take Engineering Drawing course first since they need to master or acquire the ability to study space, to read and recognize the drawings. Previous researches have shown (Sorby 2009; Martin-Gutierrez et al., 2010) that the ability to master 3D visualization is pivotal towards the future success of engineering graduates. Sorby (2009) mentioned that the ability to mentally rotate 3D objects is important in visualizations skills. Thus, the skills in engineering drawing should be developed efficiently among engineering students because engineers mostly communicate with each other or subordinates using graphical means.

Levels of Visualization skills among engineering students

Several researches have reported that engineering students need to master visualization skills in order to be successful in any engineering-related course. However, lack of visualization skills among engineering students has become an issue especially since it can become an obstacle for them to understand and master engineering courses. As an example, Leopold, Gorska and Sorby (2001) identified that not all university students possesed well-developed visualization skills. This is due differences in educational background such as students who were from technical schools have had the exposure to technical courses while others who came from non-technical schools did not have the privilege. Engineering drawing is the most basic engineering-related course in any engineering faculties and students take the course in their first semester. However, students often face difficulties learning this course due to lack of visualization skills. According to several researches, students are likely to have difficulties in learning engineering drawing due to their visualization skills (Baronio, Motyl and Paderno, 2016). It is found that the ability to understand a three-dimensional representation is one of the problems exists among engineering students

taking engineering drawing in tertiary institutions. In addition, Kim (2012) also found problems among students to understand buildings in detail and to accurately take off the material quantities in Building Information Modelling (BIM) course. These problems are likely to be due to the lack of visualization skills among students. Figure 1 shows levels of visualization skills among engineering students in Universiti Teknologi Malaysia.
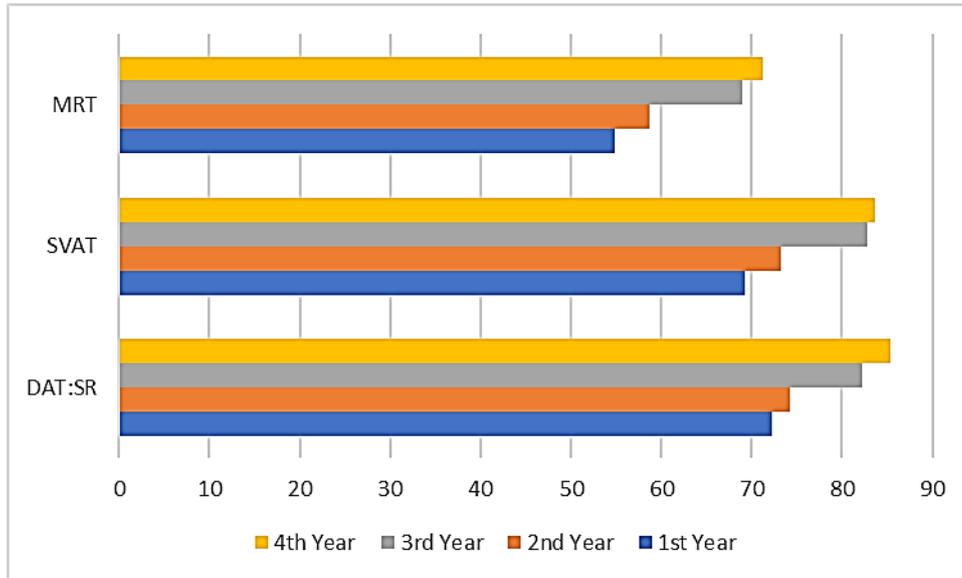
Figure 1. Levels of visualization skills among engineering students in UTM

Figure 1 shows the data obtained by Ali and Omar (2016), which investigated visualization skills among engineering students in Universiti Teknologi Malaysia. From the figure, it can be seen that students' visualization skills improve throughout their studies. Their visualization skills improve significantly each year of studies which show that the program helps students to indirectly train their visualization skills. However, there is still concern about the students' visualization skills during their first year. This is because, the data above is based on the average scores of the visualization test which does not show the exact percentage of students who have high, moderate and low level of visualization skills. Figure 2 shows the levels of visualization skills among students in the first year.
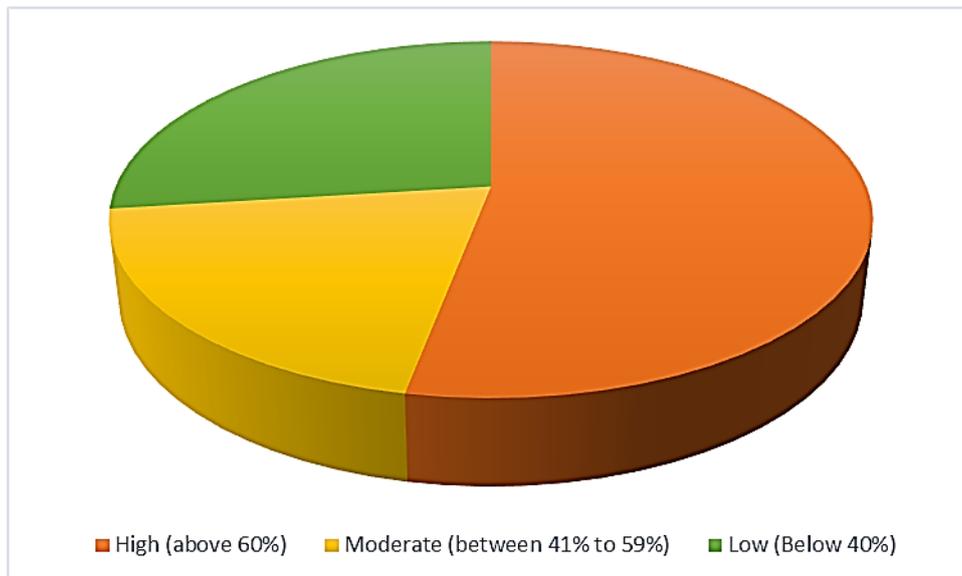
Figure 2. Levels of visualization skills among first year engineering students based on SVAT test

Figure 2 shows that more than half of freshman engineering students possess high level of visualization skills meanwhile the rest of the students possess moderate and low levels of visualization skills. This study was conducted by Omar and Ali (2016) and the samples were engineering students in Universiti Teknologi Malaysia. Based on the result, almost half of the students do not have good visualization skills when they enrol in university. Even though research shows that visualization skills will improve throughout the years of studies, it is crucial for them to develop it as early as possible since the skills are important for them to master other advanced engineering courses.

Previous research on visualization skills

There are various researches which focus on visualization skills especially among engineering students. Since year 2000, there has been a steady increase on the amount of publication related to visualization skills among engineering students worldwide. The increasing trend derived from Scopus database can be seen in Figure 3.
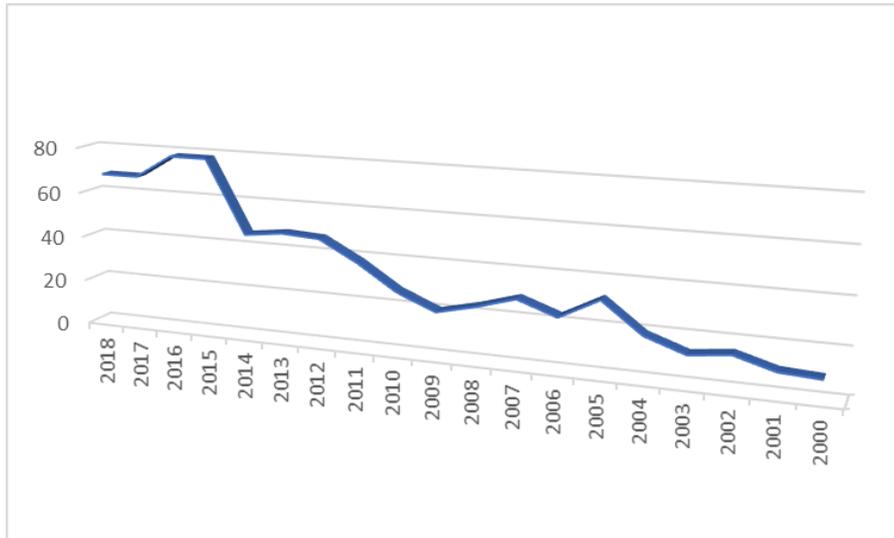
Figure 3. Trends of publication on visualization skills and engineering education

However, publication related to visualization skills among engineering students based on Scopus database shows that United States have the highest number of publications in this area followed by Spain and United Kingdom. Figure 1 shows the publication related to visualization skills among engineering students sorted according to countries.
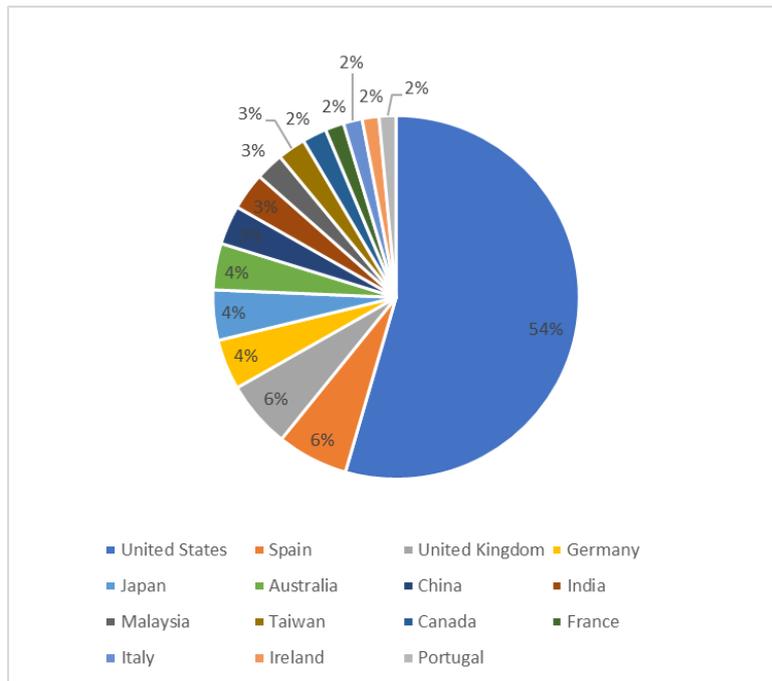
Figure 4. Publication according to countries

Most of the researches done in this area explored visualization skills among engineering students due to their related performance on spatial task of a real world (Lajoie, 2003). This is because engineers have high scores in spatial aptitude tests which make visualization as an important factor in their success (Sorby, 2009; Martin-Gutierrez, et al., 2010). Visualization is a process where a person recalls or generates images in their mind (Allen, 2010). Other than that, Dayana (2013) mentioned that visualization is a process of translating ideas into real shapes. Studies by various researchers found that visualization skills are important for engineering students to learn engineering drawing. In addition, Ben-Chaim et al. (1989) stated that it is also important for achievements in mathematics, science and art.

A research by Branoff and Dobelis (2013) on the relationship between spatial visualization ability and the ability of students in modelling three-dimensional object from engineering assembly drawing showed that there was a significant correlation between visualization test score and students' score on modeling test. It is because to interpret the assembly drawing, students must also be able to mentally manipulate the two-dimensional information in the drawing, visualize in three-dimensional form and reconstruct the three-dimension modelling program. However, high scores in any visualization test do not mean students will perform well in modelling tests since there is a need for an accurate method to assess the students' models.

Another research by Sorby (2009) in developing spatial cognitive skills among middle school students showed that 96 out of 535 freshmen who attended the engineering faculty failed the visualization test. Due to this situation, a method to improve the students' visualization skills are developed which consists of software and workbook. It is found that the use of software and workbook is an appropriate method to use among middle school students in improving their visualization skills. It can be observed that students enjoyed participating in the training program and their visualization skills increased significantly as compared to those who are excluded from the training. Lajoie (2010) found that using technologies can act as tools to improve cognitive skills of students in learning orthographic projection. This is because it can support students in problem solving and critical thinking as well as support learning. This finding is also parallel with Jonassen and Reeves (1996) which claims technologies can be beneficial for students to acquire skills and knowledge but with an appropriate consideration towards the design and the aptitude measure.

A study by Kosa and Karakus (2017) was conducted to identify the effect of visualization skills towards predicting success in CAD engineering drawing course among engineering students in a university in Turkey. This study found that students who attended the courses with CAD-based activities showed positive effects towards their studies as well as visualization skills level. The reason for the researcher to choose this course in their research was due to the role of this course as a part of core curriculum for most engineering programs. Another study conducted by Duffy et al., (2018) identified visualization skills as one of predictors of success in certain fields of engineering studies. The study was conducted among engineering students in United States and Australia where three fields were chosen; mathematics, electrical engineering and chemical engineering. Based on the results, visualization skills were important to all these three fields due to its role in problem solving tasks. Thus, visualization skills need to be further emphasized more among engineering students in order to enhance their problem-solving abilities and increase their chances of performing well in engineering courses.

Conclusion

It is crucial for educators to identify which factors can contribute towards their students' success. However, it is also important for the students themselves to know what types of skills they need to enhance in order to excel in their studies and their future career. Researches in this area have proven that visualization skill is one of the skills needed in predicting the success of students especially those in engineering fields. In addition, various researchers also have identified a variety of learning environment which educators can apply to train students' visualization skills throughout their studies. Thus, the mastery of visualization skill needs to be emphasized among engineering students in order to ensure the qualities of future engineering graduates.

References

Ali, D. F., Omar, M., & Mokhtar, M. (2016). Spatial visualization ability among engineering students in Malaysia. Man in India, 96(1), 203-209.

Allen, A. D. (2010). Complex Spatial Skills: The Link Between Visualization and Creativity. Creativity Research Journal , 241-249.

Allen, A. D. (2010). Complex spatial skills: The link between visualization and creativity. Creativity Research Journal, 22(3), 241-249.

Baronio, G., Motyl, B., & Paderno, D. (2016). Technical drawing learning tool-level 2: An interactive self-learning tool for teaching manufacturing dimensioning. Computer Applications in Engineering Education, 24(4), 519-528.

Ben-Chaim, D., Lappan, G., & Houang, R. T. (1989). Adolescents' ability to communicate spatial information: Analyzing and effecting students' performance. Educational Studies in Mathematics, 20(2), 121-146.

Contero, M., Naya, F., Company, P., Saorín, J. L., & Conesa, J. (2005). Improving visualization skills in engineering education. IEEE Computer Graphics and Applications, 25(5), 24-31.

Duffy, G., Sorby, S., Reves, P. R., Delahunty, T., Perez, L., & Ravishankar, J. (2018). The Link between Spatial Skills and Engineering Problem-Solving. In 2018 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE) (pp. 272-278). IEEE.

Isham, D. (1997) Developing a Computerized Interactive Visualization Assessment. Journal of Computer-aided Environmental Design and Education, 3(1), 1-15. Retrieved February 19, 2015 from http://scholar.lib.vt.edu/ejournals/JCAEDE/v3n1/

Kösa, T., & Karakuş, F. (2018). The effects of computer-aided design software on engineering students' spatial visualisation skills. European Journal of Engineering Education, 43(2), 296-308.

Leopold, C., Gorska, R. A., & Sorby, S. A. (2001). International experiences in developing the spatial visualization abilities of engineering students. Journal for Geometry and Graphics, 5(1), 81-91.

Martin-Gutierrez, J., Saorin, J. L., Contero, M., Alcaniz, M., Perez-Lopez, D. C., & Ortega, M. (2010). Design and Validation of an Augmented book for Spatial Abilities Development in Engineering Students. Computers & Graphics, 77-91.

Martín-Gutierrez, J., Trujillo, R. E. N., & Acosta-Gonzalez, M. M. (2013). Augmented reality application assistant for spatial ability training. HMD vs computer screen use study. Procedia-Social and Behavioral Sciences, 93, 49-53.

Nordin, M. S., & Saud, M. S. (2006). Kemahiran visualisasi: Kemahiran kognitif tahap tinggi dalam pendidikan teknik dan vokasional. In Seminar Kebangsaan Pendidikan Teknik dan Vokasional.

Schuchardt, K. L., Black, G. D., Chase, J. M., Elsethagen, T. O., & Sun, L. (2007). Process integration, data management, and visualization framework for subsurface sciences. In Journal of Physics: conference series (Vol. 78, No. 1, p. 012064). IOP Publishing.

Schuchardt, P., & Bowman, D. A. (2007, November). The benefits of immersion for spatial understanding of complex underground cave systems. In Proceedings of the 2007 ACM symposium on Virtual reality software and technology (pp. 121-124). ACM.

Scribner, S. A., & Anderson, M. A. (2005). Novice Drafters' Spatial Visualization Development: Influence of Instructional Methods and Individual Learning Styles. Journal of Industrial Teacher Education, 42(2), 38-60.

Titus, S., & Horsman, E. (2009). Characterizing and improving spatial visualization skills. Journal of Geoscience Education, 57(4), 242-254.

Global Teach Agriculture: Bridging Differences with Shared Content

Nur Husna Abd Wahid[1], Melanie Miller Foster[2], Daniel Foster[3], Brad Kinsinger[4], Nornazira Suhairom[5], Yusri bin Kamin[6], Ahmad Nabil Ahmad[7]

[1,5,6,7] School of Education, Faculty of Social Sciences & Humanities, Universiti Teknologi Malaysia, Malaysia
[2,3,4] Pennsylvania State University, USA

E-mail: husna@utm.my[1], mjm727@psu.edu[2], ddf12@psu.edu[3], bradley.kinsinger@hawkeyecollege.edu[4], p-nazira@utm,my[5], p-yusri@utm.my[6], ahmadnabil@utm.my[7]

Abstract: The Global Teach Ag Consortium, comprising Pennsylvania State University, Hawkeye Community College, and Universiti Teknologi Malaysia, conducted a group study abroad project for one whole month in Malaysia. This project involved 12 U.S participants (6 U.S pre-service agriculture teachers, 6 U.S current agricultural high school teachers) and 10 UTM pre-service Living Skills teachers. The purpose of the project is to develop and prepare globally-minded agricultural education teachers through a short-term exchange experience in a contextually relevant situation. The proposed program objectives are to: i) increase the global competence of pre-service and current agricultural educators; ii) focus on the intersection of culture and the agriculture systems in Malaysia and iii) promote the integration of international studies into the secondary agriculture classroom. The project was design into four main parts i) Recruitment and Selection, ii) Orientation, iii) Travel/In-Country Activities, and iv) Post-Travel Follow-Up. This project applied a formal evaluation strategy to evaluate the project goals. Both formative and summative evaluation approaches are used to document outcomes of the project. The program had impacted participants through the enhancement of knowledge, skills and disposition aspects of global competence. Both participants from the U.S and Malaysia showed a great global civic sensitivity and intercultural communication skills.

Keywords: Global Competencies, Teacher Education, Intercultural Experience, Study Abroad.

Introduction

Global teach agriculture initiative at Pennsylvania State University Initiative is to develop capacity in agriscience teachers and agriscience education programs for global impact in food, fiber, and natural resources through youth development and education programming (AESE, 2018). The Global Teach Ag Consortium, comprising Pennsylvania State University, Hawkeye Community College, and Universiti Teknologi Malaysia, organized a one-month group study abroad project for U.S. pre-service and current agricultural educators at the secondary and post-secondary levels. The overall purpose of the project is to develop and prepare globally-minded agricultural education teachers through a short-term exchange experience in a contextually relevant situation.

According to Bank et al., (2005) current teachers are require having the ability of teaching teach a diverse population of students where students can come from different country, ethnicity and language. In addition, internationalizing teacher education program in the United State is highly encouraged (Quezada, 2010) since teacher educational program in the US is less internationalized. The Global Teach Ag Consortium desires to expand the global experience offerings for U.S. current and pre-service agricultural educators to continue the momentum of the desire to globalize secondary agricultural education, and because of the growing demand for such experiences. Overall, the project is aimed to develop participants' global citizenship is operationally defined as a multi-dimensional construct that entails three interrelated domains: social responsibility, global competence and global civic engagement.

Background of the Research Project

Global teach agriculture initiative at Pennsylvania State University Initiative is to develop capacity in Agri science teachers and agriscience education programs for global impact in food, fiber, and natural resources through youth development and education programming (AESE, 2018). The Global Teach Ag Consortium, comprising Pennsylvania State University, Hawkeye Community College, and Universiti Teknologi Malaysia, organized a one-month group study abroad project for U.S. pre-service and current agricultural educators at the secondary and post-secondary levels. The overall purpose of the project is to develop and prepare globally-minded agricultural education teachers through a short-term exchange experience in a contextually relevant situation.

According to Bank et al., (2005) current teachers are require having the ability of teaching teach a diverse population of students where students can come from different country, ethnicity and language. In addition, internationalizing teacher education program in the United State is highly encouraged (Quezada, 2010) since teacher educational program in the US is less internationalized. The Global Teach Ag Consortium desires to expand the global experience offerings for U.S. current and pre-service agricultural educators to continue the momentum of the desire to globalize secondary agricultural education, and because of the growing demand for such experiences. Overall, the project is aimed to develop participants' global citizenship is operationally defined as a

multi-dimensional construct that entails three interrelated domains: social responsibility, global competence and global civic engagement.

Project Design

The program was organized in four phases: 1) Recruitment and Selection, 2) Orientation, 3) Travel/In-Country Activities, and 4) Post-Travel Follow-Up: Reflection, Outreach, and Other Dissemination Activities.

i.   Recruitment and Selection: Recruitment activities started in October 2017 with Six (6) US current secondary agricultural educators Six (6) US pre-service agriscience teachers and Ten (10) UTM pre-service living skills teachers was recruited. All project participants were treated equally without regard to race, color, national origin, gender, age, or handicapping condition.
ii. Orientation: Components of the orientation include weekly classes (US), participant writing assignments (US), and connection with a Malaysian "digital pen-pal."
iii. Travel/In-Country Activities: The program in Malaysia includes three key activities: a) the study of the Malaysian agricultural practices and system, b) skill development in teaching in an international setting, and c) educational site visits. All of these were designed to foster learning about Malaysian culture, history, agriculture, and education.
iv. Post-Trip Follow Up: Reflection, Outreach & Other Dissemination: Follow up activities was designed to allow participants to more deeply integrate the awareness, skills and knowledge from their experience. This aligns with experiential education theory (Kolb & Kolb, 2009) indicating that reflection upon engagement and plans for future use assist in long term retention of knowledge, skill or disposition. Guided reflection was a key component of each phase of the experience: pre-departure, during travel, and post-travel.

Project Evaluation

Both formative and summative evaluation approaches was used to document outcomes of the project. Formative evaluation is ongoing as the project progresses and helps in making adjustments, while the summative approach helps to determine the effectiveness of the project in terms of accomplishing project goals. Within the formative evaluation approach, two components of formative evaluation will be used. These include: implementation evaluation and progress evaluation (National Science Foundation, 2002).

Implementation evaluation will help the project staff in determining whether the project is being conducted as planned and address the concerns related to implementation fidelity. Progress evaluation helps in assessing the progress made in meeting the goals as the project progresses. Example of data collected from both US and Malaysia participants are:

a.   Daily T.I.P.S (participants are required to submit daily reflection) - Total of 546 daily reflection was collected.
b.   Daily Blog: 50 blog Post (during and after the project)
c.   Questions during daily reflection session
d.   Survey & Interview: Ongoing
e.   Personal Journal.

Both qualitative and quantitative methods will be used to analyze the data. Qualitative methods will include focus group interviews, observations, and journaling. Data will be analyzed and evaluated at each phase for their value in achieving the stated project goal. The quantitative methods used will consist of summary indicators, such as measures of central tendency (mean, median and mode), standard deviations for distribution, and percentages. Additionally, a number of statistical techniques will be applied to analyze data. The use of statistical techniques will depend on the type of data collected.

Project Feedbacks/Result

This paper will describe some feedback from the program. One of the feedbacks is from a short survey distributed among Malaysia participants aimed to identify the participants' perception of the program.

Short Survey:

Table 1 . Average Percentage on the Benefit of AgEd2Malaysia among Malaysian Participants Before and After the Program

Survey Items	% Before Experience	%After Experience
Personal Development		
Increased self-confidence	56	92
Served as a catalyst for increased maturity	55	89
Impact on world view	44	95

Academic Commitment		
Enhanced interest in academic study	63	90
Influenced educational experiences after the program	55	94
Commitment to foreign language (English)	51	92
Intercultural Development		
Helped me better understand my own cultural values and biases	57	94
Influenced me to seek out a greater diversity of friends	54	94
Continues to influence interactions with people from different cultures	58	91
Career development		
Acquired skill sets that influenced career path	58	94
Ignited an interest in a career direction pursued after the experience	56	94

N: 10 Participants

Based on Table 1, Malaysian participants on average showed an increase in percentage on how they feel about the benefit of the program. The average percentage increased for all item is about 40%. Item on Impact on world view showed the biggest percentage increase among other item.

Reflection Question Feedback

One of the questions asked in the reflection session is how has this experience help you grow professionally?

Table 2. Reflection Sample Feedback from Malaysian and US Participants

Malaysia Participants	US Participants
M1: "Learning about different people, culture, language, religion, and agriculture really has changed my perceptions about a lot of things. All this experience will be useful to me and my future students. It also helped me to grow to become a better person. Communication and relationships are very important and that's what I learned in #AgEd2Malaysia"	US1: "This trip helps cement the idea that there are a lot of different people in the world but that you can still find love and kindness everywhere"
M2: "The experience in preparing a lesson and teaching in a real situation was very valuable to me. This is something that will help me in preparing to become a teacher one day. We have to have experiences such as these in order to understand the challenges"	US2: "Through this trip we interacted with a lot of different races and religions. I now have more knowledge and acceptance of other cultures"
M3: "This program helped me increase my confidence level to talk with other people that have a different language."	US3: "This trip has helped me to become passionate about educating others about the world. There are many ways to do things and we can learn from these. I want my students to be more open to accepting others."

Conclusion

Overall, the one-month program was a success regardless the challenges faced before and during the program. Based on data collected form daily reflection, journal, refection questions and blog posting and observation during the program, we strongly believed that the objectives was achieved. Both participants from the US and Malaysia successfully overcome the challenges and task despite some communication barrier at the early stage of the program. Overall participants believed that that this program had assist them in their professional development especially in preparing them to become a global minded educator. From table 2, participants also believed that this program aided them be more open minded and acceptance of other religion, different cultural practice and language. At the end, all participants agreed that in learning differences they found more similarity between them. The program had impacted participants both immediately and in the long term through enhancing knowledge, skills and disposition aspects of global competence.

Reference

AESE. (2018). Global Teach Ag! Initiative Retrieved from https://aese.psu.edu/teachag/global/initiative

Banks, J., Cochran-Smith, M., Moll, L., Richert, A., Zeichner, K., LePage, P., et al. (2005). Teaching diverse learners. In L. Darling-Hammond, & J. Bransford (Eds), Preparing teachers for a changing world (p. 232). San Francisco, CA: Jossey-Bass.

Kolb, A. Y., & Kolb, D. A. (2009). Experiential learning theory: A dynamic, holistic approach to management learning, education and development. *The SAGE handbook of management learning, education and development*, 42-68.

National Science Foundation, 2002 The 2002 User-Friendly Handbook for Project Evaluation. Retrieved from (NSF 02-057). https://www.nsf.gov/pubs/2002/nsf02057/nsf02057.pdf

Quezada, R. L. (2010). Internationalization of teacher education: Creating global competent teachers and teacher educators for the twenty-first century. In: Taylor & Francis.

The Effects of Physical Activity to Social Skills of the Students

Misriandi[1], Yufiarti[2], Elindra Yetti[3], Iswan[4], Farihen[5]
[1,4,5] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia
[2,3] Universitas Negeri Jakarta, Jakarta, *Indonesia*

E-mail: misriandi@yahoo.co.id[1], yufiarti@unj.ac.id[2], elindrayetti@unj.ac.id[3], iswan_seameo@yahoo.com[4],
farihen@gmail.com[5]

Abstract: The purpose of this study was to study the effect of physical activity, on social skills of elementary school students of South Tangerang City. survey method with the technique of independent variable influence to the dependent variable. Samples from this research are 164, 2 grades of Lab school FIP UMJ and 2 grades of Madrasah Pembangunan UIN Jakarta. Physical activity has a direct significant effect on social skills with a correlation coefficient of 0.342 and a regression coefficient of 0.569; Thus, the improvement of children's social skills can be achieved well if there is strong influence of physical activity

Keywords: physical activity, social skills

Introduction

Humans are social beings who are always in touch and need other people in their daily lives. As a human being, acting always relates to the environment in which he lives. Linking with other people is a part that is never separated from everyday life. Hossain, F. M. A (2014) explained, interaction is done to meet each other's needs and can live comfortably. "As a human being man cannot live without association. So, man's life is to an enormous extent a group life. Individuals cannot be understood apart from their relations with one another".

Emotional social development is a development that involves relationships and interactions with other people through feelings expressed by someone to other people, whether feeling happy or sad. According to Zurek (2014) in his research he mentioned the importance of interaction for children "peer interactions play an important role for young children in learning new concepts and developing social behaviors in preschool years". Social emotional development is one aspect of child development that needs to be stimulated, this is very important because it will affect the lives of children in the future, especially in interacting with the surrounding environment, both within the family, school and community Social emotional development can be developed by children when play activities or physical activities that are able to develop children's social behavior and control in emotional matters.

Harmony in the family is not always synonymous with the existence of intact parents (father and mother), because in many cases single parents are proven to be able to function effectively in developing child psychology. The most important thing for parents to consider is to create a democratic atmosphere within the family so that teens can establish good communication with their parents and siblings. Through reciprocal communication between children and parents, all forms of conflict will be easier to overcome. Conversely, communication that is rigid, cold, limited, pressing, full of authority will lead to prolonged conflict sharing so that it can cause social relations in the family between children and parents and siblings to be in harmony.

Few parents give serious attention to the problem of education of their children in school, as a whole, so that besides being smart, it also has character. The above fact shows that there is a lack of awareness and better responsibility for how aspects of intelligence, cheerfulness, creativity, skills, and growth of children can be developed in a balanced manner with the character of children. are children will feel unhappy, children also lack the learning experience needed to undergo the socialization process, children will often force themselves to enter into groups and this will increase the group's resistance to them and further reduce their opportunities to learn social skills. In addition, children will also tend to lack social skills, feel insecure, hesitate, lack confidence, cannot express thoughts and feelings freely, and are not satisfied in their lives.

Background of the research

Humans are social beings who always need other people in their daily life. Every human behavior is always related to the environment in which he is located. Associating with one another is a part that is never separated from everyday life. In order for the relationship to work well, social skills are needed

Social skills are a person's ability to interact with other people and can-do actions that are acceptable to the environment (Zsolnai, 2014). Social skills are the ability to interact with other people, through ways that can be accepted or judged to be appropriate in a social context. This interaction is mutually beneficial for individuals and others. In the journal PAUD PPs UNJ, delivered by Admi (2013) Interpersonal behavior is behavior that involves skills used during social interactions, also called friendship skills. Social skill is a person's ability to adapt well to his environment and avoid conflict when communicating both physically and verbally.

Through a series of social interactions in many activities both naturally experienced by children or through their own methods, such as true stories, socio-dramas, films etc. Then children are able to develop various social skills including building friendships, friendships, developing knowledge, and resolving conflicts between individuals. By fostering and maintaining various types of peer relationships or social experiences, especially through peer conflict, children gain knowledge about themselves versus others, and learn to share social skills that are very much needed to face various other life challenges.

In general, these social skills can be seen in several forms of behavior: behaviors related to oneself (intrapersonal) such as controlling emotions, resolving social problems appropriately, processing information and understanding the feelings of others; second, behavior related to others; and third, behavior related to academics, such as complying with regulations and doing what the teacher asks.

The development of children's social skills is strongly influenced by the child's condition and social environment, both parents, peers, and the surrounding community. If the child's condition and social environment can facilitate or provide opportunities for positive child development, the child can achieve good social skills. However, if the social environment is not conducive, it tends to display poor behavior. Social skills are very important for a child, because with good children's social skills, children can have high self-esteem, and can get along with their peers more broadly.

Based on some of the meanings described above, it can be concluded that social skills are defined as socially accepted behaviors that enable a person to interact with various other parties positively. In other words, social skills are behaviors that show the interest and ability of someone to interact. Physical activity is the movement of members of the body which causes energy expenditure, which is very important for maintaining physical, mental health, and maintaining quality of life to stay healthy and fit throughout the day.

According to Farizati in Khomarun (2013), Physical activity is any body movement that requires energy to do it. While exercise is a planned and structured physical activity and involves repetitive body movements and aims to improve physical fitness Physical activity is any bodily movement that increases energy expenditure and energy or burning calories (Ministry of Health, 2015). Physical activity is every movement the body produced by skeletal muscles which requires energy expenditure. Absence of physical activity (lack of physical activity) is an independent risk factor for chronic diseases, and overall is estimated to cause death globally (WHO, 2010).

Widiantini (2014) stated that adequate physical activity in adults can reduce the risk of hypertension and coronary heart disease. According to the Indonesian Ministry of Health, physical activity is very important for maintaining physical, mental health and maintaining quality of life to stay healthy and fit throughout the day. Based on the graph of the dynamic balance of boys and girls starting from the age of seven to the age of nine, boys are better off on balance than girls (Dhias, 2013).

There are several insights from some experts regarding physical activity including physical activity is the physical movement carried out by the body muscles and supporting systems. Physical activity is any bodily movement produced by skeletal muscle that requires energy expenditure (Almatsier, 2003).

1) Types of physical activity
Physical activity can be classified into three levels, physical activity that is suitable for adolescents as follows:

a. Mild activities: only require little energy and usually do not cause changes in breathing or endurance. For example: walking, sweeping the floor, washing, clothes / dishes, washing vehicles, dressing up, sitting, tutoring at school, tutoring outside of school, caring sister, watching TV, playing play station activities, playing computer, studying at home, hanging out
b. Medium activity: requires intense or continuous energy, rhythmic muscle movements or flexibility. Examples: jogging, table tennis, swimming, playing with pets, cycling, playing music, brisk walking.
c. Heavy activity: usually associated with exercise and requires strength, makes sweating. Example: running, playing soccer, aerobics, martial arts (eg karate, taekwondo, martial arts) and outbound. Based on the physical activity above, it can be concluded that the factor is the lack of physical activity of the child the cause of So, the understanding of physical activity is the movement of the body by the muscles of the body and its supporting systems which require energy expenditure.

Research methodology

The method in the study used a survey with the analysis technique of the influence of independent variables on the dependent variable partially or simultaneously. The population in this study was grade 2 students of SD Labschool FIP UMJ and second grade students of MI Madrasah Pembangunan UIN Jakarta. The total gathered from 11 classes totalled 278 people. The number of class 2 study groups is 8 classes in MI MP Development UIN Jakarta, and each class has an average of 28 students, so the total students are 224 students, plus 54 second grade students of SD Labschool, the total respondents are 278 students So the sample size in this study was 164 respondents.

Findings and Discussion

Based on the results of the Liliefors statistical calculation, it is known that the normality for the estimation error Y on X is obtained by L cal at 0.045. The Liliefors L table critical value for n = 164 at α = 0.05 is 0.0692. From these

results it is known that L cal ≤ L table, so it can be concluded that the distribution of Social Skills (Y) error estimation of Physical Activity (X) comes from populations that have a normal distribution. The results of the calculation of the estimated normality error test for Y on X can be seen in the following table.

Table 1. Normality Test Y over X

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual Y over X	,045	164	,200*	,993	164	,657

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Simple regression calculation of Y on X can be seen in the output of the following simple regression analysis:

Table 2. Coefficients[a] Regression Y over X

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	50,173	3,685		13,615	,000
	X	,595	,137	,324	4,356	,000

a. Dependent Variable: Y

From the calculation data for the preparation of the regression equation model between Social Skills with Physical Activity obtained a regression constant a = 50,173 and regression coefficients b = 0,595 Thus the relationship of the simple regression equation model is = 50,173 + 0,595 X. Before the regression equation model is further analyzed and used in drawing conclusions, first test the significance and linearity of the regression equation. The results of the significance and linearity test calculations are arranged in the ANAVA table as in the following table:

Table 3. ANOVA to Test the Significance of Regression Equations

$\hat{Y} = 50,173 + 0,595 X$

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1389,935	1	1389,935	18,972	,000[b]
	Residual	11868,767	162	73,264		
	Total	13258,701	163			

a. Dependent Variable: Y
b. Predictors: (Constant), X

Regression is = 50.173 + 0,595 X, for the significance test, it was found that Fcal 18.972 was higher that Ftable (0,05; 1: 162) 3.90 at a = 0.05. Since the Fcal > Ftable, then the regression equations was very significant.

Table 4. ANOVA for Linearity Test of Regression Equations

$\hat{Y} = 50,173 + 0,595 X$

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Y * X	Between Groups	(Combined)	2465.605	21	117.410	1.545	,072
		Linearity	1389.935	1	1389.935	18.287	,000
		Deviation from Linearity	1075.670	20	53.784	,708	,813
	Within Groups		10793.097	142	76.008		
	Total		13258.701	163			

For the linearity test obtained Fcal of 0.708 smaller than Ftable (0.05; 20: 142) of 1.63 at a = 0.05. Because Fcount <Ftable, the distribution of estimated points makes the line acceptable. The linear regression line revision point distribution can be seen in the following figure:
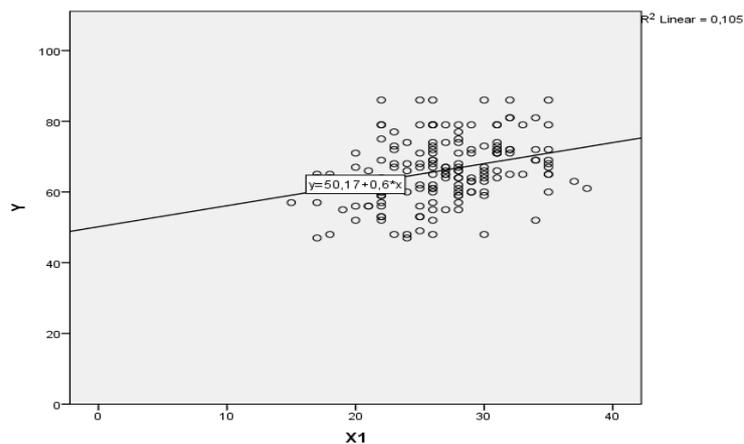
Figure 1. Graph of Regression Equations= 50.173 + 0.595 X

The output of the multicollinearity test is as follows:

Table 5. Test for Assumption of Multicollinearity

Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-17.644	9.603		-1.837	,068		
	X	,569	,116	,309	4.882	,000	,999	1,001

If the results of the calculation of the SPSS output are significant, more than 0.05, it can be said that the regression model has symptoms of heteroscedasticity, then the regression model is declared valid as a forecasting tool. The outputs of the heteroscedasticity test are as follows:

Table 6. Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.532	6.662		2.181	,031
	X	,002	,081	,002	,027	,978

Based on the SPSS output, it was found that the significance of ABSLT over X was 0.978, because the significance value of each regression was greater than 0.05 (sig> 0.05). It can be said that the regression model had symptoms of heteroscedasticity.

Physical Activity Influences Social Skills

From the results of testing the first hypothesis it can be concluded that there is an influence of physical activity on social skills with a correlation coefficient of 0.342 and a regression coefficient of 0.569. This gives the meaning of physical activity influencing social skills. Humans are basically social beings, this can be seen from a friendly attitude towards others, having sympathy, empathy and desire for social acceptance. However, the lifestyle of children in this era is very different. Keen (2012) Today's life patterns are always preoccupied with their respective activities, such as playing Play-station, online games, blackberry or the internet becomes a daily habit that if not restricted in its use it can affect the social life of children.

In the development of facilities and access that are all modern, not only adults can enjoy their convenience, but children can also enjoy these facilities. Facilities such as Play-station and online games already exist in various regions and can be accessed via the internet or mobile phones which are now owned by anyone. The impact of uncontrolled playing games will make children lose time to socialize. This can result in children becoming isolated from their relationships and social skills not developing, and the social sensitivity of children will be low in control of playing games will make children lose time to socialize. This can result in children becoming isolated from their relationships and their social skills not developing, and children's social sensitivity will be low.

Playing provides children with a variety of learning experiences, such as yielding, can understand other friends, learn to be democratic and learn to socialize. Good qualities can be obtained from games that involve physical activity because of the emergence of child interactions with playmates. The emergence of social

interaction of children through physical activity can provide provisions for children for their future lives. Tashadi (1993) physical activity in this case playing performed by children has the function of training their players to do important things which will be very useful for their lives in the community, such as training skillfully counting, practicing thinking skills, practicing courage, practicing being honest , sportsmanship, and so on. According to Ozyurek (2015) in his research stating that physical activity has an important contribution to social skills "Physical training and sports have important contributions in developing social skills." Physical training and sports have important contributions to the development of social skills and children's motor skills ".

The social interaction of children through physical activity can provide provisions for children in the future. Physical activity in this case playing performed by children has the function of training children to do important things, such as yielding, can understand other friends, learn to be democratic and learn to socialize.

Conclusion

Based on the results of the calculation of the research data and the results of the data analysis that has been described, some conclusions can be obtained as follows: Physical activity has a positive direct effect on social skills. This means that more children do physical activity will improve social skills.

References

Achroni, Keen. (2012). *Mengoptimalkan tumbuh kembang anak melalui permainan tradisional*. Jogjakarta: Javalitera.

Admi, P Putri. (2013). Peningkatan keterampilan sosial anak melalui permainan tradisional. *Jurnal Pendidikan Usia Dini. Volume 7 (2)*, p. 338 .

Almatsier, Sunita. (2003). Prinsip dasar ilmu gizi. Jakarta: PT. Gramedia Pustaka Utama.

Hossain, F. M. A. and Ali, (2014). The relationship between Individual and society. *Open Journal of Social Sciences*, 2, 130-137.

Hurlock, E. (Terjemah Meitasari Tjandrasa). (2013). *Perkembangan anak Jilid 1*. Edisi ke 6(Jakarta: Erlangga.

Kemenkes. (2015). Rencana Strategis Kementerian Kesehatan Tahun 2015-2019. Jakarta: Kementerian Kesehatan RI;

Khomarun, Wahyuni E., Nugroho M. (2013). Pengaruh aktivitas fisik jalan pagi terhadap penurunan tekanan darah pada lansia dengan hipertensi stadium I di posyandu lansia desa makam haji. *Jurnal Terpadu Ilmu Kesehatan, Volume 2 (2)*, 41-155.

Ozyurek, Arzu. (2015). Effects of physical training on social skill levels of preschool children, *Journal of Sports Science 3*, , 282-289.

Tashadi (1993). *Transformasi nilai dalam permainan anak*. Jakarta: Dirjen Kebudayaan.

WHO (2010). *Physical activity*. In Guide to Community Preventive Service, accessed on: February 12, 2018.

Widiantini, W., Z. T. (2014). Aktifitas fisik, stres, dan obesitas pada Pegawai Negeri Sipil. *Jurnal Kesehatan Masyarakat Nasional, 8(7)*, 329–336.

Zsolnai, Aniko dan Laszlo Kasik (2014), Functioning of Social Skills from Middle Childhood to Early Adolescence toin Hungary. *The Internasional Journal of Emotional Education*, Volume 6, Number 2, November. h; 1, ISSN 2073-7629.

Zurek, A., Torquati., & Acar, I. (2014). Scaffolding as a Tool for Environmental Education in Early Childhood. *International Journal of Early Childhood Environmental Education, 2*(1), 27-57

The Effect of Students' Self-concept and Learning Motivation toward Their Social Sciences Learning Achievements (A Survey at High School Students of Labschool FIP-UMJ)

Ahmad Susanto[1], Herwina Bahar[2], Yusri Kamin[3]
[1,2] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia
[3] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia

E-mail: ahm.susanto@gmail.com[1], wina_bahar@yahoo.com[2], p-yusri@utm.my[3]

Abstract: The purpose of this study was to analyze the effect of self-concept and learning motivation on learning achievement in Social Sciences (IPS). The research method used is a survey with correlational techniques. The technique for obtaining data from respondents uses a questionnaire (questionnaire). Data analysis with descriptive statistical method, multiple person correlation coefficient, determination coefficient and regression analysis. Statistical tests using t test and test f. The results showed that: 1) there was a significant effect of self-concept and motivation together on social studies learning achievement. This is evidenced by the acquisition of the values of Sig, 0,000 <0.05 and F0 = 14,552. 2) There is a significant effect of self-concept on social studies learning achievement. This is evidenced by the acquisition of the Sig.0.005 value <0.05 and t count = 2,923. 3) There is a significant effect of learning motivation on social studies learning achievement. This is evidenced by the acquisition of the Sig. 0,025 and t count = 2,307.

Keywords: *self-concept, learning motivation, learning achievement*

Introduction

The success of a child in education starts now and continues to develop itself starting from the family environment, society, nation and state to the world. Education plays a very important role. This is in line with the development of the demands of the world of work that not only requires human resources oriented to industrial life, but also in desperate need of human resources that have superior competencies, especially in terms of thinking skills.

To be an outstanding student, of course there are factors that influence it. These factors can come from within (internal factor) or from outside (external factor) of the students themselves. Among the many factors, self-concept and student motivation are factors that will influence the achievement of learning Social Sciences. Self-concept is an attitude, value and self-image of a person, in other words, self-concept is an idea or idea and an attitude developed by someone about himself in doing work. Burns in Slameto (2003: 182) states that "the self-concept refers to the connection of attitudes and beliefs we hold about ourselves". So, self-concept is an overall perception that someone has about himself.

The self-concept that is owned by someone will be greatly influenced by one's acceptance. The attitude of self-acceptance (self-acceptance attitude) is a symptom of the sense of self in a positive or negative tendency towards itself based on a straightforward assessment of their talents and abilities. This attitude of self-acceptance is accompanied by a sense of satisfaction with the advantages and disadvantages that exist in him (Shah, 2008: 234).

Background of the research

The background of this study is the still low mastery of students' self-concept in relation to learning motivation and social studies learning achievement of students of Lab school Middle School FIP-UMJ. In everyday life the existence of self-concept is very important. Self-concept is formed because of someone's interaction with other people around him. What someone perceives about him is inseparable from the structure, role and social status of the person. Structure, role and status are symptoms that result from interactions between one individual and another, between individuals and groups, or groups with groups. The structure, role and status that accompany all individual behaviours are influenced by social factors. The influence of social factors on the development of individual self-concepts has been proven by Rosenberg (Pudjijogyanti, 1988), which states that the development of self-concepts cannot be separated from the influence of social, religious, racial factors. Furthermore, Rosenberg (Pudjijogyanti, 1988) states that individuals with high social status will have a more positive self-concept than individuals with low social status. Adult individuals have difficulty combining themselves with one particular social group that suits them. One of the development tasks that must be carried out by adult individuals is to become part of a particular social group.

The response of individuals who are healthy towards themselves and their lives is the foundation for being able to adjust. Self-concept factors need to be considered in determining the success or failure of one's self. In other words, self-concept is something that greatly influences self-adjustment and is an important factor in one's development.

Self-concept is not a factor that is taken from birth, but a factor that is inspired and formed through the experience of individuals in dealing with others (Ritandiyono & Retnaningsih, 1996). In this interaction each individual will receive a response. The response received will be a mirror for individuals to assess and see themselves. So, self-concept is formed because of a feedback process from other individuals. If someone believes that people who are important to him like them, then they will think positively about themselves and vice versa. People who have a positive self-concept means having self-acceptance and positive self-esteem. They consider themselves valuable and tend to accept themselves as they are. Conversely, people who have a negative self-concept, also show negative self-acceptance. They have fewer valuable feelings, which cause feelings of resentment and self-rejection. The extent to which a person's success in adjusting to the environment is influenced by several factors, including the person's personality. Like human development and growth which includes various physical and mental functions, a person's personality also has development and change.

In addition to personality, self-concept is also influenced by the role or parenting style of parents. Rogers in Desmita (2009) believes that parents have a big role in helping their children develop self-concepts and put them on the path of self-actualization by showing them unconditional positive regard, praising them based on their inner values, regardless their behavior at that time. By giving positive awards and assessments, children can develop self-actualization and positive self-concepts. Conversely, assessments that are negative towards children will provide an unpleasant experience for them. This unpleasant experience tends to be released by the child from their self-concept, resulting in self-concepts that are not in harmony with the organism. With this self-concept, the child will try to be what the parents want, and not try to be what he really wants.

Our earliest self-concept is generally influenced by family, and other close people around us, including relatives. They are what is called the significant other. When we are young, they are our parents, our brothers and sisters, and people who live in one house with us. When we grow up, we try to gather the judgment of all those who have been in touch with us.

Research Methodology

The research method used is the survey research method with correlational techniques. This survey functions as an observation to get clear information about a problem in a study. This research is conducted for an action that is descriptive in nature, namely describing things that contain facts, clarification and measurement to be measured is a fact whose function is to formulate and describe what happened. The variable of this study consisted of dependent variables, namely social studies learning achievement (Y) and two independent variables, namely self-concept (X1) and learning motivation (X2). The technique for obtaining data from respondents uses a questionnaire (questionnaire). Data analysis with descriptive statistical method, multiple person correlation coefficient, determination coefficient and regression analysis. Statistical tests using t test and test

Findings

1.   Learning Achievement Data of Social Knowledge (Y)

Data on social studies learning achievements were obtained from the Semester Final Examination scores of 56 students who became the study sample. The value obtained is the lowest value 58, the highest is 95, the average is 76.52, the median is 75, the mode is 75 and the standard deviation is 9,352. When viewed from the results of the above calculations, it can be said that the social studies learning achievement of students at Labschool Middle School FIP-UMJ is quite good. This is indicated by the acquisition of an average value of 76.52.

2.   Student Self Concept Data (X1)

Self-concept data obtained from questionnaires answered by 56 students, resulting in a 79 score, 117 highest score, 99.25 average score, 99 median, 00 mode, and standard deviation of 9.590. From the results of the above calculations, it can be said that the self-concept of SMP Labschool FIP-UMJ students is good. This is indicated by the acquisition of an average score of 99.25 higher than the median value.

3.   Learning Motivation Data (X2)

Learning motivation data obtained from questionnaires were answered by 56 students as respondents, so that the lowest score was 87, the highest score was 122, the average score was 106.61, the median was 107, the mode was 107, and the standard deviation was 9.513. From the results of the calculation above, it can be said that the learning motivation of the students of Labschool FIP-UMJ Middle School is quite good. This is indicated by the acquisition of the mean learning motivation score of 106.61 approaching the median score.

Discussion

1.   Effect of Self Concept (X1) and Learning Motivation (X2) on Social Studies Learning Achievement (Y)

From the results of existing research and theory, it can be concluded that learning motivation has a positive influence on learning achievement. This means that high learning motivation can have a significant influence on social studies learning achievements of students of Labschool Middle School FIP-UMJ. Learning difficulties for students are due to several factors, including self-concept factors and learning motivation, which causes influences on student learning achievement. To become students who excel, of course there are factors that influence it.

Among the many factors, self-concept and motivation to learn are factors that will influence the achievement of learning in Social Sciences.

Self-concept is the attitude, value and self-image of a person. Or in other words, the concept of self is an idea and attitude that is developed by someone about themselves in doing work. Burns in Slameto (2003: 182) states that "the self-concept of refer to the connection of attitude and beliefs we hold check ourselves". The concept of self that someone has will be very influential by one's acceptance. The attitude of acceptance of oneself is a symptom of the realm of a teacher in being positive or negative towards himself based on a straightforward assessment of his talents and abilities. This attitude of self-acceptance is accompanied by a sense of satisfaction with the strengths and weaknesses of the teacher (Syah, 2008: 234).

A person will succeed in learning if on his own there is a desire to learn. This desire or drive to learn is called motivation. Without motivation learning activities is difficult to succeed. Motivation will cause a change in energy that exists in humans, so that it will cling to psychiatric problems, feelings, and emotions, to then act or do something, all of this is encouraged because of the purpose of needs or desires. In learning activities, if students do not do something that should be done, it is necessary to investigate the causes that usually vary, maybe he is not happy, sick, hungry, there are personal problems and others. This means that in children there is no change in energy, not aroused by affection to do something because they do not have a purpose or need for learning.

2.   Effect of Self-Concept (X1) on Social Studies Learning Achievement (Y)

The results of the above study conclude that the concept of self has a positive influence on improving the learning achievement of social science students of Middle School Labschool FIP-UMJ. This implies that students' self-concept gives a significant influence on the improvement of social studies learning achievement of students of Labschool Middle School FIP-UMJ.

Self-concept is a social product that is formed through the process of internalization and organization of psychological experiences. These psychological experiences are the result of an individual exploration of his physical environment and a reflection of himself received from people who influence him. Self-concept is an individual's awareness and evaluation of himself regarding thoughts and various perceptions about himself or in other words that the main data source self-concept comes from himself. In this case, he himself is active to continue researching and evaluating about the condition and ability of himself completely. Self-concept basically consists of two components which include self-image which is a simple description of ourselves, and self-esteem which is a unity of trust that we always carry everywhere that we have accepted the truth regardless of whether it is true or not.

Although self-concept belongs to someone individually, it turns out that self-concept is also formed through interaction with others and refers to how people think about themselves. This is in line with the definition put forward by Mulyana (2001: 7) that the concept of self as our view of who we are, and that we can only get through information provided by others to us. Likewise, as stated by Rahmat (2003: 99) that self-concept is those of physical, social, and psychological perceptions of ourselves that we have driven from experiences and our interaction with others.

3.   Effect of Learning Motivation (X2) on Social Studies Learning Achievement (Y)

From the results of existing research and theory, it can be concluded that learning motivation has a positive influence on learning achievement. This means that high learning motivation can have a significant influence on social studies learning achievements of students of Labschool Middle School FIP-UMJ. In working someone needs encouragement both inside and outside themselves. This drive is a driving force for someone to do work. Similarly, students do their learning. Motivation is a driving force for someone to contribute as much as possible for the success of the organization to achieve its goals. With the understanding, that the achievement of organizational goals means that the personal goals of the members of the organization are achieved (Siagian, 2002: 102). With this understanding it can be understood that humans carry out their activities based on the impulses that arise from within themselves. In fact, it includes basic things that are considered habitual. Based on these definitions, it can be concluded that the motive is a psychological state originating from within the human being to do something to achieve the goal. The motive gives purpose and direction to human behavior.

The factors that drive the motivational aspects are success, recognition, the nature of work that is a person's responsibility, the opportunity to achieve progress, and growth. While the hygiene factors that stand out are company policy, supervision, employment conditions, wages and salaries, relationships with colleagues, personal life, relationships with subordinates, status and security. Thus, the existence of good motivation will show good learning outcomes for diligent efforts based on the existence of motivation will be able to give birth to good achievements. The intensity of one's motivation will determine the level of achievement of his achievements. Thus, it is clear that the impulse that is in itself (intrinsic motivation) will greatly affect one's competence.

Conclusion

In this section of the conclusion, the researcher summarizes the results of the research obtained in the field, namely as follows:
1.   There is a significant effect of self-concept and motivation together on social studies learning achievement. This is needed with the acquisition of the Sig. 0,000 <0,05 and F0 = 14,552. Together, self-

concept and learning motivation contribute as much as 35.4% to the variables of social studies learning achievement.

2. There is a significant effect of self-concept on social studies learning achievement. This is evidenced by the acquisition of the Sig. 0.005 <0.05 and t count = 2.923. The self-concept variable contributes 2.445% in improving social studies learning achievement.

3. There is a significant effect of learning motivation on social studies learning achievement. This is evidenced by the acquisition of the Sig. 0,025 <0,05 and t count 2,307. The learning motivation variable contributes 15% in improving social studies learning achievement.

References

Ballen, S. dkk. (1993). *Materi pokok pendidikan IPS,* Jakarta: Universitas Terbuka

Banks & Ambrose (1990) *Teaching strategies for the social studies,* New York: Longman.

Baron, J.B. & Steinberg, R.J. (1987). *Teaching thinking skill: Theory and practice,* New York: W.H. Freeman &Co.

Beyer, B.K. (1979). *Inquiry in the social studies classroom: A strategy for teaching,* Columbus: Charles E. Merril Pub. Co.

Clark, Barbara (1983). *Growing up gifted,* second edition. Chio: Charless E. Merril Publishing Company.

Clark, H.L. (1973). *Teaching social studies in secondary school,* London: Colin McMillan Pub.

Cronback, LE. (1958). *Psychology education,* New York: Gim and Company.

Djaali (2010). *Psikologi pendidikan,* Jakarta: Bumi Aksara.

Djiwandono, Sri Esti W. (2007). *Psikologi pendidikan,* Jakarta: Grasindo

Gagne & Briggs (1979). *Principle of instructional design,* USA: Holt and Winston.

Gagne, Robert M. (1985). *The condition of learning,* New York: CBS College Publishing.

Hamalik,(2004). *Proses belajar mengajar.* Jakarta: Sinar Grafika.

Sardiman (1994). *Inteaksi dan motivasi mengajar,* Jakarta: Raja Grafindo Persada.

Sumanto, Wasty (1998). *Psikologi pendidikan,* Jakarta: Rineka Cipta.

Suryabrata, Sumadi (1982). *Perkembangan individu,* Jakarta: CV. Rajawali Press.

Syah, Muhibin (2008). Psikologi pendidikan dengan pendekatan baru. Bandung: Remaja Rosdakarya.

Winkel, WS. (1996). *Psikologi pendidikan dan evaluasi pendidikan,* Jakarta: Grafindo.

The Depiction of Mathematics Teaching-Learning Process for Slow Learners at Inclusive Junior High School Daar El-Salam Bogor

Asih Puryanti[1], Rahmita Nurul Muthmainnah[2], Ismah[3]
[1]Planet Magic Math, Bekasi, Indonesia
[2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: asih.puryanti@gmail.com[1], rahmita_nurul @yahoo.co.id[2], ismah.fr@gmail.com[3]

Abstract: The purpose of this research was to describe the mathematics teaching-learning process for slow learners at Inclusive Junior High School Daar El-Salam Bogor, which covered: (1) the teachers' preparation before teaching-learning process; (2) the phases of mathematics teaching-learning process; (3) the problems faced by slow learners, (4) the solutions toward the problems. This research used descriptive qualitative approach. The subject of this research were the mathematics teacher and the shadow teacher, while the object of this research was the teaching-learning process of mathematics for slow learners at Inclusive Junior High School Daar El-Salam Bogor. The data were collected through interview, observation, and document analysis. The source triangulation was used to examine the result of the observation, while triangulation method was used to examine the data from interview and from observation. The results of this research revealed that the preparation before teaching-learning process was well set up. The teacher prepared learning resources, lesson plan, and syllabus, while the shadow teacher prepared the Individualized Educational Program for the slow learners. The phases of the Mathematics teaching-learning processes were done through three stages: preliminary, instructional stage, and evaluation; in which the slow learners were fully guided by the shadow teacher in every stage. There were some problems faced by slow learners in mathematics class, one of which was that they found it difficult to calculate the complex mathematics operation; therefore, the problems given to them were modified and adjusted their ability.

Keywords: mathematics teaching-learning process; inclusive, slow learner.

Introduction

Every child this world was born with a different condition (physically and mentally). There are some children who were born with physical and mental disorders which usually called Special Needs. Special need children is the one with unique characteristics. The classification of children with special needs in Indonesia, according to the Directorate of Special Education are: visually disabled children, deaf (hearing loss), mentally retarded, mute, physically disabled, gifted child, dyslexia, autism, children with concentration and attention disorders, slow learners, victims of drug abuse / HIV / AIDS and indigo (children who have a sixth sense).A slow learner is a child of below average intelligence, whose thinking skills have developed significantly more slowly than children in general (Burl, 1973; Subini, 2011; Triani and Amir, 2013). This child will go through the same basic developmental stages as other children but will do so at a significantly slower rate (Garnida, 2015; Kirk, 1962). However, this development, while being slower, nevertheless be relatively even.

The slow learners tend to be slow in understanding especially an abstract concept. As Sumantri and Badriyah (2005) mentioned that the characteristics of slow learner as follows: lags in the process of thinking; weak in the catch understanding; difficult in recalling the material provided; difficult in concentration; and failed repeatedly in achieving learning. The difficulties experienced by the slow learners in understanding the abstract concept such as mathematics could be overcome one of which through inclusive education that adjust their unique need and characteristic in the teaching–learning process.

Background of the research

The regulation PERMENDIKNAS 2009 no 70 article 1 stated that Inclusive education is an educationimplementation system that gives a change to every disability and special learners to have an education in the same enviroment with non-disability learners.In line with the regulation, Mujito, Harizal, and Elfindri, (2013) define inclusive education as the placement of students with special need in regular classroom.

Since the quality of teaching-learning for slow learners could be improve through the appropriate model of teaching-learning that in accordance with the students' character, therefore, researcher wants to examine "The Depiction of Mathematics Teaching-Learning Process for Slow Learners at Inclusive Junior High School Daar El-Salam Bogor". This research has its own characteristics related to the research in mathematics teaching-learning process. In this research the researcher objectives to describe the mathematics teaching-learning process in inclusive school in this case Daar El-Salam Junior High School. The problemsdiscussed in this research are: (1) how is teachers' preparation before mathematics teaching-learning process in inclusive class, (2) what are the phases of mathematics teaching-learning process for slow learner in inclusive class, (3) what are the problem faced by slow learners in inclusive class, and (4) how do the teachers solve the problems in teaching learning process.

Research Methodology

Considering that this research describes the teaching-learning process of mathematics for slow learners, descriptive qualitative approach is used in this research. The object of this research was the teaching-learning process of mathematics in inclusive class. The researcher describes the teaching-learning process of mathematics in inclusive class of the eighth grade of class B at Daar El-Salam Bogor Junior High School. While the subject of this research are the mathematics teacher and the shadow teacher. The subjects selected by purposive sampling technique which consider to the specific intent in accordance with the purpose of this research. The data were collected by interview, observation, and documentation. To check the validity of the data, this research uses both source and method triangulation. The source triangulation was used to examine the result of the observation, while triangulation method was used to examine the data from interview and from observation.

Findings and Discussion

Based on the analysis of the observation, interview, and document analysis, the findings of the mathematics teaching-learning process in inclusive class at Daar El-Salam Junior High School as follows:

First, the teachers' preparation. Before implementing teaching-learning process, the regular mathematics teacher set all the learning source, lesson plan, and syllabus up. While for the slow learners that require additional support or adjustments to teaching, learning and assessment activities, there are Individualized Educational Program designed by the shadow teacher. There were no specific media used during teaching-learning process, especially for the slow learners. The teacher was used mathematics book as the learning source and PPT presentation that shown on television in front of the class to explain the learning material, which was about linear equation.

Secondly, the phase of mathematics teaching-learning process. Inclusive education held by Daar El-Salam Junior High School classified as partial inclusion, it means that the special need students are educated in the regular classroom for most time of the day. While for the rest time of the day, they studied in the resource room with their special education teacher aide to work on individual academic skills or behavioral goals. The phases of the Mathematics teaching-learning processes were done through three stages: preliminary, instructional stage, and evaluation. In the preliminary stage, the teacher prepared students psychologically and physically before the teaching-learning process. After that, the teacher posed questions related to the material that will be learned that day as a brainstorming to know their prior knowledge, and also explained the learning objectives to the students. Next stage is instructional stage. At this stage, the teacher explained the material about linear equation through PPT that showed in the television. When the teacher explained the material in front of the class, the shadow teacher give detail to the slow learners. Finally, is evaluation stage. In this stage, the teacher summarized what has been learned and do the evaluation test. The test given will be orally and in writing. The result then, will be assess by the teacher for regular students, and by the shadow teacher for the slow learners. Assessment for the slow learners adjusted the students' need

Next, the problems faced by slow learner students. There are some problems faced by slow learner student in mathematics teaching-learning process. Through observation in mathematics teaching-learning process, the teacher said that the problem faced by slow learners is that students experienced difficulty in understanding the mathematics problems especially the word problem. Both of the slow learners in that class lack in basic operation such as multiplication and division. They need extra time to do that calculation in their head. This condition makes them faces difficulty when solve mathematics problems. Furthermore, the slow learners weak in the catch understanding especially if they have to memorize the mathematics formula.

Moreover, about the solution toward the problem. Both the mathematics teacher and the shadow teacher try their best to help the slow learners to cope with their problem. The solutions given based on the slow learner's condition. The main problem faced by slow learners is that they have difficulty in counting especially in multiplication and division. To deal with that problem, the teacher asked them to solve the multiplication problems another way by repeated addition, additionally, for the division problems by repeated subtraction. In addition, since slow learners tend to lag in the process of thinking, then the problem given to them are modified adjust to their ability.

Conclusion

This research described a mathematics teaching-learning process for slow learners in inclusive class. First, it described the preparation of the teacher before mathematics teaching-learning process. The second, teaching and learning process which incudes preliminary, instructional stage, and evaluation. The third, the problems faced by slow learners in mathematics teaching-learning process in inclusive class, and the last is how teachers solve the problem. This research has pedagogical implication that teaching in inclusive class should be different from regular class. The students may be taught in a different way or may require some changes in the environment. Therefore, teachers should give special treatment for student with special needs that adjust their need.

References

Garnida, Dadang. (2015). *Pengantar pendidikan inklusi*. Bandung: PT Refika Aditama.
Kirk, Samuel. (1962). *Educating exceptional children.* Boston : HougtonMiffin.
Mujito, Harizal, and Elfindri. (2013). *Pendidikan inklusif*. Jakarta: Badouse Media.
Nani Triani and Amir.(2013*). Pendidikan anak berkebutuhan khusus lamban belajar (Slow learners).*Jakarta:Luxima.

Subini, Nini. (2011). *Mengatasi kesulitan belajar pada anak*. Jogjakarta: Javalitera

Sumantri & Siti Badriyah. (2005). *Efektifitas kelas pendampingan dalam upaya mengatasi problem belajar dengan pendekatan Inklusif. SUHUF, 17(2),* 162.

Authentic Leadership, Emotional Intelligence and Job Performance: An emerging issue in school context

Ramlah Lopez[1], Jamilah Ahmad[2], Farah Zulkelfy[3], Amariah Lopez[4]

[1,2] School of Education, Faculty of Social Sciences and Humanity, Universiti Teknologi Malaysia
[3] School of Graduate Studies, Faculty of Educational Studies, Universiti Putra Malaysia
[4] Science Sabah Secondary School, Ministry of Education Malaysia

E-mail: ramlahlopez@gmail.com[1], jamilah_ahmad@utm.my[2], farahfza2@gmail.com[3], mlpz0104@gmail.com[4]

Abstract: Authentic leadership is a growing field of study in academic leadership research that has recently grown into a concept of full maturity. Several studies on school principals have highlighted the prominent role played by leadership. However, authentic leadership receives little attention particularly within school context. This present article attempts to show that authentic leadership is another alternative of leadership approach which can enhance positive attribute in individual performance. Through the integration of emotional intelligence in leadership, authentic leaders can enhance their competency to lead their organization towards desired goals. In other words, authentic leadership helps school leaders to achieve more authenticity and credibility in the organization by providing a more dynamic approach to individual and organization performance.

Keywords: authentic leadership; emotional intelligence, job performance.

Introduction

The rampant pace of change in education in the twenty first century has shifted the learning and working environment. In order to fit education for global purpose, there is often a challenge and opportunity to change. Based on organizational behaviour theory, leadership plays a pivotal role to lead individual and organization performance to achieve desired outcome. In other words, leadership is a process of directing the attitude of others towards achieving desired behaviour.

Authentic leadership is a growing field of study in leadership academic research that has recently grown to a fully mature concept. Accumulating research finding suggests that authentic leadership is positively associated with individual and organizational work attitudes and behaviours (Sugi, Slamet, & Martono, 2018; Sidani & Rowe, 2018; Marič, Miglič, & Jordan, 2017). Although leaders often responsibly serve and improve their constituencies, both leaders and followers can mutually benefit from their relationship. This relationship that rely more on self-awareness and transparency in relation to their followers driven to enhance individual job performance as well as organization performance. As noted by Gill, Gardner, Claeys, & Vangronsvelt (2018), leaders who display authentic leadership behaviours, can strengthen a human asset by executing human resources practices in a way that they are seen as particular, predictable, and reflecting agreement. Considering that authentic leadership is still in its early stages in educational study, it is a promising notion to propose and to use the framework in educational research.

Generally, studies show that emotional intelligence contribute to personal and professional success (Goleman, 1998). According to Vidyarthi, Anand, & Liden (2014), leader's emotional intelligence competency motivates subordinates toward positive behaviours which foster their self-efficacy and job performance. Leadership has been associated with emotional intelligence as one of the most applied constructs in effective leader (Batool, 2013). Since people with high emotional intelligence are able to perceive their emotions and others' emotion, they can evaluate these emotions and manage them to achieve a positive and desired outcome (Dhani & Sharma, 2017). Although emotions are generally accepted as an intrinsic part of the workplace, yet emotion-related job performance still constitutes as underdeveloped study (Bande, Fernández-Ferrín, Varela, & Jaramillo, 2015).

Research trend on Authentic Leadership

Based on previous research since 1970, the increasing number of studies on authentic leadership (Figure 1) shows the interest of researchers towards the application of Authentic Leadership in various subject areas. Interestingly, social sciences area shows the most conducted studies among business, management, and accounting, psychology, arts and humanities (Figure 2). This analysis demonstrated the increasing concern about the significance of authentic leadership in fostering the positive attribute either to individual or organization. This prominent interest in authentic leadership raises several key research issues; What is an authentic leadership? What are the elements that constitute authentic leadership? How to develop authentic leadership? To what extent does authentic leadership affect attitudes, behaviours, and performance?

Apparently, most of the studies about authentic leadership that have been conducted rely on western culture (Figure 3). Despite its significant success in western culture perspective, questions have been raised about the effectiveness in eastern culture perspective, specifically the Malaysian culture. Indeed, there are several studies that have been carried out in Malaysia (Table 1) but little work has been conducted to examine the relation between authentic leadership and job performance in school context.

Issues and challenges in Authentic Leadership

In order to be competitive in the world; especially in educational context, Ministry of Education Malaysia through the Malaysia Education Blueprint has set an initiative to address the needs of high-quality education. The emphasis on improving professional leadership shows the seriousness of Malaysian government to ensure that every school in Malaysia meets the high-performance standards which align with world education standard. Consequently, a good relationship between principal and teacher will improve the leadership effectiveness and, in turn, will have a positive impact on teacher's job performance (Paletta, Alivernini, & Manganelli, 2017). Therefore, a leadership that focuses on positive interaction and give priority to ethics and moral value in relationship is essential to face the complexity of contemporary education environment (Trombly, 2014; Clarke, 2016).
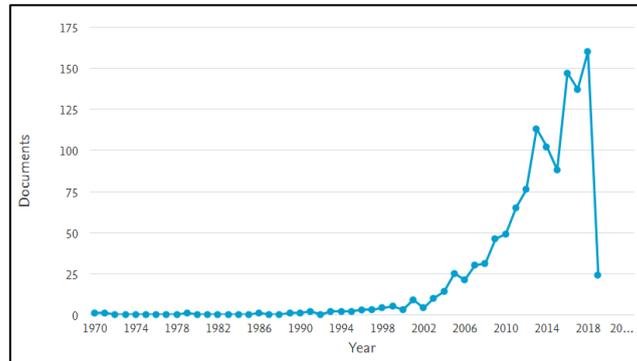
Figure 1. Analyses research of Authentic Leadership by year

According to Avolio, Gardner, Walumbwa, Luthans, & May (2004), authentic leadership comes with a person who has achieved high levels of self-awareness, acts accordingly with their beliefs, and has transparent relationship with their subordinates. A prominent authentic leadership theory is made up of four distinct components; self-awareness, relational transparency, balanced processing, and internalized moral perspective. Self-awareness is a precondition aspect to know and understand our own strengths, limitations, and values. Relational transparency in dealing with others involves being honest and straightforward. Balanced processing requires viewpoints to be opposed and all options to be taken into account before the final decision is made. Internalized moral perspective refers to knowing the right thing to do and is driven by an ethical and fairness concern.

Based on Kernis & Goldman (2006), multiple components of authenticity comprises of four related but separable components. These components are awareness, unbiased processing, behaviour, and relational orientation. Awareness components refer to being aware of one's motives, feeling, desires, and self-relevant cognition, the trust in all these components. Unbiased processing may involve recognition of one's attitude fragile underpinnings. Behaviour refers to one's act, in a manner consistent with the values, preferences, and needs of one's own. Relational orientation refers to value and endeavour to achieve in close relationship openness and truthfulness.

In other words, authentic leadership is a combination of leaders' positive values, words, and action (Yukl, 2013). Most of these positive attributes synchronize with emotional intelligence which give an impact on educational leadership(Sun, Wang, & Sharma, 2014; Parr, Lanza, & Bernthal, 2016). In the same vein, Berkovich & Eyal (2018) in their study noted that emotion recognition ability contributes to development of positive relationship between leader and subordinates which demonstrates leadership effectiveness and drive to subordinates job performance. Thus, leaders should have high level of understanding on emotions and can use the knowledge of emotions to foster their subordinates' job performances.
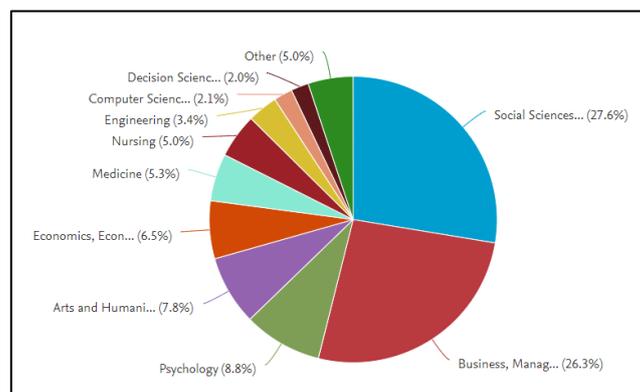
Figure 2. Analyses research of Authentic Leadership by subject area

Based on Goleman Model (1998), emotional intelligence can be defined as the capacity to perceive own feelings and others' feelings, and to manage well own emotions and others' which are essential to develop positive relationships. Additionally, emotional intelligence establishes the principle collection of enthusiastic skills that represents our ability to perceive our feelings and those of other people in order to help and supervise us and our connections. According to Goleman's model of emotional competence, five main competencies are grouped in two main categories; personal skills and social skills. Personal skills category consists of self-awareness, self-regulation, and motivation. Meanwhile, social skills category consists of empathy and social skills such as influence, communication, conflict management, leadership, change catalyst, building bonds, collaboration and cooperation, and team capabilities.

Kotzé & Nel (2017) found that one of the emotional intelligence components which is self-awareness is a predicted authentic leadership. Leaders with high self-awareness have various self-reflective attributes and emotional capabilities.
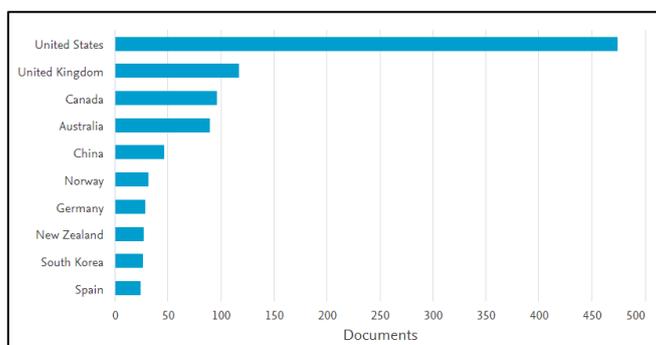
Figure 3. Analyses research of Authentic Leadership by country or territory

Generally, people believed that work is an important element of life, and the successes or failures in work have serious effects on personal outcomes. As noted by Bozionelos & Singh (2017), individual job performances have positive significant relationship with emotional intelligence which affects the organizational performance as well. Measures of performance tend to make things happen, help people see their progress and motivate their action (Parmenter, 2012). Based on Individual Differences in Performance Theory, two important domains in performance are called task performance and contextual performance (Motowildo, Borman, & Schmit, 1997). The authors claimed that one's performance can be measured through activities which focus on formal job description and activities that contribute to the effectiveness of organizational through its effects on the psychological, social, and organizational context of work.

Today's working environment is extremely demanding for every individual in organization to make full effort. Most individuals feel unpleasant when their work demand and pressures do not match their knowledge and abilities. Excessive and unmanageable pressure leads to stress and consequently affect their performance in work. Thus, principal needs to understand teachers' emotion and engage them through emotion perspective. In order to accomplish this accountability, a principal needs emotional intelligence to resolve problem related to teachers' emotions. According to Issah (2018), authentic leaders who are well- equipped with emotional intelligence skills can flourish the positive change of their followers. Thus, it is essential for leaders to have the best approach in their leadership which would bring a great impact on their subordinates' performance.

Table 1. Authentic Leadership studies in Malaysia

Item	Authors	Title	Year	Source title
1	Farrukh, M., Lee, J.W.C., Shahzad, I.A.	Intrapreneurial behavior in higher education institutes of Pakistan: The role of leadership styles and psychological empowerment	2019	Journal of Applied Research in Higher Education
2	Javaid, M., Abdullah, N.H., Zeb, A., Hussain, K.	The Impact of Authentic Leadership on Knowledge Sharing Behavior with the Moderating role of Islamic Work Ethics	2018	Journal of Physics: Conference Series
3	Ahmed, F., Naqshbandi, M.M., Kaur, S., Ng, B.K.	Roles of leadership styles and relationship-based employee governance in open service innovation: Evidence from Malaysian service sector	2018	Leadership and Organization Development Journal
4	Salleh, M.J.	Educational leadership model: An Islamic perspective	2018	Al-Shajarah
5	Yasir, M., Mohamad, N.A.	Ethics and morality: Comparing ethical leadership with servant, authentic and transformational leadership styles	2016	International Review of Management and Marketing
6	Jam, F.A., Kaur, S., Kwee, N.B.	Interactive effects of gender and leadership styles on open service innovation: A study of Malaysian doctors	2016	International Journal of Economic Research
7	Jam, F.A., Sing, S.K.G., Ng, B.K.	Effects of uncertainty avoidance on leadership styles in Malaysian culture	2016	International Journal of Applied Business and Economic Research
8	Ushama, T.	Extremism in contemporary muslim life and the concept of Jamā'ah	2016	Islamic Quarterly
9	Munir, Y., Rasli, A.	Psychometric analysis of predictors and outcome of organizational cynicism: A mathematical approach	2015	Jurnal Teknologi
10	Khan, S.U.R., Long, C.S., Iqbal, S.M.J.	Authentic leadership: An emerging issue in project management	2014	Research Journal of Applied Sciences, Engineering and Technology
11	Ahamed, F., Hassan, A., Hashim, J.	Authentic leadership, trust, and employees' work engagement: A comparative study of Islamic and conventional banks in Malaysia	2013	Journal for Global Business Advancement
12	Hassan, A., Ahmed, F.	Authentic leadership, trust and work engagement	2011	World Academy of Science, Engineering and Technology

Conclusion

School's success is unique and complex due to the varied broad context involving human beings. There are many factors affecting the success of a school. These include the principal's and the teachers' personalities. Also, the social relationship between the principal and the teachers, the student, and their parents, plays a big role in contributing to a school's success as well. Thus, school leaders need to adopt more flexible approaches and turn them into actions to address the ambiguity, changes, and the complexity of the environment of today's contemporary education. As it relates to teachers and school performance, an ideal leadership style that emphasizes on the authenticity of the transparent relationship between principals and teachers should be identified.

Reference

Avolio, B. J., Gardner, W. L., Walumbwa, F. O., Luthans, F., & May, D. R. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *Leadership Quarterly*, *15*(6), 801–823. https://doi.org/10.1016/j.leaqua.2004.09.003

Bande, B., Fernández-Ferrín, P., Varela, J. A., & Jaramillo, F. (2015). Emotions and salesperson propensity to leave: The effects of emotional intelligence and resilience. *Industrial Marketing Management*, *44*, 142–153. https://doi.org/10.1016/j.indmarman.2014.10.011

Batool, B. F. (2013). Emotional Intelligence and Effective Leadership, *4*(3).

Berkovich, I., & Eyal, O. (2018). Principals' emotional support and teachers' emotional reframing: The mediating role of principals' supportive communication strategies. *Psychology in the Schools*, *55*(7), 867–879. https://doi.org/10.1002/pits.22130

Bozionelos, N., & Singh, S. K. (2017). The relationship of emotional intelligence with task and contextual performance: More than it meets the linear eye. *Personality and Individual Differences*, *116*, 206–211. https://doi.org/10.1016/j.paid.2017.04.059

Clarke, S. (2016). School leadership in turbulent times and the value of negative capability. *Professional Development in Education*, *42*(1), 5–18. https://doi.org/10.1080/19415257.2015.1010692

Dhani, P., & Sharma, T. (2017). Effect of Emotional Intelligence on Job Performance of IT employees: A gender study. *Procedia Computer Science*, *122*, 180–185. https://doi.org/10.1016/j.procs.2017.11.358

Gill, C., Gardner, W., Claeys, J., & Vangronsvelt, K. (2018). Using theory on authentic leadership to build a strong human resource management system. *Human Resource Management Review*, *28*(3), 304–318. https://doi.org/10.1016/j.hrmr.2018.02.006

Goleman, D. (1998). *Working with emotional intelligence*. Bantam Books.

Issah, M. (2018). Change Leadership: The Role of Emotional Intelligence. *SAGE Open*, *8*(3). https://doi.org/10.1177/2158244018800910

Kernis, M. H., & Goldman, B. M. (2006). A MULTICOMPONENT CONCEPTUALIZATION OF AUTHENTICITY: THEORY AND RESEARCH. *Advances in Experimental Social Psychology*, (38), 283–357. https://doi.org/10.1016/S0065-2601(06)38006-9

Kotzé, M., & Nel, P. (2017). Personal factor effects on authentic leadership. *Journal of Psychology in Africa*, *27*(1), 47–53. https://doi.org/10.1080/14330237.2016.1268291

Marič, M., Miglič, G., & Jordan, G. (2017). The Impact of Authentic Leadership on Psychological Empowerment of the Employees in the Slovenian Local Self-Government Institutions. *Lex Localis - Journal of Local Self-Government*, *15*(3), 625–645. https://doi.org/10.4335/15.3.625-645(2017)

Motowildo, S. J., Borman, W. C., & Schmit, M. J. (1997). A Theory of Individual Differences in Task and Contextual Performance. *Human Performance*, *10*(2), 71–83. https://doi.org/10.1207/s15327043hup1002_1

Paletta, A., Alivernini, F., & Manganelli, S. (2017). Leadership for learning: The relationships between school context, principal leadership and mediating variables. *International Journal of Education Management*, *31*(2), 98–117. https://doi.org/10.1108/IJEM-11-2015-0152

Parmenter, D. (2012). *Key Performance Indicators for Goverment and Non Profit Agencies* (1st ed.). New Jersey: John Wiley & Sons, Inc.

Parr, A. D., Lanza, S. T., & Bernthal, P. (2016). Personality profiles of effective leadership performance in assessment centers. *Human Performance*, *29*(2), 143–157. https://doi.org/10.1080/08959285.2016.1157596

Sidani, Y. M., & Rowe, W. G. (2018). A reconceptualization of authentic leadership: Leader legitimation via follower-centered assessment of the moral dimension. *The Leadership Quarterly*, *29*(6), 623–636.

Sugi, Slamet, A., & Martono, S. (2018). The effect of authentic leadership, organizational justice, and achievement motivation on teachers' performance in vocational high school seventeen Temanggung. *AIP Conference Proceedings*, *1941*. https://doi.org/10.1063/1.5028095

Sun, H., Wang, X., & Sharma, S. (2014). A study on effective principal leadership factors in China. *International Journal of Educational Management*, *28*(6), 716–727. https://doi.org/10.1108/IJEM-11-2013-0173

Trombly, C. E. (2014). Schools And Complexity. *Complicity: An International Journal of Complexity and Education*, *11*(2), 40–58.

Vidyarthi, P. R., Anand, S., & Liden, R. C. (2014). Do emotionally perceptive leaders motivate higher employee performance? The moderating role of task interdependence and power distance. *Leadership Quarterly*, *25*(2), 232–244. https://doi.org/10.1016/j.leaqua.2013.08.003

Yukl, G. (2013). *Leadership in Organization*. (Pearson, Ed.), *Pearson* (8th ed.). Ney Jersey: Prentice Hall.

Issues and Challenges faced by TVET Teachers at Vocational Colleges in Malaysia

Nur Leenna bte Abdul Rahman[1], Mahani Mokhtar[2], Dayana Farzeeha Ali[3], Widia Winata[4]
[1,2,3] School of Education, Faculty of Social Science and Humanities, Universiti Teknologi Malaysia
[4] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: nurleenna@gmail.com[1], p-mahani@utm.my[2], dayanafarzeeha@utm.my[3] , widia.winata@umj.ac.id[4]

Abstract: This paper aims to explain the issues and challenges faced by TVET teachers in vocational colleges in Malaysia and how professional development can be effectively utilized. The issues and challenges among TVET teachers including lack of vocational qualifications, lack of support for novice TVET teachers, the need to improve implementation of Outcome-Based Education (OBE), budgetary constraints and lack of industrial experiences. TVET teachers have an important role in sustaining and developing skills for our country's workforces. Therefore, the mission can be accomplished with the support of effective and quality TVET system. Effectiveness of TVET teachers depends on their positive professional development. Professional development encompasses more than training since it also refers to personal growth and it is a continuous process. This paper is a compilation of critical review from reports, thesis, journals and articles by previous authors and researchers on the topic of issues and challenges faced by TVET teachers at Vocational Colleges in Malaysia.

Keywords: professional development, TVET teachers, vocational college

Introduction

Technical and Vocational Education and Training (TVET) has to be responsive to industrial needs and economic demands because TVET plays the biggest role in producing future skilled workers. According to Organizational for Economic Cooperation and Development (OECD), the enrolment of TVET students in Malaysia is only 10 percent as compared to 44 percent in other OECD countries. Therefore, TVET in Malaysia has undergone major transformation in 2012 which involved upgrading vocational schools to vocational colleges. Vocational colleges in Malaysia focus on developing human capital who are equipped with TVET skills and possessed diploma qualifications.

Consequently, TVET teachers need to adapt to the transformation of Vocational Colleges. Guthrie (2010) stated that a TVET teacher is someone who has been trained and competent in the field and in the delivery and evaluation of teaching, has the ability to demonstrate skills and continuously develops and progresses in career by gaining more knowledge and skills in the field. To face all the challenges, TVET teachers in vocational colleges need to prepare themselves first through professional development because teachers' professionalism is the key to improve the quality and success of TVET empowerment efforts (Fauzi, 2014).

Professional development of teachers is being emphasized in many countries since it can ensure teachers' effectiveness. Malaysian Human Resource Training Policy for The Public Sector states that all civil servants including teachers are required to achieve minimum 42 credit points a year which are equivalent to seven days of professional development. Therefore, this paper discusses issues and challenges faced by TVET teachers in vocational colleges in relation to their professional development. By improving the quality and effectiveness of TVET teachers' professional development issues and challenges faced by the teachers can be solved. This review is based on systematic and critical analysis from reports, thesis, journals and articles written by previous authors and researchers.

TVET in Malaysian Education System

In Malaysian Education Blueprint (MEB) 2013-2025, Ministry of Education (MOE) committed in improving teachers' professionalism in order to remain relevant to the current and future needs (MOE, 2013). The transformation of TVET which started in 2012 is aimed to uplift the standard of TVET to be at par with mainstream education. This is because society often regard TVET as second-class education. However, in reality TVET graduates are industrial relevant and marketable since their training is totally skill based and directly related to the jobs in industries.

Teachers, like other professionals must continuously improve their level of professionalism to remain relevant to the current and future needs. One of the top priorities of policy-makers and researchers are the quality of teachers (Avalos, 2011; Yuen 2012) to ensure that they have the right skills, competencies, pedagogies and are familiar with latest technology in industries (Abebe, 2010). It is expected that Technical and Vocational Education (TVET) teachers' professional development can create changes in attitude, improve learning processes and promote students' output and outcomes (Djatmiko, 2016). TVET teachers need to equip the students with skills to become 'high level knowledge workers' (Schleicher, 2012). Therefore, professional development for TVET teachers

are important to ensure their students are relevant to the current market needs (Che Munira & Mimi Mohaffyza, 2012; Nor Syuhada, 2015).

However, there are some issues and challenges faced by TVET teachers which can affect their professional development. Johar (2016) reported that TVET teachers in vocational colleges did not understand the concept of professional development. As a result, TVET teachers are incompetent to teach, to do assessment and to interpret the curriculum due to ineffective professional development programs. TVET teachers are different from general education teachers because they do not only teach theories, but also need to train and guide students according to the requirement of industries (Ramli, 2018).

Professional Development in TVET

The word professional comes from a Middle English word, *profes* which literally means having vow to perform to the highest known standard (Merriam-Webster, 2019). While, development means the process of growing or changing and becoming more advanced (Cambridge Dictionary, 2019). Therefore, teacher professional development can be defined as improving skills, knowledge and characteristics to the highest standard (OECD, 2009). Furthermore, Loucks-Horsley, Styles and Hewson (1996) view professional development as opportunities offered to educators to stay up-to-date with their content field and with pedagogical reform. The terms professional development, staff development and in-service training are often used interchangeably (Cooper, 2008). On the other hand, Fullan (1991) defines professional development as the sum total and informal learning experiences through one's career from pre-service teacher education to retirement. Generally, it is ongoing effort throughout one's career in order to develop competencies.

Teachers are the backbone of education and training systems (Paryono, 2015). They are also expected to be knowledgeable on the subject they teach and maintain their professionalism. The best way to maintain their professionalism is through effective and quality professional development. Desimone and Garet (2015) emphasize on the five features of effective professional development namely (1) content focus (2) active learning (3) coherence (4) duration and (5) collective participation. According to Murray (2014), effective professional development characteristics should focus on student learning and specific content, extended over time and connected to practice, align with school priorities and goals and build strong collaborative working relationships.

Quality of TVET teachers has been widely discussed especially after the transformation of TVET in 2012, describe in an extensive literature and research reports by previous researchers (Ruhland and Bremer, 2002; Ab Rahim, Shamsiah and Noor Syamilah, 2013; Francisso, 2016; Utomo, 2018). Effective professional development can contribute to the improvement in teaching and learning especially in vocational colleges, the majority of the courses offered are practical-laden course. Moreover by years, teaching becomes more complicated and even experienced teachers meet with great challenges such as changes in subject content, new instructional approaches, advances in technology, changed laws and procedures and student learning necessities (Mizell, 2010). According to Gutrie et al. (2009), TVET's 'teaching' approaches should enable better links between theory and practice and encourage students to 'learn to learn'. However, TVET teachers in vocational colleges have limited time to engage with professional development activities because of factors such as meetings, grading papers, curriculum development and materials preparation.

When discussing issues on professional development, the core reference is professional competencies. There has been growing interest on the concept of competencies in the areas of professional development (Nornazira et al., 2014). Through effective professional development, the competency of TVET teachers can be moulded into maintainable skills, advanced knowledge and positive attitude (Jailani, Lai, Tee & Hidayah, 2016). To be professional in carrying their tasks, teachers must continuously improve competency and perform qualities assurance in their duties (Djatmiko, 2011). Usually, government adopts professional development as retooling by providing standards and competency to make teachers more accountable. However, standards for teaching and standards for teachers are often confusing because the content does not match with conceptual or practical work.

Professional development is also closely related to competency since to be competent means to have the ability to do work and perform responsibilities. TVET teachers have to be 'dual professional' since they need to be competent in subject matter or/and vocational specialist and expert in teaching (ET-Foundation, 2014). Therefore, to produce professional TVET teachers, effective professional development programs are needed for them to master all the elements of TVET competency. Engaging in professional development programs will keep the TVET teachers to obtain current knowledge and updated their vocational skills. Furthermore, teachers will be motivated to stay passionate with their profession. Thus, professional development of TVET teachers have to be long-term capacity mechanism rather than a quick fix to solve certain issues.

Issues and challenges faced by TVET Teachers in vocational colleges

1.   Lack of vocational qualifications

Malaysian Division of Technical and Vocational Education (BPTV) is focusing on improving the technical skills of TVET teachers by encouraging them to possess Malaysian Skills Certificate (SKM) and Vocational Training Officer (VTO) certificate. This policy was highlighted during 20th National Union Teachers Profession (NUTP) conference on 14 until 17 April 2014. TVET teachers in vocational colleges need to possess VTO and SKM offered by Malaysian Department of Skills Development (DSD) at least until level 3 to enable them to teach skills to students

(NUTP, 2014). MOE Annual Report 2016 stated that until December 2016, 114 teachers have obtained SKM level 1 qualification, 204 possessed SKM level 2 qualification, 2269 teachers have level 3 qualification, 246 teachers have DKM level 4 qualification and 217 teachers have DKM level 5 qualification. However, 1572 TVET teachers in Vocational Colleges still do not have SKM qualification. TVET teachers SKM status shown in Table 1.

Table 1. TVET Teachers SKM Status until December 2016 (MOE, 2016)

SKM Status for vocational colleges, basic vocational education and upper secondary vocational education until December 2016

	No. of teachers	No SKM	SKM Level 1	SKM Level 2	SKM Level 3	SKM Level 4	SKM Level 5
Vocational colleges	4622	1572	114	204	2269	246	217
Basic vocational education (PAV)	392	146	5	8	230	0	0
Upper secondary vocational education (PVMA)	661	244	5	306	106	0	0
Total	-	-	124	518	2605	246	217

A research by Nabilah (2015) showed that there was significant difference in practical teaching method practices between TVET teachers in vocational colleges who possessed SKM and those who lacked SKM. Jamaliah (2014) in her study on the readiness of TVET teachers in teaching practical aspects of Electronic Technology program in Pahang highlighted that even though the teachers have SKM and VTO certificates and have attended several courses, they were still doubtful over the teaching of practical skills aspects of the program. Besides that, students will have negative perceptions when their teachers do not possess SKM because without SKM, the teachers' levels of technical skills can be questionable (Nadia Hartini, 2014). In addition, another study also found out that there was significant difference between teachers who do not possess SKM and teachers with SKM in understanding Vocational College Standard Curriculum (KSKV) elements (Abdul Halim, 2016). KSKV was developed and its delivery was based on Outcome Based Education (OBE) and in compliance with the programme and industry standards set by Malaysian Qualifications Agency (MQA) and Department of Skills Development (DSD). Methods of assessment and evaluation are in accordance with the standard operating procedure and therefore it can ensure students' competency development.

2.   Lack of support for novice TVET teachers

Novice TVET teachers are expected to serve as experienced teachers. MOE No 1/1987 Service Circular states that novice teachers are trained teachers who have zero to three years of *teaching* experiences or in other words they are newcomers to the *teaching* profession. As refer to Table 2, the number of new teachers at vocational colleges keep increasing each year.

Table 2. Number of New Teachers in Technical School and Vocational Colleges (2016 until 2017)

Supply of New Teachers

2016 – Jan 2017

Dates	Total
18 April 2016	7
15 August 2016	817
1 November 2016	46
15 November 2016	100
3 January 2017	167
16 January 2017	323
23 January 2017	362

Currently, professional development for novice TVET teachers in vocational colleges' is quite worrying. Mohd Saiffuddeen (2016) in his research found that support system received by novice TVET teachers in vocational colleges is at moderate level especially in the aspects of teaching and learning, professional development and off-field tasks. In addition, the main problem is in understanding standard curriculum. Other professionalism issues raised by other researchers were teaching and learning resources, teaching practical in workshop, assessment, classroom management and preparation before teaching and learning. TVET teachers also faced difficulties because lack of training (Khuzainey, Zulkifli, Mohd Sattar, & Leong, 2017).

According to Norlisa et al. (2014), newly qualified TVET teachers need to undergo further training in occupational skills to better serve their students. They conducted focus group discussions and interviews with 16 teachers from vocational colleges with not more than five years teaching experiences in welding technology. The results showed that they still need further training in occupation skills in order to improve their teaching performances. In 2010, MOE has introduced New Teacher Development Program (PPGB) which is one of the 15 initiatives in Teacher Quality NKRA in order to support professional development of new teachers in order to improve the quality of teaching. However, many vocational colleges do not adopt this program.

3.   The need to improve the implementation of Outcome-Based Education (OBE)

Outcome-Based Education (OBE) approach was first introduced in vocational colleges in 2014. OBE is a method of curriculum design and teaching which focuses on what students can accomplish prior to the process of teaching and learning. The implementation of OBE has changed the landscape of TVET education in Malaysia. It is challenging to change a long-term teaching principle especially on a large scale. TVET teachers in vocational colleges were used to traditional teaching methods such as lecture, discussion, case studies, programmed instructions, role play, demonstration, experiments and educational field trips among others (Adnan et al., 2017) which encouraged teacher-centered learning rather than active participants by students in the teaching and learning. This scenario is contradicted with OBE approach which encourages the use of cultivate student-centered learning (Fauzi, 2014).

Therefore, TVET teachers have to adapt with the drastic changes especially in curriculum content, teaching and learning styles and methods of students' assessment. Mohd Amiruddin and Muhd Khaizer (2018) found that OBE practice and awareness among TVET teachers in vocational colleges was still low because they were not fully ready to deal with such transition. This finding is also supported by Amiza, Noremy and Fadzlida (2012) who highlighted that polytechnics lecturers felt demotivated to implement OBE because it requires significant changes to their long-term teaching techniques besides lack of exposures. Table 3 shows the comparison between MQA and MOE learning outcomes domains.

Table 3. Comparison between MQA and MOE Learning Outcomes Domains

No.	MQA Learning Outcomes Domains	MOE Learning Outcomes Domains
1	Knowledge	Knowledge in discipline content
2	Practical skills	Practical skills
3	Social skills and responsibilities	Scientific and thinking skills
4	Ethics, professionalism and humanities	Communication skills
5	Communication, leadership and team building skills	Social skills, team building and responsibilities
6	Scientific method, critical thinking and problem solving skills	Values, ethics, moral and professionalism
7	Lifelong learning and information management skills	Information management skills and lifelong learning
8	Management and entrepreneurship skills	Management and entrepreneurship skills
9		Leadership skills

In addition, teachers in Vocational Colleges also need to meet the students' learning outcome domains set by Malaysian Qualifications Agency (MQA). OBE approach has three learning domains which are cognitive domain, psychomotor domain and affective domain in order to comply with the MQA. Code of Practice for Programme Accreditation (COPPA) is a guideline to ensure that HEP programmes meet the prescribed sets of standard and comply with the Malaysian Qualifications Framework (MQF). Therefore, high quality education in

vocational colleges depends on knowledge, skills, competencies, abilities, attitude and work ethics of academic staff.

4.   Budgetary constraints

It is a challenge for MOE to continuously ensure all teachers engage in professional development since teachers are the majority of civil servants. Due to budgetary constraints, MOE has produced (2010) Guideline for Implementing Instructional Timeline which gives the autonomy to school leaders to carry out school based in-service training (INSET). However, Johar (2016) in his study about in-service training of TVET teachers in vocational colleges found that it was ineffective because the training did not fulfil the needs of the TVET teachers. It only fulfilled the needs of the organization. Consequently, the content of any in-service training should match with teachers' professionalism development level (Siti Nur Aisyah & Ahmad Zabidi, 2016).

TVET professional development programs require large provision. In addition, it is challenging to cater to the need of each individual. Professional development programs at each vocational college are managed by an appointed coordinator who is attached to Training and Staff Development Unit (ULKS). ULKS has to plan and manage financial allocation wisely to ensure all staffs get the benefit from it. However, the distribution of allocation is determined by Division of Technical and Vocational Education (BPTV) and BPTV prioritizes programs which are related to the application of SKM and VTO certificates for TVET teachers. Average expenditure for SKM level 3 is around RM 8000 while for SKM level 5 is around RM 10 000 per person. Due to huge expenses for SKM, the allocation for other training activities have to be reduced.

In MEB 2013-2025, MOE desires to increase self-directed professional development from 16 percent to 60 percent by 2025. Some teachers view this as an excuse for MOE from funding their professional development. Before the introduction of the current educational reform, teachers attended professional development activities which were planned and fully funded by the Ministry. However, in the present reform agenda, professional development programs for teachers are being organised at school level, and teachers are encouraged to be responsible for their own learning, including paying for their own professional development engagement. The Ministry specified in the MEB 2013-2025 that by the time the reform reaches the Third Wave (2021–2025), Ministry-led professional development will reduce, and teacher self-initiated learning will increase by 60 percent as compared to 16 percent in the First Wave (Ministry of Education, 2013).

5.   Lack of industrial experience

Majority of TVET teachers in vocational colleges are academically trained at higher learning institutions and not industrial based. Two weaknesses of TVET teachers are associated with the lack of skills in pedagogy and lesser work experiences (Khuzainey, Zulkifli, Mohd Sattar & Leong, 2017). According to Utomo (2018), TVET teachers cannot be separated from the industrial world. They need industrial experiences as part of their professional development, even though the experiences merely doing review or directly involved in the process of industry practices (Martawijaya, 2011). Therefore, there is a need for TVET teachers to undergo industrial attachment so that they have the access to industrial experiences.

Although TVET teachers have the opportunity to pursue industrial attachment under Centre for Instructor and Advanced Skill Training (CIAST), not many of them have taken the advantage of this opportunity. Undoubtedly, collaboration with industry can reduce the competence gap. TVET teachers who gain industrial exposure will have the knowledge and skills which will influence their professional development in terms of skills, workshop management, networking and good working practice (MOE, 2012).

Conclusion

This concept paper discusses the issues and challenges of TVET teachers in vocational colleges and matters related to their professional development. Since MOE practices top-down professional development policy which means that the programs are not generated from teachers' perspective (Hasan, 2014), it is essential to conduct a study whereby teachers' needs, expectations and experiences on professional development programs are explored.

References

Abdul Halim Abdul Hamid (2016). Tahap Kefahaman Guru Kolej Vokasional Terhadap Elemen Kurikulum Standard Kolej Vokasional (KSKV). Master Thesis. Universiti Pendidikan Sultan Idris.

Ab Rahim bakar, Shamsiah Mohamed and Noor Syamilah Zakaria (2013). How Efficacious are They? A Study of Malaysian Novice Vocational Teachers Sense of Efficacy. Proceedings of Society for Information Technology & Teacher Education International Conference 2013. Page 1234-1238.

Abebe, A. (2010). Influences of Individual and Contextual Factors on Improving the Professional Development of TVET Teachers in Ethiopia. Doctor of Philosophy Thesis. The Technical *University of Kaiserslautern*

Adnan Ahmad, Mohd Khair Nordin, Dayana Farzeeha Ali, Ahmad Nabil Md and Nadia Ab Latip (2017). Practices in Vocatinal Teaching Method to Improve the Quality of Teaching. Medwell Journals. The Social Sciences 12 (3): 413-418

Amiza Yaman, Noremy Che Azmi and Fadzlida Shamsudin (2012). Kesediaan Pensyarah dalam Perlaksanaan Pengajaran dan Pembelajaran (PdP) Menggunakan Pendekatan Outcome Based Education (OBE) di Politeknik Port Dickson. In Prosiding Seminar Pendidikan 2012 (EduSem '12).

Avalos, B. (2011) Teacher Professional Development in Teaching and Teacher Education over Ten Years. Teaching and Teacher Education, 27, 10-20. https://doi.org/10.1016/j.tate.2010.08.007

Che Munira Che Razali and Mimi Mohaffyza Mohamad (2012) *Latihan dan mentoring tenaga pengajar sijil modular kebangsaan di kolej komuniti.* In: Persidangan Kebangsaan Penyelidikan dan Inovasi Dalam Pendidikan dan Latihan Teknikal dan Vokasional CIE-TVT 2012, 25-26 September 2012, Politeknik Nilai, Negeri Sembilan

Darling-Hammond, Linda & Richardson, Nikole. (2019). Research Review/Teacher Learning: What Matters?. 46-53.

Desimone, L. M. (2011). A primer on effective professional development. Phi Delta Kappan, 92, 68-71.

Desimone, L. M. and Garet, S. M. (2015). Best Practices in Teachers' Professional Development in the United States. Psychology, Society & Education. 7. 252-263. 10.25115/psye.v7i3.515.

Djatmiko, Istanto (2011). Self-Directed Professional Development Approach: An Alternative To Enhance Vocational Teacher's Character

ET-Foundation. (2014). Professional Standards for Teachers and Trainers in Education and Training. Retrieved from http://www.et-foundation.co.uk/wp-content/uploads/2014/05/4991-Prof-standards-A4_4-2.pdf

Faizulizami Osmin (2018). Making Sense of CPD Policy: The Quest for Transformation of Teacher Professionalism in Malaysia. PhD Thesis. University of Bristol.

Fauzi Abdullah. (2014). Tahap Kecekapan Pensyarah Teknologi Automotif dalam Melaksanakan Kurikulum Standard Kolej Vokasional di Negeri Pahang. Master Thesis. Universiti Tun Hussein Onn Malaysia.

Francisco. S. (2016). How Novice Vocational Education and Training Teachers Learn to Become Teachers. Doctor of Philosophy Thesis. University of Technology Sydney.

Fullan, M. G. (1991a). The meaning of educational change. In M. G. Fullan, *The new meaning of educational change* (pp. 30-46). New York: Teachers College Press.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What Makes Professional Development Effective? Results from A National Sample of Teachers. American Educational Research Journal, 38(4), 915-945

Guthrie, H. (2010). Professional Development in the Vocational Education and Training Workforce. National Centre for Vocational Education in Australia

Guthrie, H., Harris, R., Simons, M., and Karmel, T. (2009). Teaching for Technical and Vocational Education and Training (TVET). In: Saha L.J., Dworkin A.G. (eds) International Handbook of Research on Teachers and Teaching. Springer International Handbooks.

Khuzainey Ismail, Zulkifli Nopiah, Mohd Sattar Rasul and Leong, P. (2017). Malaysia teachers' competency in Technical Vocational Education and Training: A Review. Regionalization and Harmonization in TVET, (September), 59-64.

Jailani Md. Yunos, Lai Chee Sern, Tee Tze Kiong & Nor Hidayah Hamdan (2016). The Issues and Challenges of Vocational Teacher Education Program. Proceedings of the 1st Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL).

Jamaliah Jamaludin (2014). Kesediaan Guru Kolej Vokasional dalam Pengajaran Amali Teknologi Elektronik di Negeri Pahang. Master Thesis. Universiti Tun Hussein Onn Malaysia.

Loucks-Horsley, S., Styles, K. and Hewson, P. (1996). Principles of Effective Professional Development for Mathematics and Science Education: A Synthesis of Standards. National Institute for Science Education, University of Wisconsin-Madison. Johar Bunimin (2016). Model Konsep Pembangunan Profesionalisme Tenaga Pengajar Kolej Vokasional Malaysia. PhD Thesis. UTHM

Martawijaya, D. (2011). Pengembangan Program Pendidikan Guru Pendidikan Teknologi dan Kejuruan Trans-Nasional. Jurnal Pendidikan Vokasi,1(1), 91-112. Retrieved from https://journal.uny.ac.id/index.php/jpv/article/view/5802

Ministry of Education (2013). Pelan Pembangunan Pendidikan Malaysia 2013 – 2025. Kementerian Pendidikan Malaysia: Putrajaya.

Ministry of Education (2010). Garis Panduan Pengoperasian Latihan Dalam Perkhidmatan Berasaskan Sekolah (School Based). Putrajaya:Bahagian Pendidikan Guru (BPG).

Mizell, H. (2010). Why Professional Development Matters. Learning Forward. USA

Mohd Amiruddin Ag. Damit and Muhd Khaizer Omar (2018). Pelaksanaan Outcome-Based Education (OBE) di Kolej Vokasional Malaysia. Graduate Research in Education Seminar (GREduc) 2018.

Mohd Saiffudeen Abdul Aziz (2016). Masalah Profesionalisme Guru Novis Pendidikan Teknik dan Vokasional, Kolej Vokasional, Kementerian Pendidikan Malaysia. Master Thesis. Universiti Teknologi Malaysia

Murray, J. (2014). Designing and Implementing Effective Professional Learning 1st Edition. Corwin.

Nabilah Abu Bakar (2015). Penerapan Domain Psikomotor dalam Pelaksanaan Pengajaran Amali di Kolej Vokasional. Master Thesis. Universiti Tun Hussein Onn Malaysia.

Nadia Hartini Mohd Adzmi (2014). Pembangunan Profesionalisme Keguruan Menerusi Penyeliaan Pengajaran dalam kalangan Guru-Guru Pendidikan Vokasional. Master Thesis. Universiti Teknologi Malaysia.

Nornazira Suhairom, Aede Khatib Musta'amal & Amin, Nor Fadila Mohd Amin and Noor Khairul Anuar Johari (2014). The Development of Competency Model and Instrument for Competency Measurement: The Research Methods. Procedia - Social and Behavioral Sciences. 152. 10.1016/j.sbspro.2014.09.367.

Nor Lisa Sulaiman, Maizam Alias, Alias Masek, & Kahirol Mohd Salleh. Further Training in Occupational Skills for Vocational Teachers: The Case Of Metal Cutting in Malaysia. www.tvet-online.asia Issue 3

Nor Syuhada Rusdi (2015). Transformasi Kurikulum Kolej Vokasional Dalam Kesediaan Melahirkan K-Worker: Satu Kajian Kes Kolej Vokasional Kluang. Master Thesis. Universiti Tun Hussein Onn Malaysia. Organisation for Economic Co-operation and Development (OECD). (2008). Teaching and Learning International Survey (TALIS). OECD: Paris.

Paryono, Paryono (2015). Approaches to preparing TVET teachers and instructors in ASEAN member countries. www.tvet-online.asia Issue 5

Ramli Bakar (2018). The influence of professional teachers on Padang vocational school students' achievement. Kasetsart Journal of Social Sciences, Vol. 39, Issue 1, Page 67-72.

Ruhland. S. and Bremer. C. (2002). Professional Development Needs of Novice Career and Technical Education Teachers. Journal of Career and Technical Education. Volume 19. Issue 1. Page 1-9.

Siti Nur Aisya Sugumarie bt Abdullah and Ahmad Zabidi b Abdul Razak (2016). *Hubungan dasar latihan dalam perkhidmatan dengan peningkatan profesionalisme guru-guru pendidikan islam sekolah menengah daerah Petaling Utama.* Online journal of Islamic Education, 4 (1). pp. 17-27.

Schleicher, A. (*2012*), Ed., Preparing Teachers and Developing School Leaders for the 21st Century: Lessons from around the World,. OECD Publishing.

Utomo, Pramudi (2018). The Future Orientation for Novice Teacher Induction Program In Vocational Education. Jurnal Pendidikan Vokasi Volume 8, No 1, February 2018 (67-77)

Yuen, L. H. (2012). The impact of continuing professional development on a novice teacher, Teacher Development: An International Journal of Teachers' Professional Development, 16:3, 387-398, DOI: 10.1080/13664530.2012.7224

Reading Log in Extensive Reading as Integrated Learning Strategy in Industrial Revolution 4.0

Mutiarani[1], Zaitun[2], Hasanul Misbah[3], Mahani Stapa[4]
[1,2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia
[4] Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia

E-mail: mutiaranirahman@gmail.com[1], zaitun.hateem@gmail.com[2], misbah_hasanul@gmail.com[3] , m-mahani@utm.my[4]

Abstract: Facing the era of industrial revolution 4.0 certainly needs great strategy. Educational world has a great challenge. One strategy to face the demands of the capacity of professional workers is to improve the competence of human resources in foreign languages. Thus, the mastery of foreign language skills is considered very important in the competitive world of work. This study attempted to reveal reading log in extensive reading as the integrated learning strategy to promote students' foreign language competencies in industrial revolution 4.0. The integration of extensive reading and writing is expected to be able to become one of the choices of language learning strategies that can improve critical reading skills and creative writing skills in order to create more meaningful reading activity.

Keywords: Reading log, extensive reading, integrated learning strategy

Introduction

Along with the rapid flow of globalization in the world. Indonesia is faced with the era of industrial revolution 4.0. Various ways are done as an effort to equip themselves to face global competition. One of them is to develop soft skills such as the ability to communicate in English. The Industry Revolution Era 4.0, in addition to hard work, the workforce is also expected to be technologically literate and fluent in English considering that this language has been designated as an international language, business language and technological language. Thus, the actors in the world of education must be more active in exploring the right strategy to prepare graduates ready to face the industrial revolution competition 4.0. There are many advantages for human resources who have good English skills. The main thing is of course they can be more flexible when communicating or discussing with foreign clients when discussing the business involved. English is also very helpful for them when it comes to accessing information through the latest technology but also building broader and more profitable cooperation.

Background of the research

Learning strategies that are expected to be able to equip students with English language skills are needed. Integrate the ability to read and write the results of reading in a structured manner very well in honing critical reading skills and writing simple reading reports. The lack of optimal student reading interest can be overcome by extensive reading activities so that they are directed to choose their reading material according to their interests. With these efforts, it is expected that the interest and reading ability will increase and the ability to write can be gradually honed.

Reading activity of English materials in a foreign country like Indonesia has an important impact on language learning. Reading is always a meaningful activity involves feelings as well as knowledge and experience. Moreover, extensive reading is a pleasure reading activity done by the learners on their own. Extensive Reading (ER) is an important aspect of any English as a Foreign/Second Language reading program. Chiu-Kuei in Celik (2017:74) stated that Palmer in 1917 originated extensive reading to differentiate it from intensive reading. The term extensive reading was defined as pleasure reading longer passages in simplified language forms and the purpose was determined the general meaning without the intention of focusing on grammatical and lexical components. In addition, Walter in Celik (2017) pointed out that the learners choose the text to read themselves freely and they do not mind reading that material. In other words, the readers choose the reading material according to their interest and they deal with it enthusiastically. In order to achieve the learning purpose, the students should be given the facility of reaching the reading material and support them with enthusiasm and motivation.

In order to have successful learning goal, the teacher should provide an appropriate reading activity. Lee and Hsu in Mermelstein (2015) said that reading activity required the documentation activity. To write a paragraph or summary of their reading books is important along with keeping a reading log. While their stated intention was to lessen the stress or burden placed on the learners by not requiring them to have as much accountability. Reading log is a significant tool in an extensive reading program because it can be the documentation which are basics for assessment and a teacher 's further orientation in a student 's reading. Based on the description above, the writers are interested to conduct study entitled Reading log in Extensive Reading as Integrated Learning Strategy in Industrial Revolution 4.0.

Research Methodology

This study applied qualitative approach with descriptive research design. Qualitative research aims to describe and analyze phenomena, events, social activities, perceptions, attitudes, thoughts both individually and in groups. Sukmadinata (2009) stated that qualitative research is inductive, researchers observe problems that arise from the data to be interpreted. Data is collected by careful observation, including descriptions in the context of notes on the results of in-depth interviews and detailed document analysis.

Findings and Discussion

Hedge in Mikeladze (2016) defines extensive reading with the main characteristics: (1). reading large quantities of material such as short stories and novel, newspaper and magazine articles, or professional reading; (2). reading consistently over time on a frequent and regular basis; (3). reading longer texts (more than a few paragraphs in length); (4). adding for general meaning, primarily for pleasure, curiosity, or professional interest; (5). reading longer texts during class time but also engaging in individual, independent reading at home, ideally of self-selected material.

These are the characteristics of Extensive reading:
1) Students are exposed to a great amount of reading materials.
2) Students are generally free to choose what they want to read.
3) The materials are different from each other in terms of content and genre.
4) The materials are correspondent to their proficiency level.
5) Post-reading activities are generally applied for evaluation.
6) Teachers also read the materials for modelling and checking the comprehension. the teachers keep up with the students' progress (Renandya & Jacobs in Celik, 2017: 78)

Reading log is a great tool of extensive reading program because it can deal with students' documentation for teacher's assessment activity. Reading log provides readers a mechanism of accountability to record what they are reading each day. Students can be encouraged to record what they are reading. Another way that this reading log has proved useful is how much time they spent on reading. In logbook, students must summarize what they have read. Reading log can be reading report contains scanning and summarization. Reading report forces the students to activate the knowledge that they gained from the reading. From this process, the students learn how to do their own research of the book.

According to Lyutaya in Khonamri (2016), a reading log is an ideal strategy to access various literary texts. It can activate background knowledge and introduce strategies to help students recognize the difficult features of setting, narration, plot, characters, and theme of the texts they read. There are the components that some require finding information in a text, while others require analysing or synthesizing information to make and defend an opinion. The teacher can offer simpler components to the students who are just beginning the project, such as a simple character description, or more complex components for more advanced students, such as writing a summary. In this session, writing summary of the reading material can be great importance to design logbook.

Reading log can be focused on several steps such as (1)pre reading : looking at the title or chapter headings, scanning the table of contents, and reviewing any pictures, tables, figures, or graphs, (2) During-reading activity, the student writes down part of the text that contains an intriguing idea or puzzling situation then interprets the idea or situation by writing extended comments; (3) Make a poster containing a picture of a character in the story that exhibits some special physical or personality trait; (4) Write down critical questions and answers based on their values and experiences from the reading material; (5) Imagine filming the story. Students reflect on what scenes from the story they would include in a film if they were the director; (6) Students can give opinions about the story; (7) Write the culture aspect reflected in the story then compare and contrast cultural aspects in the story with their own society. After describing them, the students can predict potential misunderstandings that might occur between members of the two cultures then discuss the solution (Luthaya, 2011).

Helgeston (2005) said that students must use each type at least once. Reports in reading log are glued into a student reading portfolio. The portfolios are collected weekly and read by the teacher who stamps "OK" on the page and writes an occasional comment or question. Reading log as a report after extensive reading program can be motivational assessment because the students will get the teacher's response or comment through their logbook directly. Lyutaya (2011) stated that there are different types of scales can be used to assess students' post reading activity. These categories are good rating on a scale of (1)! Excellent; (2)! Very Good; (3)! Good; or (4)! Needs Work towards students' post reading activity.

There are some categories in scaling the quality of post reading report, they are: 1) Observations. The student makes interesting observations and asks relevant questions about the plot, characters, setting, language; 2). Quotations from the text are accurate and relate to some important feature in the story; 3). Comparisons. The student notes differences and similarities between characters, themes, language, or other textual elements; 4). Reflections. The student writes about how the story makes him or her feel or relates events from the story to his or her personal story or to current events, 5). Summaries. The student presents a coherent review of a chapter or the whole story; 6). Analyses. The student writes insightfully about the motivations of the characters, the resolution of the plot; 7). Synthesis. The student uses high-level reasoning skills to show the relationships between the story and other events, such as relating the underlying theme to human experience; 8). Vocabulary entries illustrate appropriate strategies

and include a variety of difficult words, grammatical structures, and colloquial expressions (Lyutaya, 2011). Finally, for all assessments it is crucial that students clearly understand the assignments and the criteria that will result in their grade.

The main goal of an extensive reading program is to enable students to feel comfortable with reading material in the authentic text of foreign language. According to Nuttall in Mikeladze (2014) extensive reading has two positive sides. First, extensive reading improves reader 's reading skills. Second, if extensive reading is source of enjoyment; it is easy to teach people to read better. The goals of extensive reading include learning language issues such as vocabulary, grammar or discourse features. In this program, the students can grasps the ideas that involve to subject matter knowledge, culture or general knowledge. Extensive reading expands teachers' awareness about the new approach and encourages them to step aside from the traditional ways of teaching reading.

The certain advantages of reading extensively that it is a very useful source for developing proficiency in target language. Hedgcock & Ferris in Celik (2017) described that extensive reading improves comprehension skills which helps to develop students' knowledge background. Besides, it helps to build up linguistic knowledge and promotes students' confidence and motivation and makes the learning process quicker and easier. Extensive reading will contribute to the following improvements and benefits among the students of the foreign language. They will have positive attitude toward reading, general language competence, and motivation. An extensive reading program will inculcate among students the love of reading, and it will increase interest toward foreign language study. Extensive reading motivates learners to read a large number of materials on a wide range of topics since the learners themselves select the reading material based on its relevance to their interests, knowledge, and experience

Integrating extensive reading and writing skill will record students' individual portfolio. According to Dorn and Soffos in Lyutaya (2011) writing activity helps students integrate different sources of information and organize their thoughts. Their thought is the result of deeper comprehension. Although reading and writing are different skills, they become supplement each other in language learning. To sum up, integrating extensive reading and writing skill expected to enhance students' reading skill and writing skill together. Reading log provides a personal space to reveal the thought in a critically reflective manner. Integrating extensive reading and writing skill assists the language learning process that promotes his or her cognitive development especially for the adult learners. In the context of industrial revolution 4.0, integrating extensive reading and writing skill will be the alternative of integrated language learning strategy to enhance the personal language quality in order to compete in global competition. Having a good reading skill through extensive reading will make adult learners are easier to gain new information and gather a lot of knowledge through English authentic materials. Implementing the writing logbook will improve the adult learners' ability to share the thought critically. Integrating both language skill will impact great expectation in gaining language competences optimally.

Conclusion

Extensive reading motivates learners to read many foreign language materials on a wide range of based on their interests, knowledge, and experience. Extensive reading combined with writing skill will arrive at a deeper understanding. Integrating extensive reading and writing skill could train students' higher level of thinking skills, synthesis, and language application, the demand of human resources with good language skills quality to face industrial revolution 4.0 is increased. Implementing reading log strategy is one of solution to make easier in improving students' foreign language quality. Integrating extensive reading and writing skill becomes alternative strategy in enhancing students' foreign language learning so they can have language competencies in this era.

References

Celik,Bünyamin (2017). *Effects of extensive reading on learners: How It develops certain points in vocabulary and sentence structure*. International Journal of English Linguistics; Vol. 8 (2), . ISSN 1923-869X E-ISSN 1923-8703. Canadian Center of Science and Education. http://doi.org/10.5539/ijel.v8n2, 73-84.

Helgesen, Marc.(2005). Extensive reading reports – different intelligences, different levels of processing. https://www.asian-efl-journal.com/1306/main-journals/extensive-reading-reports-different-intelligences-different-levels-of-processing/, 1-9.

Khonamri, F. & Farzanegan, M. (2016). Literature-based extensive reading accompanied by reading logs: A case for developing critical thinking skills of English literature students. International Journal of Education, 9(1), 56-65. http://ejournal.upi.edu/index.php/ije/article/view/3719

Lyutaya, Tatiana. (2011). Reading logs: Integrating extensive reading with writing tasks. https://eric.ed.gov/?id=EJ936092, 26-34.

Mermelstein, Aaron David. (2015). Improving EFL learners' writing through enhanced extensive reading. http://nflrc.hawaii.edu/rfl/October2015/articles/mermelstein.pdf, 182-198.

Mikeladze, Tamar. (2016). *Extensive reading*. https://www.researchgate.net/publication/280878633

Renandya, Willy A. (2007). *The power of extensive reading*. Journal RELC Vol 38(2), 133-149 | DOI: 10.1177/0033688207079578.http://rel.sagepub.com/cgi/content/abstract/38/2/133

Sukatmana, Nana. (2009). *Metode penelitian pendidikan*. Bandung : Rosdakarya

The relationship between students 'knowledge of ecosystems and students' critical attitudes to environmental damage problems at school

Azmi Al Bahij[1], Apri Utami Parta Santi[2], Novalia Sari[3], Mahyuddin Arsat[4]

[1,2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

[4] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia

E-mail: azmialbahij@umj.ac.id[1], apri. santi@umj.ac.id[2], novaliasari3322@gmail.com[3], mahyuddin@utm.my[4]

Abstract: The purpose of this study was to determine whether there is a link between students 'knowledge of ecosystems and students' critical attitude to school problems. environmental damage caused by the environment around schools and how students 'relationships on ecosystems with pupils' critical thinking attitude about environmental damage problems around schools. The method used in this research is quantitative descriptive correlational. The results of this study indicate that there is a significant relationship between school-based knowledge of the ecosystem and schoolchildren's critical thinking about environmental damage to the environment around the school. This is clear from the results of the computation of the simple correlation analysis obtained by the correlation between variables (X). Students 'knowledge of ecosystems with variables (Y) Students' critical attitudes about environmental damage around the school is 0.103 with a significant value of 0.538. The results of the 10.1% coefficient of determination test show the extent of the relationship between ecosystem student knowledge of ecosystems and the critical attitude of students to the issue of environmental damage around the school. which means that students' critical attitude on the issue of environmental damage around the school is 10.1%. identify students' knowledge of the ecosystem.

Keywords: ecosystems, critical thinking, environmental damage problems.

Introduction

Development activities and rapid advances in technology have and will continue to have positive and negative effects on life, especially the environment, in the form of environmental damage and pollution, their turn will reduce the quality of the environment. Humans have an impact on the environment and vice versa, they are influenced by the environment. Humans and their environment cannot be separated.

Background of the Research

The development of culture and population leads humans to exploit natural resources, as well as changes in civilization, as needs grow and expand, both in number and number; that the natural resources available are limited. Overexploitation will reduce the carrying capacity of the environment. The limited environmental power leads to the depletion of natural resources, pollution, and competition resulting from the excessive use of natural resources, destruction of natural resources which is very detrimental to all of us and which ends up causing the destruction of mankind and of the environment together, in particular, the balance of ecosystems in nature, because ecosystems are a structural and functional unit between living beings and their environment.

Law No. 32/2009 Article 65 paragraph 4 concerning the protection and management of the environment, it is said that every person has the right and the role in the management of the environment. Educational institutions should also be able to participate in the achievement of environmental protection and management objectives. Environmental education in Indonesia has so far been tried by various parties; Each education actor ensures that this education is implemented in order to learn and add knowledge about the environment, so that the knowledge acquired and studied aims to: create students who will be concerned later about the environment and associated problems and will avoid the occurrence of these problems.

Based on the researchers' observations, the reality in the community is that environmental awareness and concern for the environment is still very low. The question that arises is therefore why science education in schools cannot raise awareness about the preservation of the environment, even if the concepts of environmental knowledge are widely taught in scientific disciplines, from primary school to higher education. On the basis of the results of the observations, the researchers addressed, in class V, SD Negri Leuwiranji 03, scientific subjects dealing with ecosystems and containing information on the relation between man and man, between man and his environment.

The various efforts that have been, are and will be made in the field of science education must be observed by all stakeholders so that the development of science education learns more about the environment, especially the balance of ecosystems in nature, to be better planned, coherent and structured, but with this knowledge is not enough if it is not accompanied by critical thinking. The ability to think critically is a skill that must be possessed by students, as revealed by Sudiarta (2009). It has been proven that critical thinking prepares students for reflection in various critical-thinking disciplines that are student-led cognitive activities by dividing their thinking into real-life activities by focusing on making decisions about what the students think. we believe or do.

Research Methodology

This research is quantitative research with a descriptive method by correlation. The independent variable in this study is students' knowledge of ecosystems, while the dependent variable is their critical attitude toward environmental damage issues. The population used in this study consisted of fifth-grade students from SD NegeriLeuwiranji 03, Sukamulya Village, Rumpin, Bogor, during the 2017/2018 school year. The number of members of the population in this study was 278 students divided into 6 classes. The sample in this study was 38 students.

The data collection technique uses test kits and questionnaires. Data analysis was done using a computer program, SPSS version 22 *(statistical software for the social sciences)*. Some of the data analysis techniques used in this study are the validity test, the reliability test, the normality test, the homogeneity test, the correlation coefficient test, and the detection coefficient test.

Findings and Discussion

Respondents received a 2-item questionnaire for each variable X and Y, including 40 objective test questions and 35 questions on the questionnaire statements. Objective tests and questionnaires were submitted to the evaluation and testing process to 38 students of other classes to meet applicable instrument requirements. The results of the validity test given to class V students, up to 40 questions, are all valid. The alpha values for students 'knowledge of ecosystems are 0.727 and the alpha values for students' critical thinking attitude variables on the issue of environmental damage around the school are 0.728. this means that the instrument used by researchers for data collection is fairly reliable or reliable as a data collection tool.

Based on the pre-data testing conducted in this study, it appears that the data contributed normally and has a linear relationship. And also known in the homogeneity tests, it is known that the significant value of the variable Y is based on the variable X = 0.243> 0.05, which means that the variable Y data based on the variable X have the same variant. Thus, the data from this study can be used in further analysis.

The results of the hypothesis test provided evidence that there was a significant relationship between students' knowledge of the ecosystem and their critical attitude to the complex problems of the surrounding environment. from school. The correlation coefficient obtained is between variables (X) Relationship of students 'knowledge of ecosystems with variables (Y) Students' critical attitudes about environmental damage around the school are 0.103 with the significant value of 0.538. This shows that there is a significant relationship between students' knowledge of ecosystems and their critical thinking on the issue of environmental damage to school surroundings.

The results of the 10.1% coefficient of determination test show the extent of the relationship between ecosystem student knowledge of ecosystems and the critical attitude of students to the issue of environmental damage around the school. which means that students' critical attitude on the issue of environmental damage around the school is 10.1%. identify students' knowledge of the ecosystem.

According to Cholifah in Sunaryo (2014: 45), the low level of students' ability to think critically in Ecosystem material would be attributed to the lack of use of representative learning materials and the use of learning inappropriate to learning objectives. contextual learning and use the media appropriately. In addition, the low level of students' critical thinking skills is also due to the lack of critical thinking skills at the elementary school level.

Critical thinking can be formed in the learning process by choosing the right learning strategy. Practicing critical thinking can be done by questioning what is seen and heard. After that, ask in detail why and how. The information obtained must be treated carefully and thoroughly before concluding (Ariyati, 2010).

The science curriculum includes several teaching materials that can be used to train students' critical thinking, including material damage to the environment and pollution. Thus, students are expected to be able to develop their critical thinking skills to find solutions to problems encountered. The teacher as a facilitator is expected to present problems to the students in accordance with the material for practicing critical thinking skills. This is consistent with the opinion of Dult in Windarti (2016: 275) who states that learning that can improve critical thinking skills requires learning based on problems in everyday life.

One strategy that can be used to increase environmental awareness is to raise public awareness that the environment must be preserved and preserved, including to examine the environment from a more critical perspective or to use critical thinking skills. when looking at the environmental conditions. this. By thinking critically, a person can understand the good and bad conditions and then think about what should be done to raise awareness of the environment.

According to Arrends in Hidayati (2016: 119), students' critical thinking skills must be guided by their expertise in interpreting, analyzing, deducing, evaluating, explaining, and interpreting. evaluation of gurus as a way to explore critical thinking skills. According to Raddington in Hidayati (2016: 119), the most effective way to develop students' critical thinking skills is to include them in each class. Teaching critical thinking is an ongoing process. This cannot be limited to certain sessions but should be included through various questions, lessons, and activities that emphasize a higher level of thinking ability. This concludes that the factors that influence students 'critical thinking

ability are not only the result of their knowledge but the need for expert advice to explore students' critical thinking skills.

Conclusion

The results of this study indicate that there is a significant relationship between students' knowledge of the ecosystem and their critical attitude to the problem of environmental damage to the environment around the school. The percentage of students' knowledge of ecosystems and their critical reflection on the issue of environmental damage around the school is 10.1%. The remaining 89.9% are influenced or explained by other variables not included in the research model.

References

Ariyati, Eka. (2010). Pembelajaran berbasis praktikum untuk meingkatkan kemampuan berpikir mahasiswa. *Jurnal Matematika dan IPA, 1(2)*, 1-12.

Sudiarta, I.G. (2009). Pengembangan pembelajaran berpendekatan matematika berorientasi pemecahan masalah matematika terbuka untuk mengembangkan kompetensi berpikir divergen, kritis, dan kreatif. *Jurnal Pendidikan dan Pengajaran UNDIKSHA, 2(4)*, 373-392.

Hidayati, Nurul. (2016). Hasil belajar dan keterampilan berpikir kritis siswa Madrasah Tsanawiyah dalam pembelajaran IPA elalui kerja ilmiah. *Journal of Proceeding Biology Education Conference, 13 (1),* 119-128.

Windarti, Tjandrakirana, et.al. (2013). Kemampuan berpikir kritis menggunakan metode penemuan terbimbing, *Pendidikan Sains Pasca Sarjana Universitas Negeri Surabaya, 3(1)*, 201.

The Development of BIPA Teaching Materials for Basic Level of Foreign Students Based on Multicultural Approach

Khaerunnisa[1], Mutiarani[2]
[1,2] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

Email: khaerunnisa@umj.ac.id[1], mutiaranirahman@gmail.com[2]

Abstract: BIPA teaching material is essentially a tool used to teach BIPA learners who are directly used as learning materials to achieve predetermined learning goals. The multicultural approach provides an understanding that a pluralistic nation is a nation that is filled with cultural diversities. It utilizes the diversity of learners' cultural backgrounds as one to form a multicultural attitude. The purpose of this study was to obtain basic level of BIPA teaching materials based on a multicultural approach and to find out the response of BIPA learners to basic level BIPA teaching materials based on a multicultural approach. The results of this study are an increase in the ability of basic level BIPA learners using teaching materials based on multicultural approaches.

Keywords: BIPA, material development, teaching material, multicultural approach

Introduction

The era of globalization and internationalization provides a broad opportunity for the Indonesian people to develop themselves in the global community. This situation is very beneficial for Indonesian language instructors for foreign speakers. At first this Indonesian Language program for Foreign Speakers (BIPA) was only as a form of service for some students from overseas who wanted to learn Indonesian. Currently the Indonesian language program is starting to be glimpsed and sought after by citizens of other countries, especially those in the Asia-Pacific zone. Another reason, the increasing desire of many people to learn Indonesian. Indonesia has a large population, strategic geographical location, natural beauty, rich culture, and the many foreign companies that invest become some real reasons why more foreigners want to learn Indonesian.

Background of the research

In Indonesia, educational institutions are developing which open BIPA learning programs. Of course, these institutions require BIPA teachers who are competent and have extensive knowledge. On the other hand, teaching materials are important things needed in the BIPA program. Through available teaching materials, learners will gain experience related to the facts in life, life models, symbols used in life. Through this experience the learner will practice assessing and developing ideas, solving problems, acquiring skills, and fostering and developing mental attitudes and appreciative and creative abilities (Nurjaya, 2012). Teaching materials are an important component to achieve predetermined competency standards. Through available teaching materials, learners will gain experience related to the facts in life, life models, symbols used in life. There are two main aspects that are neglected in the process of developing teaching materials; integration of user interface design with instructional design and development of formative evaluation frameworks (Rahamat, M.Syah and Puteh, 2011).

The multicultural approach provides an understanding that a pluralistic nation is a nation that is filled with diverse cultures. The term plural implies various types, because pluralism does not mean merely the recognition of the existence of various types but also that recognition has political, social, economic implications. Multicultural education is an effort to empower learners to develop respect for others who are culturally different, giving them the opportunity to work with different ethnic groups and his race. This utilizes the diversity of learners' cultural backgrounds as one to form a multicultural attitude (Tilaar, 2004). Multicultural education as a perspective that recognizes the social, political, and economic realities experienced by each individual in human meetings that are complex and diverse in culture, and reflect the importance of culture, race, sexuality and gender, ethnicity, religion, social status, economy, and exceptions in the education process (Cahyono and Iswati, 2017). The research objective was to obtain basic level BIPA teaching materials based on a multicultural approach and to find out the response of BIPA learners' responses to basic BIPA teaching materials based on a multicultural approach. The purpose of multicultural education is a learning for citizens to accept each other groups equally as unity without comparing cultural, ethnic, gender, language and religious differences (Yeboah and Smith, 2016).

Based on the background of the problem of this research, the problem in this study is how the process and results of developing basic level of BIPA teaching materials are based on a multicultural approach and how BIPA learners respond to basic BIPA teaching materials based on a multicultural approach.

Research Methodology

The CEFR can be used as a reference for language learning because it comprehensively guides instructors and learners to achieve language skills. Language skills in the CEFR are classified into three broad divisions: basic speakers (beginner 1, beginner 2), independent (intermediate 1, middle 2), and proficient (advanced 1, advanced 2). Each ability at one level is explained by using descriptors for four language skills (listening, speaking, reading, and

writing). Borg and Gall used ten steps: (1) needs analysis, (2) planning, (3) initial product development, (4) product testing, (5) product revision, (6) main trial, (7) product revision operational, (8) operational trials, (9) final product revisions, and (10) disseminated and applied (Borg and Gall, 2006)

Findings and Discussion

Based on the results of the study, there were several important findings which important material for discussion in the discussion were, the following are the findings of multicultural education research on basic speakers of foreign languages.

3.1 Content Validation Test by Experts

The validity test of the BIPA teaching book produced was carried out through content validity testing carried out by two BIPA experts. The first expert, namely Dr. Muhamad Sofian Hadi, M.Pd. and the second expert is Dr. Erni, M.Pd. The content validation process by experts was held on Saturday, August 4, 2018. The instrument used in the content validity test was a checklist (appendix 01). The results of the content validity test were then analyzed using Gregory's formula. The indicators used in assessing the quality of the BIPA textbooks produced are:

a. Structure of the textbook, which consists of displaying textbooks and consistency between material and basic competencies
b. Organization of presentation of teaching books, consisting of systematic presentation, depth of material presented, images and tables presented, activities presented possible to be carried out, context of Indonesian culture presented to assist students' understanding of the lives of local communities, and suitability of description of activities of students and lecturers for each stage of learning.
c. Language aspects, consisting of the use of language in accordance with PUEBI, the language used is in accordance with the level of understanding and language skills of students, and the language used is communicative and easy to understand.
d. Determining the validity of content obtained based on expert judgment is included in Gregory's table.

Table 1. The Gregory Table of Instruments for BIPA Textbooks

Judge 1 Not relevant A (0) Relevant B (16)	Judge 2 Not relevant B (1) Relevant C (15) D (16)

Table1 shows fifteen (15) items from eleven (16) items of instruments declared relevant by the two experts who assessed the contents of the BIPA teaching books produced. While there is one (1) item assessed which is found in cell C which indicates a different view between expert one and expert two. Expert one considers that the item is relevant and expert two considers it irrelevant. The instrument points at issue by expert two are the context of Betawi culture which is written in misspellings. According to the expert, spelling writing or typo must be more thorough. Thus the results of the coefficient of valentine calculation of the resulting BIPA textbook are 0.15. Therefore, textbooks that are developed in content are considered valid.

3.2 Rules for the Development of Culture-Based BIPA Teaching Materials for Elementary Foreign Speakers

The design of the basis for developing culture-based BIPA teaching materials for basic speakers of foreign languages refers to the results of the analysis of the needs of foreign speakers and BIPA instructors. The following are four aspects of the foundation for developing BIPA teaching materials:

1). Teachings Material Rules

Culture-based (multicultural) BIPA teaching material for basic speakers of foreign languages is guided by rules of relevance, adequacy, adaptability, and innovation. The principle of relevance is material in teaching materials that have been harmonized with the basic BIPA syllabus. While the contents of the core material needed refers to the perceptions of BIPA teachers and foreign speakers including (1) dialogue and reading, (2) enrichment, and (3) grammar. In addition to the rules of relevance, the development of material in teaching materials should also pay attention to the rules of sufficiency.

In developing BIPA material, it must pay attention to adaptive rules. Adaptive rules are based on the level of knowledge and background of foreign speakers. BIPA teaching materials are designed with a low level of difficulty to accommodate the characteristics of learners as basic speakers of foreign level. This is an effort to equip foreign speakers' knowledge about Indonesian culture. The knowledge of foreign speakers about culture in the Indonesian region is still quite low, so the use of light, culture-based teaching materials is expected to facilitate foreign speakers in learning and adapting to things that are part of the daily lives of foreign speakers while in Indonesia.

The cultural construction presented in the BIPA teaching material material covers six main themes, namely: (1) my extended family, (2) daily activities, (3) traditional Indonesian food, (4) new neighbors, (5) transportation, and (6) on vacation. The material in this teaching material was developed based on innovative rules, namely the material displayed by paying attention to the element of novelty and actual information. In addition to these four rules, the material in teaching materials is presented with rational rules or can be explained. In the end in

implementing rational rules, the material must be displayed systematically, sequentially step by step and comprehensively.

2). Presentation of Material

Material presentation is guided by self-instructional and systematic rules. The self-instructional principle directs teaching material developed to guide foreign speakers to the independent learning process without having to depend entirely on BIPA instructors. Systematic rules relate to organizing and presenting continuous teaching material, starting from material from low to difficult levels, starting from concrete material to abstract material. The composition of the material is designed according to the learner's needs of teaching materials. The design of the material composition of BIPA teaching materials begins with light conversations and reading, enrichment, and ends with grammar material.

3). Language and Readability

Language elements and readability use adaptive rules, consistency, and relevance. Adaptive rules are applied in the use of language and choice of words (diction) that are adjusted to the level of ability of foreign speakers. Based on the results of the needs analysis, the diction needed is a choice of words that are easy to understand and do not contain scientific terms. Adaptive rules are also used in the various languages used. The consistency rule is applied to the presentation of linguistic elements and layouts in the form of inter-spatial spacing, as well as the use of various languages.

4). Graphic Elements

The rules of consistency and relevance are also applied to elements of graphics. In accordance with the results of the needs analysis, BIPA teaching materials are equipped with illustrations that are tailored to the content and description of the material in the teaching material. The color composition on the cover also pays attention to the rules of relevance to the needs of foreign speakers.

3.3. The design of the pattern of Culture-Based BIPA Teaching Materials for Elementary Foreign Speakers

The design of multicultural-based BIPA teaching material patterns for basic speakers of foreign languages is designed based on the characteristics of teaching materials and the rules for developing teaching materials. The design pattern of teaching materials is classified into five parts, including: (a) physical form, (b) book cover, (c) content / material content, (d) supplementary material, and (e) evaluation.

1) Material / Content

The content of the teaching material consists of three parts, including: (a) introduction, (b) contents, and (c) closing. The introductory page consists of a cover page in a book, introduction, and table of contents.

2) Core Material

Based on the results of the analysis of the needs of foreign speakers and BIPA instructors, the contents of the core material in teaching materials are categorized into three parts with sequences (1) dialogue and reading, (2) enrichment, (3) grammar. In addition to these three core materials, this section is also integrated with the four aspects of language training exercises. Cultural content is displayed in cultural knowledge and integrated in dialogue and reading in each chapter. Completeness of teaching materials equipped with illustrations that are useful to support the understanding of foreign speakers. Understanding the core material of each chapter is as follows:

a. Dialogue and Reading Dialogue

A conversation that prioritizes the daily theme of language events that can be applied by foreign speakers in daily communication in accordance with the context of Indonesian society. Learning material in the form of dialogue is very useful to enrich the mastery of vocabulary while introducing the grammatical structures that are used daily by Indonesian people. Reading in BIPA teaching materials aims to increase the confidence of foreign speakers in Indonesian reading skills. The reading presentation is chosen based on the ability of a basic level foreign speaker.

b. Enrichment

The second part of the material presents expressions that are adjusted to the theme in each chapter. This enrichment section is useful for enriching the material in each chapter. Enrichment material in the form of expressions also aims to facilitate foreign speakers in learning the Indonesian language in full without separate words. So that foreign speakers are also able to communicate using these expressions in real life in society.
c. On the elements of grammar presented material about the standard grammar of the Indonesian language guided by PUEBI.

Indonesian grammar presented in this material is a basic Indonesian grammar, such as pronouns, use of affixes, meN-, single sentence patterns, and others. Basically, the more differences in the system in the original sentence

structure with the Indonesian language, the more difficulties will be faced by foreign speakers. For example, the rules in the Indonesian sentence structure are in the form of patterned sentence structures explained, explained (DM), such as: black boxes, red roses, and intelligent children. Conversely, some foreign languages such as English, sentence structure in English is commonly patterned to explain, explained (MD), such as: black box, red rose and smart kid.

d. The training unit

The material aims to strengthen the ability of foreign speakers regarding the material given through practice tests. This phase aims to determine the level of mastery and understanding of the material on foreign speakers. In practice units are presented in four aspects of Indonesian language skills, namely reading, listening, writing, and speaking. In addition to these four aspects, grammar exercises are also presented in this section which are presented along with the core material.

3.4. Complementary material

The supplementary material in this teaching material is classified into two parts, namely: (1) supplementary material at the end of each chapter, and (2) supplementary material at the end of the teaching material. The following is a description of complementary material for teaching materials:

a. Complementary Material at Every End of Chapter

In the supplementary material at the end of each chapter there is an additional vocabulary section, fluently speaking, and knowledge of cultural insights. The additional vocabulary section contains a collection of vocabulary related to the themes in each chapter. The presentation in this section aims to provide motivation so that it can be an inspiration to foreign speakers. Furthermore, additional material in the form of cultural insight is also presented in this section which aims to introduce the cultural context of Indonesian society in daily life.

b. Complementary material at the end of teaching material

At the end of the teaching material, additional material is presented which contains a collection of thematic and proverb vocabularies accompanied by their meanings. The selection of thematic vocabulary is based on vocabulary adapted to the context of everyday community activities in communication. In addition, proverbs and noble cultural meanings are also presented in this section as communication guidelines.

3.5. Evaluation

Evaluation is presented at the end of the teaching material as feedback material so that it can be a reference for reflection of the next learning process. The form of evaluation in this teaching material is in the form of objective and non-objective evaluations that have been adapted to the theme of each chapter.

Table 2. Structure of the Book Contents of Development of BIPA Teaching Materials for Basic Level of Foreign Students based on Multicultural Approaches

Concept	Book Content Part
The design of the book for developing instructional materials BIPA is multicultural based for basic speakers of foreign level	1) Beginning Section a) Main title page b) Copyright page c) Preface page d) Instructions for use e) Table of contents f) Introduction to speech, intonation, and accent
	2) Content / material section a) Display the chapter title and illustration image b) Core material accompanied by practice c) Additional material
	3) Final Part a) Final evaluation b) Additional vocabulary c) Bibliography d) Identity of the author

Conclusion

Based on the results of the discussion, it can be concluded that the development of multicultural-based BIPA teaching materials for basic speakers of foreign languages has sought to implement the principles of developing appropriate teaching materials. This can be seen in the use of a variety of languages that are easily

understood and adapted to the readability of beginner-level foreign speakers, teaching materials are also able to motivate the interest of foreign speakers to continue learning Indonesian, and equipped with training materials covering four language elements and grammar exercises in each chapter . Teaching materials developed are also based on the principles of developing teaching materials. The content / material element is based on the principles of relevance, adequacy, adaptability, and innovation. In the presentation element is based on self-instructional and systematic rules. On the elements of language and readability using adaptive rules, consistency, and relevance. The elements of graphics use un consistency and relevance. Second, the design of teaching material designs is developed with five parts including (a) physical form, (b) book cover, (c) content / material content, (d) supplementary material, and (e) evaluation. Suggestions that can be recommended are the need to revise typical technical errors and add multicultural variations of Indonesia as a reference for testing the multicultural-based BIPA teaching materials for basic speakers of foreign languages so that the prepared teaching materials can be used more optimally and useful in BIPA learning.

References

Borg, Walter R. Gall, Meredith Damien. (2006). *Educational research : An introduction*. Eighth Edition. New York : Pearson Education

Cahyono, Heri dan Iswati. (2017) Urgensi pendidikan multikultural sebagai upaya meningkatkan apresiasi siswa terhadap kearifan budaya lokal. *Elementary: Jurnal Ilmiah Pendidikan Dasar. Vol. 3,* 15-29.

Hyunhee Cho. (2017). Navigating the meaning of social justice, teaching for social justice, and multicultural education. International *Journal of Multicultural Education. Vol. 19 (2),* 1-19.

Yeboah. Alex Kumi dan Patriann Smith. (2016). Critical multicultural educations among black Immigrant youth: Factors and challenges. *International Journal of Multicultural Education. 18 (1),*158-182.

Nurjaya, Gege. (2012). Pengembangan bahan ajar metode pembelajaran bahasa dan sastra Indoneia berbasis pembelajaran kooperatif Jigsaw untuk meningkatkan pemahaman dan kemampuan aplikatif mahasiswa. *Jurnal Pendidikan Indonesia Vol 1 (2),* 102-111.

Rahamat, R, Parilah M. S, Sharifah N.P, Rosseni, D, Aidah, AK. (2011). Involvement in the development of web-based learning resousrces for English literature. 3L. *The Southes Asians Journal of English Language Studies, Vol.17,* 5-18.

Tilaar, H.A.R. (2004). *Multikulturalisme: tantangan-tantangan global masa depan dalam transformasi pendidikan nasional*. Jakarta: Gramedia Widiasarana Indonesia

A Review of Problem Solving in Realistic Mathematics Education

Zaharah Ja'afar[1], Sarimah Ismail[2], Mohd Najib Ab Kadir[3]

[1,2,3] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia

E-mail: zaharah1976@graduate.utm.my[1], p-sarima@utm.my[2], m.najib-1980@graduate.utm.my[3]

Abstract: This review paper offers a systematic review of 18 research articles published on the realistic mathematics education, problem solving and problem posing in all subject area over the region between year 2009 to 2018. The term of realistic mathematics education and problem solving were used to conduct the search through various databases which includes Google Scholar, Scopus, Web of Science and EBSCOhost. Review of articles revealed that publication on problem solving in realistic mathematics education increased since 2017 until 2018 and Indonesia was found leading the list with 9 articles. Findings revealed that none of the studies that reported by 18 articles are related to Home Science although six out of nine modules in the subject are related to problem solving in mathematics. Therefore, this review is conducted to identify to what extend research and grey area on problem solving and realistic mathematics education in Home Science.

Keywords: Realistic Mathematics Education; Problem Solving.

Introduction

Realistic mathematic education is a teaching and learning theory in mathematics education that was first introduced and developed by the Freudenthal Institute in the Netherlands (Freudenthal, 1991). Problem solving is the heuristics developed by Polya (1962) and has always been used in teaching problem solving that listed four steps which are believed to be effective in helping students to solve mathematical problems.

Realistic Mathematics Education, real world problems are used as a source or a starting point for learning and developing mathematical concepts and problem-solving process should be collaboratively used to develop students' mathematical literacy (Sumirattana, Makanong, & Thipkong, 2017)

The four steps of problem solving in realistic mathematics education that should be studied are recognizing the problem, defining the problem, developing a strategy to fix the problem, and organizing the knowledge of the problem cycle (Polya, 1962)

Many researches focusing on problem solving and realistic mathematics education have been conducted in the fields of Mathematics, Social Sciences, and Computer Science. However, up to now how problem solving and realistic mathematics education were applied in Home Science left unattended although the subject contains of many topics that dealing with calculation to solve many problems in daily life such as calculating value for food calorie, meal cost, meal selling price, body mass index and clothing cost. Therefore, this systematic literature review is conducted to identify to what extend research on problem solving and realistic mathematics education in Home Science been conducted and to identify grey research area of the problem solving and realistic mathematics education in Home Science should be explored deeply.

Review Methodology

The concept paper of problem solving in realistic mathematics education emerged from a combination of two fields, which are problem solving and realistic mathematics education. Accordingly, this study reviewed the literature on problem solving in realistic mathematics education in databases related to these two fields, including: Scopus, Web of Science, EBSCOhost and Google Scholar. The search engines Google Scholar and Scopus were also used to ensure coverage of publication in other databases.

The following criteria were used to search these sources and select the articles:

a) The keywords realistic mathematics education and problem solving were used to search the titles and abstracts of the papers using Google Scholar. It was resulted with 3, 160 articles. The same keywords were used to search the titles and abstracts of the papers using Web of Science and ended up with four articles. This followed by searching the relevant articles of the similar keywords using EBSCOhost search engine that resulted with one article. However, by using Scopus search engine, 18 articles were found and these articles overlapped with those five articles that found using previous two search engines. When limit the articles published from year 2009 until March 2019, the search resulted in 18 related articles where 12 of them related to realistic mathematics educatian and poblem solving while other six articles related to realistic mathematics educatian and problem posing. However, the latest article published for problem solving and realistic mathematics education was in year 2018. Finally, 18 articles were selected for classification.

b) Among those 18 articles, none of them were excluded due to some reasons. Journals represent the highest level of platform reporting research findings of the research focus (15 articles) and followed by proceedings (3 articles).

c) Different types of journal publications like peer reviewed published, (in press) with available English full text versions, were also considered to recognize the value of editorial and invited commentaries in shaping the research within a discipline.

Result and Analysis

The result and analysis of this systematic literature review paper is divided into descriptive and category of literature. For descriptive, the distribution by journal, year of publication, author and country are discussed. On the other hand, for category of literature, theoretical foundation, context, methodology and sample are discussed.

Descriptive

a. Distribution by journal

Table 1 shows the journals that published the most articles on problem solving in realistic mathematics education from 2009 to 2018. The journal that addresses this issue most often is the Journal of Physics: Conference Series (4 articles), which has the aim of to determine the effect of Problem Posing learning model with Realistic Mathematics Education Approach in geometry learning, reporting research result on a case study of a lesson using a HOTS problem, designing learning trajectory (LT) for teaching Sequence and Series using Realistic Mathematics Education (RME) approach to improve the students' problem solving ability and lastly was written based on the learning evaluation results of students' errors in solving combinatorics problems observed from the characteristics of Realistic Mathematics Education (RME) respectively. This followed by AIP Conference Proceedings (3 articles). These articles are related to the effect of learning model Problem Posing and Problem Solving with Realistic Mathematics Education Approach to conceptual understanding and students' adaptive reasoning in learning mathematics, to determine the difference and the quality of student's learning achievement between students who obtained learning through Realistic Mathematics Education (RME) approach and students who obtained learning through problem solving approach and to address how Realistic Mathematics Education (RME) principles, including the intertwinement and the reality principles are used to analyze geometry tasks respectively. The remaining articles were published across 11 journals with one article each. Different articles have different impacts. Therefore, the number of articles per journal is not a criterion to evaluate the journal.

Table 1. Distribution of articles by Journals

No	Name of Journal	Number of articles
1	Journal of Physics: Conference Series	4
2	AIP Conference Proceedings	3
3	International Journal of Science and Mathematics Education	1
4	Revista Latinoamericana de Investigacion en Matematica Educativa	1
5	ZDM - International Journal on Mathematics Education	1
6	International Journal of Mathematical Education in Science and Technology	1
7	Educational Technology Research and Development	1
8	Advanced Science Letters	1
9	Kasetsart Journal of Social Sciences	1
10	Proceedings of the 13th International Conference on Mobile Learning 2017, ML 2017	1
11	PLoS ONE	1
12	International Journal of Engineering and Technology(UAE)	1
13	Eurasia Journal of Mathematics, Science and Technology Education	1
	Total	**18**

b. Distribution by year of publication

From the Figure 1, year 2018 and 2017 were found leading the publication on problem solving in realistic mathematics education with 6 articles each year while year 2016 has published 2 articles. One article was published in the year 2015, 2013, 2012 and 2009 respectively.
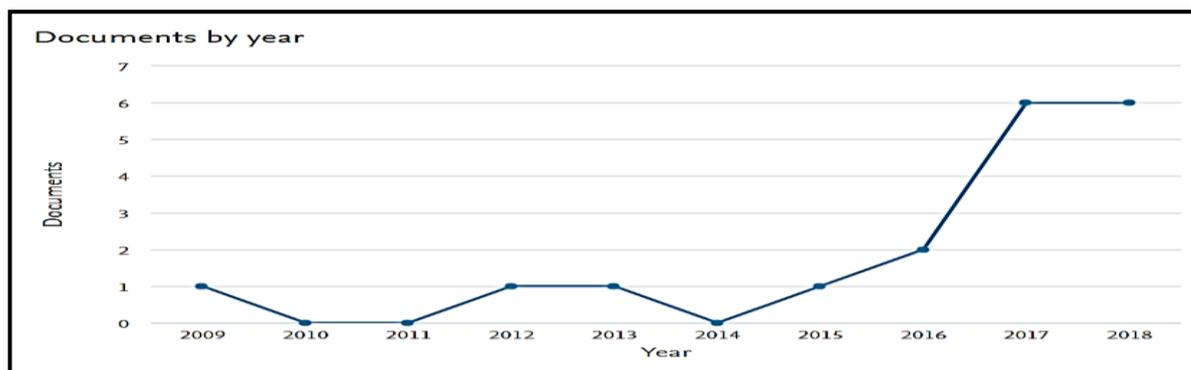
Figure 1. Distribution of frequency of articles by year of publication

c.   Distribution by author and country

Those 18 articles and authors (refer to Table 2) were published by 9 countries which are Indonesia, Malaysia, Denmark, Israel, South Africa, Spain, Taiwan, Thailand and United States. Indonesia was found leading the list with 9 articles (refer to Figure 2) and followed by Malaysia with two articles while other seven countries with one article accordingly.

Table 2. Distribution of Author by Country

No	Author	Country
1	Tsai Y.-L., Chang C.-K. (2009)	Taiwan
2	Ángeles Lonjedo Vicent M., Pedro Huerta Palau M., Fariña M.C. (2012)	Spain
3	Artigue M., Blomhøj M. (2013)	Denmark
4	Peled I., Keisar E. (2015)	Israel
5	Valentine K.D., Kopcha T.J. (2016)	United States
6	Yuanita P., Zakaria E. (2016)	Malaysia
7	Mahendra R., Slamet I., Budiyono (2017)	Malaysia
8	Mahendra R., Slamet I., Budiyono (2017)	Indonesia
9	Sumirattana S., Makanong A., Thipkong S. (2017)	Thailand
10	Jupri A. (2017)	Indonesia
11	Ilyas M., Salwah (2017)	Indonesia
12	Jordaan D.B., Laubscher D.J., Blignaut A.S. (2017)	South Africa
13	Yuanita P., Zulnaidi H., Zakaria E. (2018)	Indonesia
14	Meika I., Suryadi D., Darhim D. (2018)	Indonesia
15	Putri R.I.I., Zulkardi Z. (2018)	Indonesia
16	Lady A., Utomo B.T., Lovi C. (2018)	Indonesia
17	Gee E., Fauzan A., Atmazaki A. (2018)	Indonesia
18	Laurens T., Batlolona F.A., Batlolona J.R., Leasa M. (2018)	Indonesia
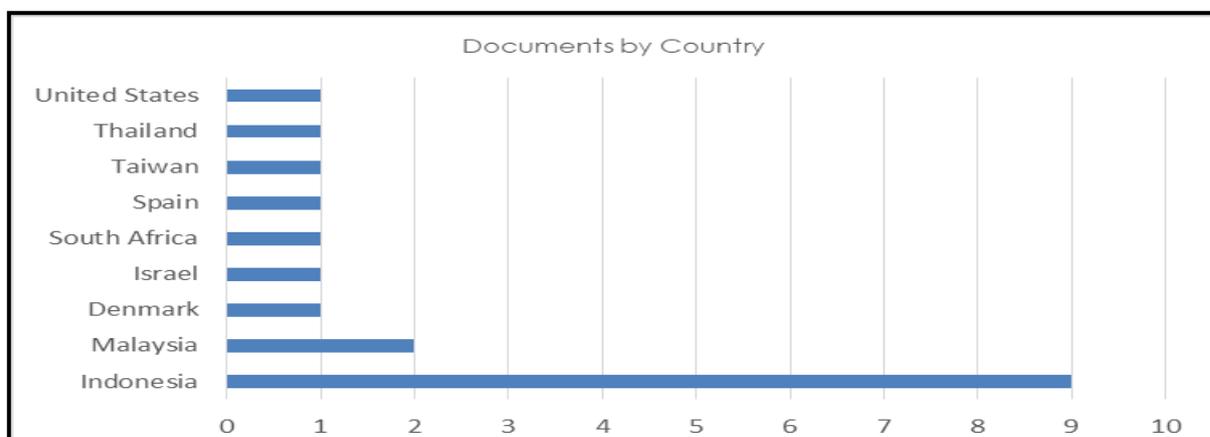
Figure 2. Country versus frequency of papers

d.   Category of literature

i.   Theoretical Foundation

There were three major theories applied in the research on problem solving in realistic mathematics education that reported by 18 articles. Numbers of articles published according to those theories are stated in Table 3. There is Realistic Mathematics Education (5 articles); Realistic Mathematics Education and Problem solving (11 articles); Realistic Mathematics Education and Problem Posing (one article); and one article adopted the combination of all three theories: Realistic Mathematics Education, Problem Solving and Problem Posing.

Table 3. Theory used in the research

No	Theory	Number of articles
1	Realistic Mathematics Education	5
2	Realistic Mathematics Education and Problem Solving	11
3	Realistic Mathematics Education and Problem Posing	1
4	Realistic Mathematics Education, Problem Solving and Problem Posing	1
	Total	**18**

ii.   Context

Within 10 years (2009 to 2018), major focus of problem solving in realistic mathematics education was on Mathematics (15 articles) and followed by High Order Thinking Skills (HOTs), Environments, Financial Mathematics with one article accordingly (Table 4).

Table 4. Context of problem solving in realistic mathematics education

Context	Number of articles
HOTS Problem	1
Environments	1
Financial Mathematics	1
Mathematics	15
Total	**18**

iii.   Methodology

Based on Table 5, quasi-experimental is the highest methodology used in the study (6 articles) and followed by experimental (3 articles). While other methodologies such as analyzed, descriptive, frameworks, case study, design process, design frameworks, modeling tasks, preliminary study and structure-based used in one article accordingly.

Table 5. Methodology adopted by the research

No	Methodology	Number of article
1	Analyzed	1
2	Descriptive	1
3	Frameworks	1
4	Case study	1
5	Design process	1
6	Design frameworks	1
7	Modelling tasks	1
8	Preliminary study	1
9	Structure-based	1
10	Experimental	3
11	Quasi-experimental	6
	Total	**18**

iv.   Sample

There are various types of sample involved in previous research as reported by the related articles such as junior high school, senior high schools, grade six, seven and eight students as well as undergraduate and master students as shown in Table 6. However, there are 3 articles do not specify a sample of the study because the researchers using methodologies such as frameworks, design frameworks and design process.

Table 6. Sample involved in previous research as reported by the related articles

No	Sample of study	Number of article
1	62 of 8th graders	1
2	Mathematics textbooks	1
3	First-graders	1
4	645 students at a Junior High School at first grade in Pekanbaru, Riau, Indonesia	1
5	Seventh grade students of Junior High School 1 Jaten, Indonesia	1
6	Junior high schools in Karanganyar, Indonesia	1
7	104 ninth grade students from a secondary school in Bangkok, Thailand	1
8	31 undergraduate students of mathematics education program and 16 master students of primary mathematics education program	1
9	51 students of grade VII in one of junior high school in Palopo, in the second semester of academic year 2015/2016	1
10	426 Form 1 secondary school students	1
11	55 students from two international-based pilot state senior high schools in Banten, Indonesia	1
12	Sixth grade students who were learning data representations in a Primary School in Palembang Indonesia	1
13	SMP Negeri 2 Lumajang class VIII A 2016/2017	1
14	34 grade nine students at a junior high school in Nias Selatan, Indonesia	1
15	50 students at Junior High School (SMP) in Ambon	1
16	NIL	3
	Total	**18**

Conclusion and Future Agenda

This systematic literature review was conducted to identify article that reporting research been conducted on realistic mathematics educatian and problem solving in Home Science from the year 2009 until March 2019. However, none of the studies that reported by 18 articles are related to Home Science although six out of nine modules in the subject are related to problem solving in mathematics. Therefore, further research is suggested to be conducted to identify the way in solving mathematics problem in Home Science subject.

References

Ángeles Lonjedo Vicent, M., Pedro Huerta Palau, M., & Fariña, M. C. (2012). Conditional probability problems in textbooks an example from Spain. *Revista Latinoamericana de Investigacion En Matematica Educativa*, *15*(3), 319–337. Retrieved from https://www.scopus.com/inward/record.uri?eid=2-s2.0-84870267762&partnerID=40&md5=690dbbfcaa3b79dfc4fb491cc111702c

Artigue, M., & Blomhøj, M. (2013). Conceptualizing inquiry-based education in mathematics. *ZDM - International Journal on Mathematics Education*, *45*(6), 797–810. https://doi.org/10.1007/s11858-013-0506-6

Freudenthal, H. (1991). Revisiting Mathematics Education. China Lectures. Dordrecht: Kluwer Academic Publishers.

Gee, E., Fauzan, A., & Atmazaki, A. (2018). Designing learning trajectory for teaching sequence and series using RME approach to improve students' problem solving abilities (Vol. 1088). Universitas Negeri Padang, Jl. Prof. Dr, Hamka, Sumatera Barat, 25173, Indonesia: Institute of Physics Publishing. https://doi.org/10.1088/1742-6596/1088/1/012096

Ilyas, M., & Salwah. (2017). Comparison of student's learning achievement through realistic mathematics education (RME) approach and problem solving approach on grade VII. In A. I.F., N. A.I., N. R.A., W. S., T. D., & D. B. (Eds.) (Vol. 1813). Faculty of Teacher Training and Education, Cokroaminoto Palopo University, Jalan Latamacelling 9 B, Palopo, Sulawesi, 91921, Indonesia: American Institute of Physics Inc. https://doi.org/10.1063/1.4975974

Jordaan, D. B., Laubscher, D. J., & Blignaut, A. S. (2017). Design of a prototype mobile application to make mathematics education more realistic. In S. I.A., R. L., & I. P. (Eds.) (pp. 3–10). TELIT-SA, North-West University, Vanderbijlpark Campus, South Africa: IADIS. Retrieved from https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032489604&partnerID=40&md5=cddcb643eac5d91d12a2594c527cb6e9

Jupri, A. (2017). From geometry to algebra and vice versa: Realistic mathematics education principles for analyzing geometry tasks. In D.-K. S.C., Z. Z.H., R. F.A., & Z. W.Z.W. (Eds.) (Vol. 1830). Departemen Pendidikan Matematika, FPMIPA, Universitas Pendidikan Indonesia, Indonesia: American Institute of Physics Inc. https://doi.org/10.1063/1.4980938

Lady, A., Utomo, B. T., & Lovi, C. (2018). Improving mathematical ability and student learning outcomes through realistic mathematic education (RME) approach. *International Journal of Engineering and Technology(UAE)*, *7*(2), 55–57. https://doi.org/10.14419/ijet.v7i2.10.10954

Laurens, T., Batlolona, F. A., Batlolona, J. R., & Leasa, M. (2018). How does realistic mathematics education (RME) improve students' mathematics cognitive achievement? *Eurasia Journal of Mathematics, Science and Technology Education*, *14*(2), 569–578. https://doi.org/10.12973/ejmste/76959

Mahendra, R., Slamet, I., & Budiyono. (2017a). Problem Posing with Realistic Mathematics Education Approach in Geometry Learning. In R. L.S., N. A.B.D., Riandi, & A. A.G. (Eds.) (Vol. 895). Magister Pendidikan Matematika, Universitas Sebelas Maret, Jl. Ir. Sutami No. 36A, Surakarta, 57126, Indonesia: Institute of Physics Publishing. https://doi.org/10.1088/1742-6596/895/1/012046

Mahendra, R., Slamet, I., & Budiyono. (2017b). The effect of problem posing and problem solving with realistic mathematics education approach to the conceptual understanding and adaptive reasoning. In K. A., Marjono, W. R.B.E., & I. M.A. (Eds.) (Vol. 1913). Department of Mathematics Education, Postgraduate Program of Sebelas Maret University, Jl. Ir. Sutami No. 36A, Jebres, Surakarta, Jawa Tengah, 57126, Indonesia: American Institute of Physics Inc. https://doi.org/10.1063/1.5016659

Meika, I., Suryadi, D., & Darhim, D. (2018). Students' errors in solving combinatorics problems observed from the characteristics of RME

modeling. In P. Y.M., P. K.S., A. T.A., U. S., & R. L. (Eds.) (Vol. 948). Mathematics Education, FKIP, Mathla'Ul Anwar University Banten, Indonesia University of Education, Bandung, Indonesia: Institute of Physics Publishing. https://doi.org/10.1088/1742-6596/948/1/012060

Peled, I., & Keisar, E. (2015). Emergence of tables as first-graders cope with modelling tasks. *International Journal of Mathematical Education in Science and Technology*, *46*(4), 570–583. https://doi.org/10.1080/0020739X.2015.1005701

Polya, G. (1962). *How to solve it.* New York: Doubleday

Putri, R. I. I., & Zulkardi, Z. (2018). Higher-order thinking skill problem on data representation in primary school: A case study. In P. Y.M., P. K.S., A. T.A., U. S., & R. L. (Eds.) (Vol. 948). Faculty of Teacher Training and Education, University of Sriwijaya, Jalan Srijaya Negara FKIP, Bukit Besar Palembang, Indonesia: Institute of Physics Publishing. https://doi.org/10.1088/1742-6596/948/1/012056

Sumirattana, S., Makanong, A., & Thipkong, S. (2017). Using realistic mathematics education and the DAPIC problem-solving process to enhance secondary school students' mathematical literacy. *Kasetsart Journal of Social Sciences*, *38*(3), 307–315. https://doi.org/10.1016/j.kjss.2016.06.001

Tsai, Y.-L., & Chang, C.-K. (2009). Using combinatorial approach to improve students' learning of the distributive law and multiplicative identities. *International Journal of Science and Mathematics Education*, *7*(3), 501–531. https://doi.org/10.1007/s10763-008-9135-x

Valentine, K. D., & Kopcha, T. J. (2016). The embodiment of cases as alternative perspective in a mathematics hypermedia learning environment. *Educational Technology Research and Development*, *64*(6), 1183–1206. https://doi.org/10.1007/s11423-016-9443-8

Yuanita, P., & Zakaria, E. (2016). The Effect of Realistic Mathematics Education (RME) Implementation to Mathematics Belief, Mathematics Representative and Mathematics Problem Solving. *Advanced Science Letters*, *22*(8), 1989–1992. https://doi.org/10.1166/asl.2016.7754

Yuanita, P., Zulnaidi, H., & Zakaria, E. (2018). The effectiveness of Realistic Mathematics Education approach: The role of mathematical representation as mediator between mathematical belief and problem solving. *PLoS ONE*, *13*(9). https://doi.org/10.1371/journal.pone.0204847

Four Key Dimensions to Characterise Sustainability Courses in Higher Education

Mahyuddin Arsat[1], Nor Fadila Amin[2], Adibah Abdul Latif[3], Yusri Kamin[4], Nornazira Suhairom[5], Nur Husna Abd Wahid[6], R. Arsat[7], Z. A. Arsat[8], Azmi Al Bahij[9]

[1,2,3,4,5,6] School of Education, Faculty of Social Science and Humanities, Universiti Teknologi Malaysia, Malaysia.
[7] School of Electrical Engineering, Faculty of Engineering, Universiti Teknologi Malaysia, Malaysia.
[8] School of Bioprocess Engineering, Universiti Malaysia Perlis, Malaysia.
[9] Universitas Muhammadiah Jakarta, Indonesia.

E-mail: mahyuddin@utm.my[1], p-fadila@utm.my[2], p-adibah@utm.my[3], p-yusri@utm.my[4], p-nazira@utm.my[5], husna@utm.my[6], rashidaharsat@utm.my[7], zainalabidin@unimap.edu.my[8], azmialbahij@umj.ac.id[9]

Abstract: The role of higher education institutions in educating and preparing the future generation with knowledge and competencies related to Sustainability is progressing in ASEAN region. Many institutions showed their interest on the issues related to Sustainability but have not fully committed to integrate Sustainability into their academic programs. This is due to the complexity of Sustainability concepts and the academic program itself. Therefore, this study aims to identify characteristic of Sustainability courses and sustainability related courses offered in higher education. A qualitative research design has beed employed by examining 26 Sustainability courses and analyzing the learning objectives through inductive analytical technique. The study proposed four key dimensions of Sustainability courses which are models, orientations, approaches and themes.

Keywords: education for sustainable development, sustainability in higher education

Introduction

In decades the role of higher institutions in providing graduates for professional area in all disciplines is without a doubt contributing to the economic growth and enhancing the quality of life. World has witnessed the changes of its landscapes and ecosystems due to the swift development and urbanization. It has been discussed in many cases that the human activities for development and urbanization endanger the ecosystem and contribute to unsustainable development. With these impacts, it is necessary for the learning institutions of higher education to respond to the need for sustainable development. Sterling (2004) has viewed the interactions between education, society/economy and ecosphere as nesting systems. He stated, "it is possible to regard any educational system (a system of related components including policies, institutions, curricula, actors etc.) as a subsystem of wider society: it is organized by, financed by, and mandated by this society. It is shaped and oriented by the needs, policies, values and norms of the social context it serves". In these two ways of interactions between society and education, the role of education in society is not only defined by the learning institution itself but it has been defined by the society it serves. Furthermore, higher education is not isolated from the society rather it is built by the society and part of the system.

Sterling (2004) argued that in systemic view, "higher education largely `fails´ in terms of the latter two aspects of failure: the purposes or objectives of higher education largely fail to take into account sustainability, and undesirable side-effects...". In the context of the role of higher education for sustainability, the efforts towards sustainability and the implementations of the concept in higher education are supposedly through the institutions and society itself. With such failure, both higher education and society have to respond to the unsustainable approach on the operation of the institutions, the university researches and curricula. However, the responses as well as the practices are initially focusing on university/campus greening, ecological footprint of university and environmental management. Later in recent years, the responses focused on teaching and learning, outreach programs and partnerships. The following table shows the level of sustainability transitions representing the type of social and education responses.

Table 1. Type of sustainability response in education setting (Sterling, 2004)

Accomodation	"A bolt-on of sustainability ideas to existing system, which itself remains largely unchanged. This is adaptive response to the concerns of sustainability based on the values and modus operandi or instrumental rationality. There is minimal effect on the institution, and the values and behavior of teachers and students. This is often a content-oriented response, but it is characterized by incoherence and conflict between reflected educational values. For example, sustainability concepts such as biodiversity or carrying capacity may be added into some parts of the curriculum and some subjects, which in other respects carry messages supporting unsustainability. The idea of sustainability and sustainable development is interpreted in ways which are consistent with the prevailing worldview. The descriptive term here is `education about sustainability´, or `learning about change´". [pp. 59]
Reformation	"A building in of sustainability idea into existing systems. More coherent coverage of content, an attempt to teach values and skills perceived to be associated with

	sustainability, and attempts to `green´ the operation of the institution. There is some critical recognition of the dominant educational paradigm, its inadequacies and contradictions. The paradigm is modified and this is expressed in some changes in policy and practice. The descriptive terms here are `education for sustainability´, and `learning for change´. [pp. 59]
Transformation	*"A re-design of sustainability principles, based on a realization of the need for paradigm change. This response emphasizes process and the quality of learning, which is seen as an essentially creative, reflexive and participative process. Knowing is seen as approximate, relational and often provisional, and learning is continual exploration through practice. The shift here is towards `learning as change´ which engages the whole person and the whole learning institution, whereby the meaning of sustainable living is continually explored and negotiated. There is a keen sense of emergence and ability to work with ambiguity and uncertainty. Space and time are valued, to allow creativity, imagination, and cooperative learning to flourish. Inter- and transdisciplinarity are common, there is an emphasis on real-life issues, and the boundaries between institution and community are fluid. In this dynamic state, the process of sustainable development and sustainable living is essentially one of the learning, while the context of learning is essentially that of sustainability. [...] The descriptive term here is `education as sustainability´ or `sustainable education´. [pp. 59-60]*

Building on the reviews of previous perspectives and studies on the strategy of sustainability integration in higher education, Rusinko (2010) proposed an alternative the incorporation of sustainability concept into curricula. The study proposed four types of strategies which can be either incorporating sustainability into the existing structures or creating new structures, and either discipline-specific or cross-discipline. The proposal is presented in the matrix below. Rusinko (2010) views these four types of strategy as opportunities to materialize even with limited resources and man power (type 1), to standardize an independent identity (type 2), to cross- discipline and expose to large number students (type 3) and to create independent identity across disciplines (type 4). Beside these advantages, the study shows that the implication of these strategies is not only in terms of its capability to materialize, or number of students and disciplines, but it could also affect the overall knowledge of the courses or contents, influence the approach of teachers in choosing learning activities and eventually enable sustainability thinking for both teachers and students. If the teacher decides to integrate sustainability into an existing course, he/she has to understand that embedding concept of sustainability could change the knowledge of the course, especially for a course that is fundamentally anthropocentric or techno-centric or even eco-centric. Not only that, the teacher also has to consider redesigning his/her teaching strategies or learning activities, since the integration of sustainability concept changing course learning objectives includes learning activities and assessment techniques. Hence, the original intention of sustainability integration in higher education is achieved.

		Sustainability in higher education delivery	
		Existing structures	New structures
Sustainability in higher education focus	Narrow (discipline-specific)	Type 1: Integrating into existing course(s) minor(s), major(s) or program	Type 2: Create new, discipline specific sustainability course(s), minor(s) or program(s)
	Broad (cross-descipline)	Type 3: Integrate into common core requirements	Type 4: Create new, cross-disciplinary sustainability course(s), major(s), minor(s) or program(s)

Figure 1. Matrix of Sustainability in higher educaation (Rusinko, 2010)

In the study of Redman and Wiek (2013), they have reported the effort of Arizona State University in integrating sustainability in higher education by the establishment of a school of sustainability. The study outlined six cornerstones that could describe the school. First, the school focuses on the urgent and important issues that are related to sustainability which, in their perspective, in order to address these issues "sustainability requires a new paradigm, and the educational system must be transformed to accommodate it". Second, the school employed epistemological pluralism which could provide a better understanding by integrating several perspectives from several disciplines. It is believed, a disciplinary approach in addressing issues related to sustainability only provides a single sided perspective, which is incomplete and unable to accommodate the demand of sustainability issues. Therefore, pluralism in research epistemology could fulfill the demand. Third, the school provides a platform for practitioners, scientist and stakeholders to work together hand- in-hand in conducting studies that contribute to the generations of knowledge. Fourth, importance is attached to have real-world learning experiences in teaching and learning activities in order to address real-world problems. This approach in an educational setting could result in gain in professional skills amongst students which could not happen in a traditional learning environment. Fifth, emphasize the concern of the future for sustainability. This cornerstone permits transformation or rather a drastic change where sustainability is a top priority. The study explains "implicit in an emphasis on futures is recognizing the necessity of working with input from stakeholders, and an ability to incorporate diverse values attributed to alternate outcomes by different participants". As the final cornerstone, they provided additional competencies beyond the expected learning outcomes from most disciplines.

From the experience of Arizona State University in integrating sustainability, this study learnt that the establishment of school of sustainability has proven the potential to have a drastic change either in teaching and learning activities or research activities. It is important that the school emphasizes an interdisciplinary approach in teaching and learning activities as well as different forms of participations of professionals to build understanding of sustainability knowledge. However, the establishment of new institution without direct integration into the existing educational system could create a parallel educational system. In a system where a `sustainable´ education system exists concurrently with an `unsustainable´ education system, the impacts of a sustainable education system to the entire university is minimal. It is important to address that the integration of sustainability has to institutionalize, as Sterling (2004) referred, as a wholly integration (a transformation towards sustainability). The establishment of a new institution that employs the concept of sustainability could be an opportunity to move for institutionalization of sustainability and as the change agents for the university or higher education.

In Malaysia, the efforts of four research universities (Universiti Malaya, Universiti Sains Malaysia, Universiti Kebangsaan Malaysian and Universiti Putra Malaysia) in incorporating sustainability in higher education included the aspect of campus operations, teaching and learning activities, researches, outreach programs and services (Saadatin et al., 2012). The universities, in general have shown great commitment to enhance the quality of education, public participations and knowledge generations which highly emphasize the social dimension of sustainability in their university policies and plans. However, these efforts over-emphasized the aspect of the social dimension and has underdeveloped the importance of environmental aspect in university leaderships except for Universiti Sains Malaysia that approaches the concept of sustainability by incorporating the three dimensions explicitly in the university´s visions and missions (Saadatin et al., 2009).

Even though the economic and environmental dimensions are underestimated in the policy level of universities, Saadatin et al. (2009) reported that these dimensions are incorporated in the engineering programs and courses. In fact, most of the programs and courses focus on issues related to the environmental dimension, such as Bachelor of Environmental Engineering (program level), Bachelor of Civil and Environmental Engineering (program level), and Integrated approaches to sustainable development practices (course level). The report is also an evidence of the limitations of education reform in the four universities in developing engineering education for sustainable development. All presented cases demonstrate a disciplinary approach in implementing plans of the incorporation. The incorporation is mostly in civil and environmental engineering and literally non-existent in other engineering fields e.g. mechanical engineering and electrical engineering. The "re-formation" of engineering education towards sustainability of the universities is breaking down interdisciplinary or trans-disciplinary approaches in redesigning existing courses, as it usually is highly content oriented and ignoring reformation on teaching and learning activities.

In the context of the incorporation of sustainability into university courses and curricula, the differences in terms of its strategies are varied to one and another. The strategies very much reflected the aims or goals of that particular organization or institution set for the incorporation. If the institution was aiming for a complete transformation of their curricula towards sustainability, affecting all existing programs and courses, it demands full cooperation from all teachers and staff. The strategies that have been planned for the transformation are more complex, demanding a high degree of participation and time consuming compared to an institution that has decided to incorporate sustainability by only introducing a new course and embedded into the existing curriculum.

Research Methodology

For the purpose of identifying the strategy to incorporate sustainability in engineering curricula, sustainability courses were analyzed by reviewing thirteen published articles, one internal document and nine online documented engineering courses. Table 2.0 presents a list of documents reviewed in understanding the experiences of higher institution in incorporating sustainability in the curriculum.

	Procedures:	Products:
Qualitative data collection	• Searching and reviewing articles and documents	• 26 Sustainability courses • Collection of learning objectives
Qualitative data analysis	• Thematic development • Use deductive and inductive analytical technique • Describe th four dimensions	• Four dimensions of course structure and contents
Qualitative findings and results		• Description of the dimensions of course structure and contents

Figure 2. Qualitative research design

Table 2. List of Sustainability Courses

No.	Title of Course/Article	Source
1.	Sustainable design and construction	International Conference on Engineering
2.	Sustainable civil infrastructure systems	Education in Sustainable Development
3.	Design 5	Journal of Cleaner Production
4.	Applied Sustainabilty and Public Health in CE Design	Journal of Professional Issues in Engineering Education and Practice
5.	Ecological Engineering 2	Journal of Engineering Education
6.	Business, Society and Environment	Journal of Cleaner Production
7.	Sustainable Development and Responsibility	AAU internal Documents
8.	Environmental Principles for Sustainable Design	Proceedings of the 2005 ASEE
9.	Education and Awareness for Sustainability	International Journal of Environmental & Science Education
10.	A Sustainable Development Course for Environmental Engineers in Kyrgyzstan	International Journal of Sustainability in Higher Education
11.	Engineering Clinic	Proceeding of the 2002 ASEE
12.	Introduction to Engineering Practice	Proceeding of the 2010 ASEE
13.	Engineering Analysis and Problem Solving	Proceeding of the 2007 ASEE
14.	Climate, Sustainability and Society	20th Australian Association for Engineering Education Conference
15.	Materials and Resources	CEBE Transactions
16.	Sustainable Cities and Urban Generation	
17.	Environmental Challenges and Leadership in Asia	The University of Tokyo online document
18.	Sustainable Process Development	National University of Singapore online document
19.	EEWS Technology and Commercialization Perspectives	KAIST online documents
20.	Environmental Studies	University of Mumbai online documents
21.	Ubiquitous Sustainable Engineering	POSTECH online documents
22.	Engineering for Sustainable Built Environment	Hong Kong University online documents
23.	Sustainability Technology Evaluation and Theory	Osaka University online documents
24.	Global Threats and Sustainability	
25.	Understanding Environment, Development and Sustainability	Chulalongkorn University online documents
26.	Ecological Engineering Practices	National Taiwan University online documents

The qualitative data (the sustainability courses) were collected from online databases and the data were analyzed thematically. In this process, the four dimensions of sustainability course for course structure and content is developed.

Findings and Discussion
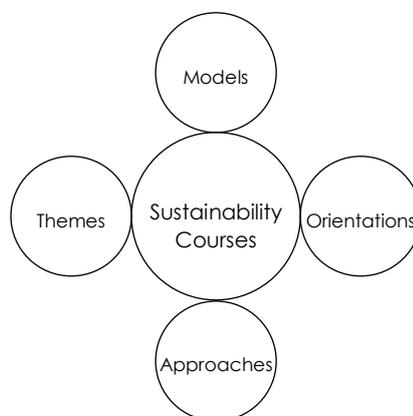
Figure 3. Four dimensions to characterize Sustainability in Higher Education

This study presented the exploration of several institutions practices in incorporating sustainability in academic curricula. The exploration involved university works that have been published in proceeding and journal articles, as well as documented in university curricula. As inductive and deductive analytical techniques were applied to analyse the data, the research proposes that there are four main dimensions of sustainability incorporation. The presented dimensions of sustainability incorporation in academic curricula can be used as a method to characterize the existing sustainability courses and to provide an overview of the university practices. By

characterizing the existing sustainability courses into the dimensions, it can provide some form of reflections on the aspects that are related to course design. Therefore, the teachers or course coordinators could highlight the potentials of the existing courses and later in the future redesign the courses for improvement.

The dimensions consist of model, approach, orientation, and theme (see Figure 3.0). The dimensions of Sustainability course characterization is based on the study conducted by Arsat, Holgaard and de Graaff (2011), and Arsat (2013). Model is a dimension to construct a sustainability course; it has been further developed on the basis of six cases (Kitamura and Hoshii, 2006; Salih, 2008; Holmberg, 2008; Coral, 2009; Murphy et al., 2009 and Chhokar, 2010). The model has been proposed in two types. The first type, a stand-alone model, represents a sustainability course that has been newly developed for engineering students without redesigning the existing engineering course. The second type, an integrated model, characterizes a sustainability course that has been developed by integrating sustainability knowledge into the existing engineering course. Orientation of sustainability course characterizes the area of knowledge that is applied to develop course learning objectives and contents. This research has proposed two types of orientation that are represented in this dimension. Disciplinary orientation represents the focus of sustainability course in providing sustainability knowledge and competencies to fit into a specific discipline. On the other hand, a sustainability course that provides knowledge and competencies from more than one discipline is called an interdisciplinary orientation.

Next dimension for sustainability incorporation is approach. Building on three types of approach, a sustainability course can be characterized either as a singular approach, dialectic approach or a consensual approach. Each approach signifies the focus of knowledge in integrating the three main pillars of sustainability (environmental pillar, social pillar and economic pillar). For a sustainability course that focuses only on one of the pillars, it is called as a singular approach. On the other hand, sustainability course that focuses on two of the pillars is called as dialectic approach, and a consensual approach for sustainability course equally balances all the three pillars.

The next dimension that is proposed in this study is theme. The key themes of sustainability consist of i) connecting sustainability to the professions, ii) conceptualizing sustainability into designs, iii) valuing sustainability in justifications and iv) implementing sustainability into solutions. These themes represent a method to incorporate the knowledge of sustainability into professions and practices. It relates to the selection of the knowledge of sustainability that is complex and covers a wide area of disciplines. For instance, the first theme characterizes sustainability course that incorporates sustainability knowledge that is more non-technical and abstract. The purpose of employing this theme is to connect profession with the fundamental concept of sustainability.

Conclusion

Sustainability is a concept where the equilibrium state of the three dimensions (environmental, social and economic dimensions) in indefinite time and equity between the intergeneration and intra-generations are concerned. Therefore, incorporating sustainability in higher education has to be part of the efforts to achieve global sustainability. Future graduates have to be equipped with attributes that require for sustainability. Sustainability incorporation in academic curricula can be represented in four dimensions. Model, approach, orientation, and theme are the dimensions that provide understanding on the existing practices in higher education on incorporating sustainability. The current university practices that solely focus on environmental dimension should not undermining the other two dimensions and under-represented the importance of inter and intra-generations equity. The studied sustainability courses in academic curricula are the evidence of the incorporation. It shows that the existing curricula can adapt a general concept of sustainability incorporation. It is also an evidence of the contextualization of sustainability concept that is complex and covered a wide range of disciplines into specific area of learning.

References

Arsat, M. (2013). Key sustainability themes and competencies for engineering education, Research in Engineering Education Symposium, Rees 2013, pp. 364-371

Arsat, M., Holgaard, J.E., and de Graaff, E., (2011). Three dimensions of characterizing courses for sustainability in engineering education: Models, approaches, and orientations. 3rd International Congress on Engineering Education (ICEED)

Chhokar, K. B. (2010). Higher Education and Curriculum Innovation for Sustainable Development in India, International Journal of Sustainability in Higher Education, Vol. 11 No. 2, 2010.

Coral, J. Segalas (2009). Engineering Education for a Sustainable Future, PhD Dissertation. Universitat Politecnica de Catalunya, Barcelona.

Holmberg, J., Svanström, M., Peet, D.-J., Mulder, K., Ferrer-Balas, D. and Segálas, J. (2008). Embedding sustainability in Higher Education through Interaction with Lecturers: Case Studies from Three European Technical Universities, European Journal of Engineering Education, Vol. 33, No. 3, pp 271-282.

Kitamura, Y., and Hoshii, N., (2010) "Education for Sustainable Development at Universities in Japan," International Journal of Sustainability in Higher Education, Vol. 11 No. 3.

Murphy,C. F., Allen, D., Allenby, B., Crittenden, J., Davidson, C. I., Hendrickson, C. and Matthews, H. S. (2009). Sustainability in Engineering Education and Research at U.S. Universities, Environmental Science & Technology, Vol. 43, No. 15.

Redman, C. L., and Wiek, A., (2013). Sustainability as a transformation in education. Higher Education for sustainability: cases, challenges, and opportunities from across the curriculum. Johnston, L.F. Routledge. New York.

Rusinko, C.A., (2010). Integrating sustainability in higher education: a generic matrix. International journal of sustainability in higher education. Vol 11. No 3, pp. 250-259.

Saadatin, O., Haw, L.C., Mat, S., and Sopian, K., (2012). Perspective of sustainable development in Malaysia. International journal of energy and environment. Vol 6, Issue 2, pp. 260-267

Salih, M., (2008). Realizing Sustainable Development in Higher Education through Soft Skills, Indian Journal of Science and Technology, Vol 1 No 5.

Sterling, S., (2004). Higher education, sustainability, and the role of systemic learning. Corcoran, P. B. and Wals, A. E. J. (Eds), Higher education and the challenge of sustainability: Problematics, promise and practice. Pp.49-70. Kluwer academic publisher. Netherland

Designing Curriculum in the 21st Century

Abdul Rahim Bin Hamdan
Sultan Idris Teaching University, Tanjung Malim, Perak. Malaysia.

E-mail: abdulrahim@fpm.upsi.edu.my

Abstract: Designing Curriculum in the 21st century evolved as changes occurred in the education setting. Furthermore, the emerging and the importance of Industrial Revolution 4.0 in the current development of man's worldview change the views on education. Curriculum is no longer known as a collection of syllabi and study plans organised by discipline. Therefore, we are looking at outcome of process to determine essential skills, indispensable knowledge, values acquired, and experience required. In the 21st century education, digital learning, interest driven learning, skill driven learning and emerging of new subject will be the issues. UNESCO emphasizes 4 aspects to be address in curriculum development of the 21st century, i. principle to be considered and content to be included, ii. Curricular setting (who and how), iii. Means used (effective and meaningful learning) and iv. The content to be taught(how). Intercultural understanding, personal and social competence, ethical behaviour, information and communication technology competence, numeracy and literacy will be the key skills in the 21st century education. It is important that learning to know, learning to do, learning to be and learning to live together referring on how to educate the citizens of tomorrow. The presentation will discuss the foundations, principles, characteristics, values, trends and challenges to curriculum development of the 21st century

Keywords: Designing Curriculum; 21st Century, Teaching and Learning

Introduction

Designing Curriculum in the 21st century evolved as changes occurred in the education setting. Furthermore, the emerging and the importance of Industrial Revolution 4.0 in the current development of man's worldview change the views on education. Curriculum is no longer known as a collection of syllabi and study plans organised by discipline. Therefore, we are looking at outcome of process to determine essential skills, indispensable knowledge, values acquired and experience required. In the 21st century education, digital learning, interest driven learning, skill driven learning and emerging of new subject will be the issues. But, basic plan should be adopt in designing intended curriculum (Abdul Rahim, 2007). Furthermore, foundations of curriculum will look upon the philosophy of education where the values of learning and teaching(2011) that's suits the changes foe the 21st century education.

The 21st century educator must use **teaching strategies** to ensure that the focus in education is on preparing today's children for the future of where they will live and where they will work, not for our current world 21st Century – What do we understand about it? In moving away from the "factory model" of education schools are now implementing educational experiences aligned to the real world. In fact, the new 3 R's for education are: Rigorous, Relevant and Real World.

The curriculum should incorporates higher order thinking skills, multiple intelligences, technology and multimedia, the multiple literacies of the 21st century, and authentic assessments. Therefore, Twenty-first century curriculum is the "abandonment, finally, of textbook-driven, teacher-centred, paper and pencil schooling"

Scenario that demands the education setting to be change

.

Why there is a need of restructuring for new curriculum? 21st century is a range of time at year 2000 till 2099, within this range of time the demands in: Social(Life style), Knowledge (Education 4.0), Economy(Industry 4.0), Politics(Decisions), Technologies, Gen Z and others are rapidly change. How does this demands affect Educational System (Schools, Higher Institutions)?. We are in the verge of the explosion of knowledge (Emerging of new subject), Information and communication technology (Digital Learning) and artificial Intelligent. As time goes, new things will surface and it comes very fast. Education should entertain the changing of needs align with the demands.

School is not the only place in seeking knowledge (Interest driven learning). Knowledge is everywhere, anywhere and at any time. The vast development of technology makes the knowledge without boundaries. Global changes of economy, Labour market (Skill driven learning) and Borderless world(Every place is reachable) makes things easier to access.

Questions for all curriculum developers to rise as a means of building curriculum

Even though the rapid changing and different demand of knowledge, a curriculum designer should not ignored the questions by Ralph Tyler on designing and developing he curriculum;

What purposes should the school seek to attain?

How can learning experiences be selected to help attain these?
How can learning experiences be organized or effective instruction?
How can learning experiences be evaluated?

These questions should be the key elements in determining the suitable curriculum for 21st century. To that extend, UNESCO (2014) emphasizes 4 aspects to be address in curriculum development of the 21st century,

   i.   Principle to be considered and content to be included,
   ii.   Curricular setting (who and how),
   iii.   Means used (effective and meaningful learning) and
   iv.   Content to be taught (how)

From the aspect, these are the question arise in order to defined the curriculum designed. What principle to be considered and what essential content should be including in 21st century? Who should set the curricula and how? What types of means should be used so that the intended curriculum could be translated in effective and meaningful learning? How should content be taught? In conjunction to address the right design, social diagnosis to be putt in placed as shown in figure 1. The argument is, does the curriculum designer do the effort looking into this matter or it just based on instructions of managers. Ornstein, A. C., & Hunkins, F. P. (2012), stated that diagnosis of curriculum should be conducted as it will look into the needs of the stakeholders.
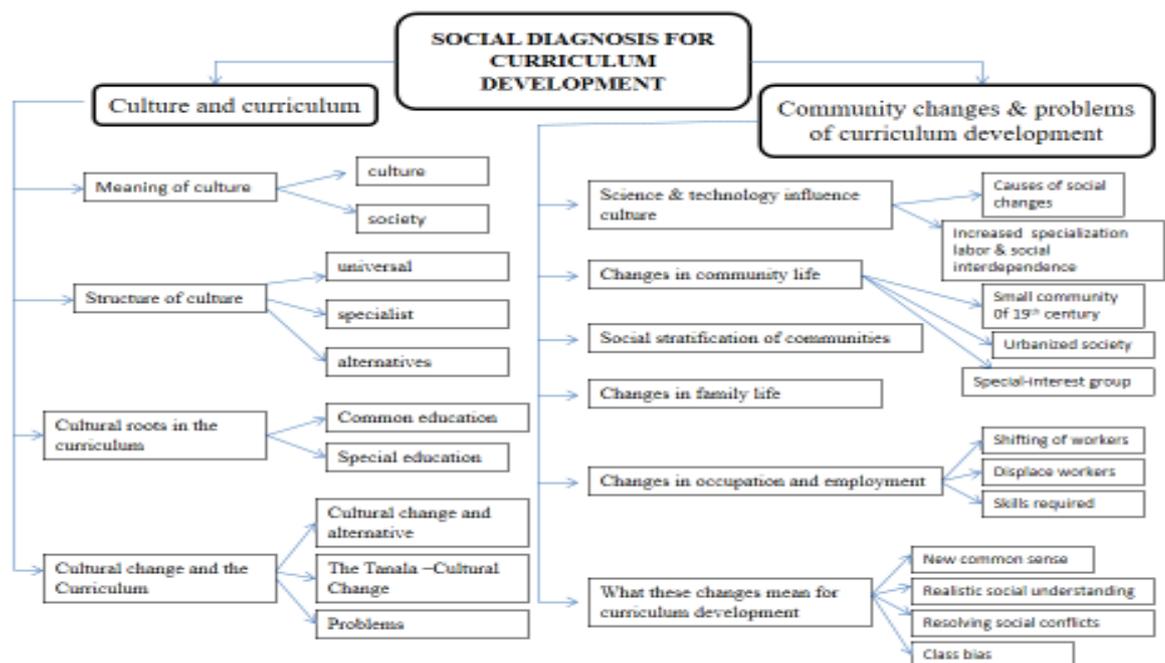
Figure 1. Social Diagnosis for curriculum Development

Curricular landscape for the 21st century for Teaching and Learning

These are the questions to be answered before we proceed in deciding to choose the appropriate approach for 21st Century curriculum. What curricula should the schools have for the 21st Century? What are the skills needed 21st century curriculum? What to address the values reflective of the needs for the 21st Century teaching and learning? It is essential to design and assess the process of developing the new curriculum accordingly based on the foundation of education (Robert M . Diamond, 2008).

What's most that 21st century learners can be describe as a collaborators, networkers and communicators. They also can be adaptive and creative with new information, media and a technology savvy. Therefore, the curriculum designer should acknowledge the learners experience as most of the young generation of the new century is partial to instant gratification and reliant on media in its various forms. New form of knowledge transfer can be defined in order to meet the needs of new generations. This emerging curricular for 21st century learners would ""bold that breaks away from the mould". Learning to know, Learning to do, and Learning to be, learning to live together be the main perspective to be look at.

To ensure the process of curriculum implementation, the terms WHEN? Time is allocated according to the learning need. The WHERE? WHAT? Learning takes place in a range of context and settings is to be considered. Learning activities are selected to promote the aims of the curriculum and to maximise leaner's progress. THE LEARNER Curriculum Blueprint for the 21st Century Learning activities are arranged to help all learners meet the curriculum and achieve well. WHO? HOW? A range of people are involved in providing the learning experience.

Methods and approaches fit the needs of learners and the ways in which they learn. The list of key characteristics below is used to identify the appropriate approached to be adopted for the 21st century curriculum:
i. Integrated, Interdisciplinary.
ii. Globalization
iii. Student-centered
iv. Technoligies & Media oriented
v. Research-driven
vi. Co-development
vii. Multi-cultural
viii. Sustainable
ix. Enhance 21st Century skills

With the characteristic mention above, the skills needed for the st 21 century teachers and learners should emphasised on Literacy, Numeracy, Information and Communication Technology competence, Ethical behaviour, Personal and social competence, Intercultural understanding. Howard Gardner(2008), in his book five Minds for the future explained the need of the disciplined mind, the synthesizing mind, the creating mind, the respectful mind and the ethical mind should be poses in future generations. The main aspects of development for teachers in the 21st century to balance the students' knowledge are gaining the Information Literacies and Knowledge Building, Media and Multi-cultural 21st Century Learning. Teachers also can create a learning environment that is participatory, inclusive & valuing diversity, thus enhancing student-teacher relationship" 21st Century Curriculum and Instruction in 21st century needs to take on an integrated approach, helping students understand how to access, evaluate, synthesize, and contribute to information.

In designing the 21st Century Curriculum, the core values that should be part of the structure is Respect – belief in self-worth and intrinsic worth of others, Responsibility – duty to himself, family, community, nation and the world, Integrity – upholds ethical principles and has the moral courage to stand up for what is right, Care – acts with kindness and compassion that contribute to the betterment of the community and the world, Resilience – emotional strength to manifest courage, optimism, adaptability and resourcefulness and Harmony – seeks inner happiness and promotes social cohesion through unity in diversity in multicultural society. Figure 2 shows that the terms to be considered as curriculum blueprint in designing the 21st century education.
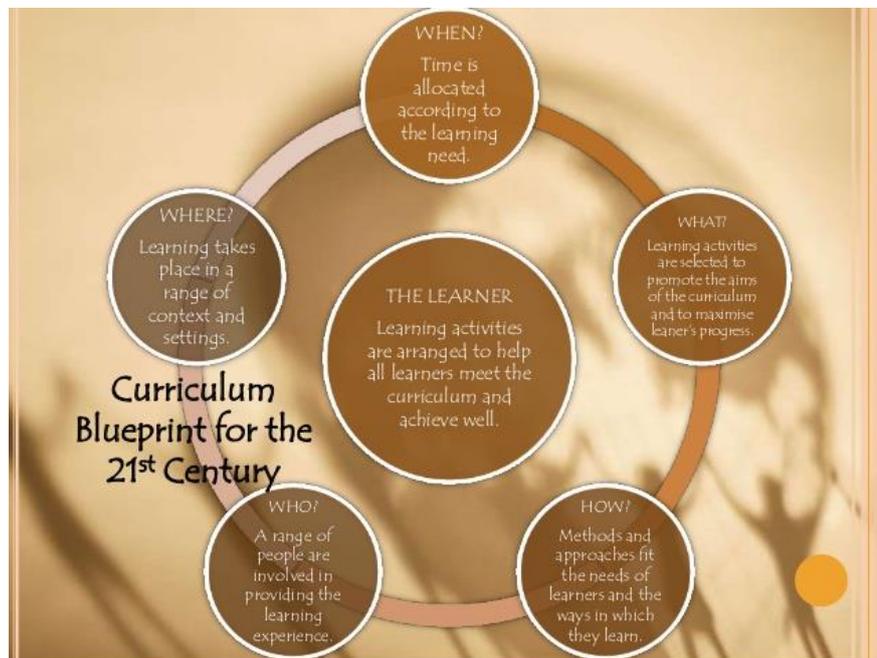
Figure 2. Curriculum Blueprint to be acknowledged for the 21st Century education.

Conclusion

Designing Curriculum is not an easy task. Decision maker should adopt the appropriate methods and justification in selecting the knowledge to be transferred and how it can be transferred. With the information consideration given above, the 21st curriculum could be design in transform and readiness of future generation. To this extend it is everybody responsibility to ensure that the curriculum designed will meet the needs of the future generations.

References

Abdul Rahim Hamdan. (2007) *Pengajian Kurikulum*. Penerbit UTM
Abdul Rahim Hamdan. (2011) *Falsafah dan Pemikiran Pendidikan*. Penerbit UTM
Howard Gardner (2008) Five Minds for the FutureGilden Media Corporation. Old Saybrook U.S.
Unesco (2014) UNESCO roadmap for implementing the Global Action Programme on Education for SustainableDevelopment.
Ornstein, A. C., & Hunkins, F. P. (2012). *Curriculum: foundations, principles, and issues* (6th ed.). Boston, MA: Allyn & Bacon.
Robert M. Diamond, 2008. *Designing and Assessing Course and Curricula. A Practical Guide*. 3rd Edition. San Francisco. Jossey-Bass.
https://educationinjapan.wordpress.com/homeschooling-afterschooling/what-is-21st-century-curriculum/
http://www.21stcenturyschools.com/curriculum-design.html
https://curriculumredesign.org/wp-content/uploads/CCR-FoundationalPaper-Updated-Jan2016.pdf

Factors Affecting Communication Apprehension among Universiti Teknologi Malaysia TESL Undergraduates

He Yang[1], Mahani Stapa[2], Muhammad Adam Izzuddin Mohd. Nasir[3], Mutiarani[4]
[1] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia
[2] Language Academy, Universiti Teknologi Malaysia
[3] Faculty of Science, Universiti Teknologi Malaysia
[4] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: hyang2009@qq.com[1], m-mahani@utm.my[2], ma.izzuddin@graduate.utm.my[3], mutiaranirahman@gmail.com[4]

Abstract: The purpose of this study is to investigate the factors that lead to TESL major undergraduates' communication apprehension. The data for this study is obtained through questionnaires and interview. A total of 48 students from Universiti Teknologi Malaysia are chosen to be the respondents for this study. The findings of the study showed that there are six factors leading to the students' communication apprehension and they are fear of making errors, self-perception of speaking skill ability, nervousness of speaking first language, timidity in nature, fear of speaking in front of opposite gender and dearth of motivation.

Keywords: Communication apprehension; TESL undergraduates.

Introduction

It is observed that students who learn English as a second language (ESL) are sometimes reluctant to engage in communicative interactions. For this situation, Horwitz, Horwitz and Cope (1986) pointed out that this is because the students' performances in second language (L2) have the possibilities of challenging their self-concept and causing their reticence, fright, or even terror due to the fact that communication is a process which involves complicated and subtly mental operations. There are studies which have pointed out that speaking is probably the most difficult part for apprehensive L2 learners in class (Aida, 1994; Liu & Jackson, 2008; Mak & White, 1997). According to Gregersen and Horwitz (2002), language students who have the problem of communication apprehension would passively sit in the classroom, inactively join in the class activities which could improve their language skills. The concept of communication apprehension is used to refer to L2 performance anxiety (Horwitz, Horwitz & Cope, 1986).

As one of the three components of language anxiety, it is demonstrated that students who experience communication apprehension would feel pressured communicating in the target language in a relatively public circumstance attributed to their insufficient mastery of the target language, especially in relation to listening and speaking skills (Tsiplakides & Keramida, 2009). However, at the basis of interaction-driven L2 development, Swain (1995) argued that the benefits of learning come from meaningful interaction with others and made an emphasis on the viewpoint that learners must talk to accomplish the goal of learning.

In the context of ESL higher education, English is adopted as the medium language of instruction. Under this circumstance, a majority of the students are reported suffering from communication problems in English for academic purposes. It may be due to the fact that they do not have enough self-confidence and do not adequately acquire effective skills to successfully communicate in the target language. Consequently, they would feel apprehensive when they need to speak in front of others. Thaher (2005) pointed out that if an individual gets to a relatively high level of communication apprehension, his or her L2 acquisition will be hampered. As a consequence, he or she would be more and more unwilling to communicate with others by using the target language. Essentially, there are many factors that may have influenced ESL students' speaking skills from a variety of aspects, especially for Teaching English as a Second Language (TESL) majors who study English not only to accomplish their education goals but also to cater for their future careers and professions. The primary purpose of this research is to explore the factors that cause students' communication apprehension in the context of ESL learning environment.

Background of the research

Speaking is a very important language skill to be improved for effective communication in any language, particularly for the people who need to use their non-native language (Boonkit, 2010). Nowadays, English is popularly served as a medium of communication among speakers of different mother tongues (Jenkins, 2012). With the highly rapid development of English language use in people's daily life, English language teaching and learning becomes an indispensable part of many countries' education intake around the world. Taking Malaysia as an example, English language was initialized by intense British colonization in the 1800s (Pandian, 2002), so it has been for a very long time that English language enjoys its popularity in this country. Most Malaysians start to learn English from their early ages. Under such an education background, after years of English language learning, most ESL Malaysian university students should be competent English speakers, especially TESL students who are likely to teach English as their professions in the future. Nonetheless, their English speaking competence is not that as ideal as expected.

MacIntyre and Gardner (1991) believed that speaking is the most anxiety-provoking language skill. Students who have communication apprehension tend to avoid communicating with others. Communication apprehension is defined as a kind of shyness rising from fright or worry about communicating with people (Horwitz, Horwitz & Cope, 1986). This definition of the term actually originated from the initial conceptualization of communication apprehension proposed by McCroskey (1977). This researcher stated that communication apprehension refers to one's fear or anxiety towards a real or anticipated communication with another individual or individuals. Based on the two definitions of communication apprehension above, it can be summarized that communication apprehension may exist in daily communication situations and the situations vary from different individuals.

Lucas (1984) stated that the students' communication apprehension could be created or amplified in L2 situations. In this study, the researcher claimed that the students who have no communication apprehension in speaking their first language (L1) can become apprehensive in speaking L2. Besides, the researcher also suggested that ESL students' communication apprehension must be magnified tenfold when they need to speak in English if they are apprehensive speakers in L1 speaking. Similarly, the results of a study on the topic of L2 communication apprehension conducted by Burroughs, Marie and McCroskey (2003) also revealed that speaking in L2 do increase apprehension, downgrade self-perceived communication competence and decrease willingness to initiate communication. Based on the findings of these previous studies, the researcher believes that it is more challenging for the students to speak in L2 and they are more vulnerable to encounter the problem of communication apprehension compared with speaking in L1.

In Malaysian context, the population here consists of three main races which are Malays, Chinese and Indians. Under such a multi-lingual background, English is widely adopted as the language for communication between people. As English language is so widely used in Malaysia, generally, people in Malaysia start to learn English from a very early age to tertiary level. It is quite important for them to learn English well so that they could accomplish their academic aims and prepare themselves for the competitive job market later (Abdullah & Rahman, 2010). After many years of English language learning, most of them already had solid foundation knowledge of English actually. However, it is noticeable that some of them are facing communication apprehension problem. They cannot effectively apply the knowledge that they acquired to daily communication by using the target language. In other words, they have the ability, but they fail to display it. In this study, the researcher believes that this phenomenon results from their communication apprehension.

McCroskey (1984) proposed that communication apprehension should be viewed on a continuum which consists of four points and each point represents a distinct type of communication point apprehension. And the corresponding four types are traitlike, generalized-context, person-group, and situational communication apprehension. McCroskey (1984) defined traitlike communication apprehension as a relatively enduring personality-type variable. The second type is generalized-context communication apprehension which is recognized that an individual would be highly apprehensive to communicate with others in one particular context while he or she has less or even no apprehension to communicate with others in another type of context. The third type is person-group communication apprehension which refers to the anxiety of a person when he or she needs to communicate with another person or a group of persons. And the fourth type is situational communication apprehension which represents the anxiety of a person when he or she needs to communicate with another person or persons at a given time. By reviewing the previous studies, it has proven that the students' personal factors do have influences on the development of their speaking performance. The students suffer a variety of communication obstacles and hold varied attitudes towards the behaviour of speaking up in English.

Research Methodology

This research is of a mixed quantitative and qualitative study which used two instruments for data collection and they are questionnaire and interview. The respondents for this study are 48 TESL major undergraduates aged from twenty to twenty-four years old whose English proficiency levels are evaluated belonging to the domain of intermediate towards upper averagely based on their Malaysian University English Test (MUET). They are students of Universiti Teknologi Malaysia, Johor, Malaysia. Among all the students, thirty of them are in the second year of their degree study and eighteen of them are in the third year of study currently.

To meet the research objectives, the researcher used one set of questionnaire adapted from previous studies. It includes twenty-six statements concerning about factors leading to communication apprehension. Besides, the researcher randomly chose ten students among the respondents to conduct one-to-one interviews in the form of face to face interaction. The interviews were semi-structured with fourteen questions adapted from previous studies. All the interviews were audio-recorded.

The collected questionnaire data were analysed via SPSS to get the frequency and mean value of each statement in the questionnaires and descriptive analysis was used to elaborate the data collected. And the interview data collected were transcribed. Then, the findings of the interview were interpreted to corroborate the data analysis results obtained from the questionnaires.

Findings and Discussion

There are six out of the twenty-six statements being identified which relate to the students' communication apprehension and Table 1 below indicates the percentages for the research question which investigate the factors

that lead to the students' communication apprehension. The statements involved are all instances of situations of communication apprehension that the students would encounter.

Table 1. Factors Leading to Communication Apprehension

Ranks	Statements	Percentages
1	16. I am afraid of making errors when I speak in English.	50.0%
2	23. I make noticeable errors of grammar and word order when I speak English.	39.6%
3	6. I feel nervous and tense even when I speak using my first language.	37.6%
4	17. I am a timid person by nature and I get nervous easily.	37.5%
5	7. I feel uncomfortable taking in front of my classmates from the different gender.	25.0%
6	11. My desire to speak English is more than my desire to write or read it.	22.9%

Referring to the six identified statements from the highest percentage to the lowest that cause the students' communication apprehension, the six factors are fear of making errors, self-perception of speaking skill ability, nervousness of speaking first language, timidity in nature, fear of speaking in front of opposite gender, and dearth of motivation. Besides, the findings from the interview clearly indicated that the students who are afraid of making errors, have a negative self-perception of speaking skill ability, tend to an introvert personality, feel awkward to speak in front of different gender classmates, and have less desire to practice English speaking are more tend to confront with communication apprehension. However, although the data analysis results showed that the students have communication apprehension when they speak their first language, the interview findings disclosed a contradictory standpoint except one out of ten interviewees mentioned that he has this problem.

According to Jordens (1977), some people are reluctant to communicate with others in foreign language unless they make sure that they could perfectly complete the communication without making speaking mistakes. Even if they do have self-recognition that this would hinder their English learning process, they still exert their full strength to speak perfectly correct English. As a result, they usually have much less chances to speak because others may move to another topic already before they finally come up with correct English sentences to express themselves due to a relatively long period of speech preparation (Kang, 2006). The researcher believes that the students should somehow accept this kind of imperfection.

Tatahashi (2008) claimed that the learners' self-perception of language ability is a source of anxiety in the target language classroom. This statement is based on a suggested model proposed by Onwuegbuzie, Bailey and Daley (1999), which revealed that there exists a reciprocal relationship between the learners' self-perception of language ability and their language anxiety. That is, anxiety can be a cause of low self-perceived language ability and it can also be an effect of low self-perceived language ability. The researcher concludes that it is very important for language learners to have a good image of themselves as this may have direct or indirect impacts on their target language acquisition. In relation to the issue of timidity in nature, the findings of a study by Hinenoya and Gatbonton (2000) discovered that the students who have the feeling of timidity often escape from grasping opportunities to interact with others, presenting an unwillingness to take part in communication practices which are beneficial for achieving a L2 learning success.

For the problem of feeling uncomfortable to stand in front of their classmates from the different gender, the findings of this study revealed that the reasons why they feel so are mainly due to lack of confidence and their fear of negative evaluation. A majority of the interviewees directly reported that they are lack of confidence and this makes them feel apprehensive. In terms of the issue of confidence, Belknap (2016) pointed out that confidence is actually a quality which can be cultivated. Therefore, the students should have faith in themselves and try hard to improve self-confidence. And they reported that they are afraid of criticism, negative comments, and ridicules while speaking English in front of the classmates who are not the same gender, which would make them feel awkward and nervous. Robertson et al. (2000) found that students who are lack of confidence would have less participation in class. Nevertheless, the improvement of English speaking needs a lot of practices.

In addition, MacIntyre and Gardner (1991) considered that fear of negative evaluation is a kind of manifestation of a student's excessive concern with academic and personal assessments of his or her capacity and performance by using the target language. It has been proven that the individuals who are unduly concerned about the impressions they leave on others usually try to behave in ways that could minimize the possibility of being negatively evaluated. For instance, individuals who are fearful of negative evaluations hardly initiate a conversation and rarely verbally interact with others (Gregersen & Horwitz, 2002). So it can be concluded that the students who have fear of negative evaluation more tend to withdraw themselves from in-class activities and remain silent, which is bad for their English speaking improvement due to the lack of practical use of the language. Furthermore, it revealed that the students' desires to speak English are inactive. However, as what was mentioned by Yashima (2002), motivation and willingness to communicate by using L2 are closely related variables implied in L2 acquisition. It is argued that high motivated students tend more persevere in learning their target language in a long run, which would improve their proficiency, build up their confidence, and increase their willingness to communication by using the language.

Conclusion

The factors which lead to the students' communication apprehension are identified to achieve the research objective of this study and they are fear of making errors, self-perception of speaking skill ability, nervousness of speaking first language, timidity in nature, fear of speaking in front of opposite gender, and dearth of motivation.

References

Abdullah, K. I., & Rahman, N. L. B. A. (2010). A study on second language speaking anxiety among UTM students. Fakulti Pendidikan, Universiti Teknologi Malaysia, 1-6.

Aida, Y. (1994). Examination of Horwitz, Horwitz, and Cope's construct of foreign language anxiety: The case of students of Japanese. The modern language journal, 78(2), 155-168.

Belknap, L. (2016). Three Ways to Build Your Confidence for Public Speaking. Retrieved from https://www.ethos3.com/2016/01/3-ways-to-build-your-confidence-for-public-speaking/

Boonkit, K. (2010). Enhancing the development of speaking skills for non-native speakers of English. Procedia-social and behavioral sciences, 2(2), 1305-1309.

Burroughs, N. F., Marie, V., & McCroskey, J. C. (2003). Relationships of self-perceived communication competence and communication apprehension with willingness to communicate: A comparison with first and second languages in Micronesia. Communication Research Reports, 20(3), 230-239.

Gregersen, T., & Horwitz, E. K. (2002). Language learning and perfectionism: Anxious and non-anxious language learners' reactions to their own oral performance. The Modern Language Journal, 86(4), 562-570.

Hinenoya, K., & Gatbonton, E. (2000). Ethnocentrism, cultural traits, beliefs, and English proficiency: A Japanese sample. The Modern Language Journal, 84(2), 225-240.

Horwitz, E. K., Horwitz, M. B., & Cope, J. A. (1986). Foreign Language Classroom Anxiety. The Modern Language Journal, 70(2), 125-132.

Jenkins, J. (2012). English as a Lingua Franca from the classroom to the classroom. ELT journal, 66(4), 486-494.

Jordens, P. (1977). Rules, grammatical intuitions and strategies in foreign language learning. Interlanguage Studies Bulletin, 2(2), 5-76.

Kang, S. J. (2006). Individual and social-contextual factors affecting the learning and use of ESL: A case study of a visiting Korean physician. TESL Canada Journal, 24(1), 59-79.

Liu, M., & Jackson, J. (2008). An exploration of Chinese EFL learners' unwillingness to communicate and foreign language anxiety. The Modern Language Journal, 92(1), 71-86.

Lucas, J. (1984). Communication apprehension in the ESL classroom: Getting our students to talk. Foreign Language Annals, 17(6), 593-598.

MacIntyre, P. D., & Gardner, R. C. (1991). Methods and results in the study of anxiety and language learning: A review of the literature. Language learning, 41(1), 85-117.

Mak, B. S., & White, C. (1997). Communication apprehension of Chinese ESL students. Hong Kong Journal of Applied Linguistics, 2(1), 81-96.

McCroskey, J. C. (1977). Oral communication apprehension: A summary of recent theory and research. Human communication research, 4(1), 78-96.

McCroskey, J. C. (1984). The communication apprehension perspective. In JA Daly, & JC McCroskey. (Eds.), Avoiding Communication (pp. 13–38). Beverly Hills.

Onwuegbuzie, A. J., Bailey, P., & Daley, C. E. (1999). Factors associated with foreign language anxiety. Applied Psycholinguistics, 20(2), 217-239.

Pandian, A. (2002). English language teaching in Malaysia today. Asia Pacific Journal of Education, 22(2), 35-52.

Robertson, M., Line, M., Jones, S., & Thomas, S. (2000). International students, learning environments and perceptions: A case study using the Delphi technique. Higher Education Research & Development, 19(1), 89-102.

Swain, M. (1995). Three functions of output in second language learning.Principle and practice in applied linguistics: Studies in honour of HG Widdowson, 2(3), 125-144.

Tatahashi, A. (2008). Learners' Self-perception of English Ability: Its relationships with English language anxiety and strength of motivation for learning the language. 57-69.

Thaher, M. (2005). Communication Apprehension Among An- Najah Natioanl University Students. An-Najah Univ. J. Res. (H. Sc.), 19(2), 627-678.

Tsiplakides, I., & Keramida, A. (2009). Helping students overcome foreign language speaking anxiety in the English classroom: Theoretical issues and practical recommendations. International Education Studies, 2(4), 39-44.

Yashima, T. (2002). Willingness to communicate in a second language: The Japanese EFL context. The Modern Language Journal, 86(1), 54-66.

Empowering Science Teacher with Nature of Science Understanding

Nor Farahwidah Ab Rahman[1], Lidiyatul Izzah[2]
[1] Centre for Engineering Education, Universiti Teknologi Malaysia, 81310 Skudai, Johor, Malaysia
[1] School of Education, Faculty of Social Science and Humanities, Universiti Teknologi Malaysia, Malaysia
[2] Pendidikan Bahasa Inggeris, Universitas Muhammadiyah Jakarta, Indonesia

E-mail: nfwahidah@utm.my[1], lidiyatul.izzah@umj.ac.id[2]

Abstract: This study argues that a pragmatic consensus regarding nature of science (NOS) topics are needed among science teachers. In this paper, discussion is provided on the definition of Nature of Science among scholars and issues relating to teaching NOS. When more studies urging for science teachers to take a proactive action to teach NOS, neither this study shared consensus understanding on how NOS must be acquired among science teachers. Following this, an overview about current issues in the studies of NOS is discussed for their role when shaping the direction for NOS in teaching and learning. Hence, this study propose to focus on the development of dialogic teaching and argumentation which can enhance NOS' qualities in science teaching and learning process.

Keywords: nature of science, science education, scientific epistemology

Introduction

Development of human capital is a crucial investment and science education can be deem for their role to provide steady Science, Technology, Engineering and Mathematics (STEM) supply. Unfortunately, statistics has shown that the number of students entering into the tertiary level of science and technology fields is still not sufficient. The government has aimed to levitate our ratio of science to arts students to 60:40 since 1967 (EPRD, 1989), but until today, it has never been achieved. Based on the statistics of students' enrolment to different streams or specialization in Malaysian secondary schools, the percentage of students who are enrolled into the science stream (taking at least two subjects in the Science Elective – Physics, Chemistry, Biology, and Additional Science) has never exceeded 31.22% Phang et al, 2014). Year 2005 was the only year that recorded the highest percentage of students enrolled into the science stream.

Background of the research

The nature of science (NOS) is also known as scientific epistemology (Abd El-Khalick *et al.*, 2008) has become a topic of interest among science educators and researchers since the 1950's who aims for scientific literacy. From psychologists view point, epistemology is assumed as individual's belief on the nature of knowledge and its acquisition process (Gill *et al.*, 2004; Schommer-Aikins, 2004; Hofer, 2006; Stathopoulou & Vosniadou, 2007; Trautwein & Lüdtke, 2007; Liu, 2010). In this line of study, the exploration seeks to understand the kind of belief and its effects on a person's epistemological thinking. This is explained by a large pool of literatures investigating belief about scientific knowledge known as personal epistemology by Hofer or epistemological belief by Schommer-Aikins. The use of nomenclature for conceptualising epistemological varies according to the research design and their assumption about knowledge. Havdala and Askenazi (2007) commented that scientific knowledge, unlike general domain, consists of theory and empirical evidence. The arguments therefore forbid the used of epistemological belief in representing specific domain such as scientific epistemology. The aim of NOS is to identify the similarities or gap between scientists and students' understanding about nature of scientific knowledge.

NOS offers a new understanding on how an individual's assumption and limitation in learning science are being influenced by his or her educational background. Many researchers had conducted similar research activities, but in three different ways. For example, Abd El-Khalick *et al.* (2008) emphasized on the cognitive development of scientific epistemology; this was done by identifying how the respondents statistically distributed some data. Aside from that, some contemporary science educators like Sandoval (2005) see NOS as a kind of pragmatic study and as a thinking frame for learning activities (Elby & Hammer, 2010). These types of research flow are used to see the difference between doing science and being a science student. Among the scholars, there is a general consensus regarding the dimensions of NOS that teacher must aware in order to deliver science content explicitly. Five dimensions of NOS that measure understanding towards the structure of knowledge by Abd El-Khalick *et al.*, (2008), Liang *et al.* (2009) dan Sandoval (2005) notably:

1. The uncertainty: All scientific discovery is not final and can still be denied. The degree of validity of a scientific knowledge depends on the valuation carried out to critically inquire the scientific theories. Thus new discovery lead to new explanation.
2. Creativity: Creativity and imagination is crucial to interpret the phenomena. This means that not all science activities are rational and can be arranged in specific orders.
3. The scientific methods: There is no singular or universal step by step investigation methods. The methods are depending on the basis of research theories to investigate natural phenomena.
4. The laws and theories: Physics consists of various forms of knowledge (e.g.: law, theory, and hypothesis) that differ in terms of contextual explanation.

5. Observation and inferences: The scientific field can only explain any natural phenomenon by observing the effects. A distinction between anticipated observation and real phenomenon has to be made to generate reliable and solid scientific knowledge.

Previous research findings suggested that most students' epistemological thinking focus more on understanding what sciences are all about (Havdala & Ashkenazi, 2007) like content. Tsai (2007) in his recent works discovered that sophisticated scientific epistemological thinking are capable to develop sophisticated understanding. Some researchers, on the other hand, pointed out that achieving epistemological understanding is actually a hidden objective of scientific learning so that the learning process can become more meaningful. Although there are a number of researches that focused on students' thinking about NOS, there are relatively fewer studies conducted on teachers' scientific epistemology. A notable one is that done by Luft and Roehrig (2007). The study used 75 transcribed interview data to examine the comparison between pre-service, new and experienced secondary science teachers. The results indicated that teacher's epistemological thinking is not only about how one understands or learns science, but also how one implements his/her teaching methods in classrooms. This should be an important research topic because it can become a guideline to formulate or refine the teaching strategies. This will in turn encourage the nurturing of constructivist epistemology in classrooms.

Issues and challenges

Studies in Malaysia explained that attitudes or motivation is among the crucial variable that lead to students' dissatisfaction in learning science. The claim is made with the rapid growing of STEM movement like an outreach programs which are held by the higher institution learnings, schools, NGOs, ministry and others as an effort to instil positive attitudes and interest towards science. Despite of this, Aziz and Lin (2011) showed that students with high conceptual understanding have, unfortunately, negative attitudes towards science. Kamisah *et al.* (2007) also indicated that most students' attitude towards science failed to align with their level of education.

In most cases, it seems that the students' own belief plays the biggest role for their decision to be part of scientific community. For instance, if they believe that science, especially physics, are too difficult, then they will find it hard to cope academically and the examinations will also seem harder. Not only that, when the teachers also believe that students who only obtained grade B in PMR science and mathematics cannot perform in the science stream, their teaching quality will also be low. On the other hand, some teachers are not trained to teach science subjects, but are still assigned to science. If the teacher feels that he or she is not qualified enough to teach science or is not interested to teach, it will adversely influence his or her students' level of mastery and understanding on the subject, thus further hindering their enrolment chances to pure science classes. Moreover, their students' achievement significantly did not represent a good understanding in physics. Hence, our education may be successful in producing academically excellence students, but it does not mean that they have a good understanding in science as well.

Some researchers try to look further in the science conception which revolves around students' belief about the content itself. Like Mohd Najib and Abd Rauf (2007), their findings showed that science conception is significantly correlated with science process skill. Science conception, defined as a part of epistemic entities, measures the nature of science, method in science, science sociology, and science and technology towards society (STM). However, this line of study has yet to be mature in Malaysia with regard to the nature of science understanding among local science teachers and students. Research indicates that one important factor influencing students' learning of science subject content is the epistemology used in the classroom discourse, which is one's conception about the knowledge structure and its acquisitions process.

Our previous research study had investigated the relationship of scientific epistemology among teachers and their students. The findings indicated that teachers with a good background in physics discipline had better grasp of NOS understanding. But, most of the physics teachers had low understanding towards NOS's dimensions. Four models of teacher-students epistemology for different level of epistemology scientific: naive, low transition, high transition, and sophisticated, was formulated using multiple regression analysis in that study. In short, these analyses further showed that teachers with higher scientific epistemological understanding are capable of producing students with a good understanding in physics and its acquisition process. However, the interactions of teacher-students in teaching and learning physics were not well explored. Therefore, it is important to come out with more detailed analysis on how the teachers' understanding on physics can influence their students.

Numerous studies had been done in order to understand NOS as a practice that explicitly wanting for enculturation rather than just literacy. Lidar *et al.* (2005) developed approaches in analysing how teaching activities interplay with students' learning. They suggest that the communication process involves three major components, which are encounter, gap, and relation. This approach engages students with questions and their understanding is then transformed using verbal interaction. Another study done by Hutchison and Hammer (2009) used epistemological framing technique in analysing how students understand the learning activities by communicating with the teachers. One of the compelling evidence in their study is the language they chose and used; this was significant enough to initiate a thorough explanation on it. In both cases, the researchers strongly agreed that communication is a vital component to assess how students frame the learning activities. However, there is a crucial gap in need for further analysis-the right tool to create interaction in the class and analysis in mapping the interaction.

The different direction of research in NOS aims for different reality they hoped for the scientific community. We belief that NOS can be implement through five cycles; (1)understanding about NOS, (2)investigating in science, (3)communicating, (4) participating and (5)contributing. Movement for cycle 1 can be seen from great effort made by Abd El-Khalick et al (2008) in publicizing the ideas about the important of NOS and what is mean by knowing about NOS. This imply that, the basic stage for the change to be made, a comprehension about NOS is compulsory. From cycle 2 until 5, there cycle is gravitated to Sandoval (2009)' view on translating NOS into practice. The aim is now at cultivating the enculturation of scientific practices. Cycle 2 until 5 is inviting more attention on the science discourse happening during lessons. Questioning technique is often been used by when delivering science contents to the learners. This provides visualization on how teachers facilitate knowledge development towards the NOS. We proposed argumentation or dialogic teaching as the solution to scaffold teachers' teaching strategies.

Argumentation and Dialogic Teaching

Many researchers suggest that argumentation and dialogic teaching create plausible ways to help students create and assess the knowledge. The knowledge transmission is not effective when the learning of science does not go beyond memorising the facts and formulas. Inquiry based approach have been implemented in the science classroom to enhance students' understanding about science, but most teachers do not have the skills needed to empower science discussion in classroom. Teachers typically spend half of their instructional time asking questions with most of them elicit factual answers. The arguments are supported by Tay and Mohammad Yusof (2008) who discovered that science teachers are not employing questioning strategies during the idea generation phase. Through effective questioning, teachers have the opportunities to generate communication. Which in return, this leads to learning and higher order thinking that promotes creativity and imagination. Therefore, the type of teacher-students dialogue that reflects the development of epistemological thinking must be first understood for the enhancement of NOS.

Theoretically argumentation in science education has been studied over the last two decades. Argument is a social interaction process that includes justification claims and explanation to obtain persuasion. The used of argumentation in Malaysian context are limited because of narrow chances to communicate, participate and contributing idea about science. The norm of science teaching mostly includes teaching about science concepts, problem solving and application of the knowledge only. The social interaction that occurs during the learning process is monologue conjures a one-way transmission model of learning, as teachers transmit content and students receive it.

Having said this, the urgency to identify the criteria of a good argument in science to improve the quality of education in science is needed. Learners must be exposed with plenty of possibility on how scientific community uses argument to construct knowledge. Therefore in order to help students to develop more productive construction of knowledge, dialogic teaching must be asserted before argumentation. Ford and Wargo (2012) added that dialogic understanding is the best way to exhibit the scientific epistemological understanding. During learning process, learner's ideas become interrelated with their peers' ideas and content from teachers. Dialogic teaching is one of the tools that could help to improve argumentation about the nature of science between learners and teachers.

Dialogic teaching entails an extensive way to diagnose and sustain an active learning environment. Dialogic talk is part of a cognitive development needed to ensure children are empowered both in their learning now and later as members of society. Science education researchers believe that argumentation and dialogic teaching are the best ways to promote the learning of science. According to Alexander (2004), there are five main characteristics of dialogic teaching, which are:

1. Collective: Teacher and pupils jointly participate in the learning as a group or as a class.
2. Reciprocal: Teacher and pupils listen to each other, share ideas, and consider alternative views.
3. Supportive: Students can present their ideas freely without fear of being incorrect.
4. Cumulative: Teacher and students develop their ideas and jointly construct the knowledge.
5. Purposeful: The teacher plans and guides the discourse, paying attention to educational goals in addition to the above mentioned.

Knowing about dialogic helps to harness the environment that is inviting for science talks. Teachers will be able to recognize their role and how they need to position themselves during the knowledge development stage. Once the environment for science talk is well establish, the teachers are recommended to employ argumentation. Studies on argumentation in science education have their focus on the construction of theories that provide explanation to phenomena. The construction must be open for challenges and conflicts to allow appreciation on the process when connecting the claim with evidence. Toulmin's argumentation model (1958) is introduced with six different position that the ideas can be carried and persuaded to the whole classroom. With the attributes identified from this models, teachers is capable to monitor how the ideas is expanding and accepted by the community of practices in the classroom.

1. Claim: ideas that need to be proved
2. Evidence: support or rationale for the claim
3. Warrant: justification in what way evidence supports the claim
4. Backing: evidence that support the warrant
5. Counterargument/ Rebuttal: address potential conflicting idea against the claim

6. Qualifier: further clarification that can support warrant as a way to reject rebuttal

Conclusion

To help teachers to incorporate NOS into their science teaching, this study suggest for them to undergo five cycles of transition. The transition begin with equipping themselves about NOS, establishing the dialogic environment and empowering the use of argumentation during discussion. This proposition is made based on the recommendation from literatures which encourage understanding and practices as the indicators when representing teachers' utilization of NOS.

Acknowledgement

References

Abd El-Khalick, F., Waters, M., dan Le, A. (2008). Representations of Nature of Science in High School Chemistry Textbooks over the Past Four Decades. *Journal of Research In Science Teaching. 4* (7), 835-855

Aziz Nordin and Lin Hui Ling (2011). Hubungan Sikap Terhadap Mata Pelajaran Sains dengan Penguasaan Konsep Asas Sains Pelajar Tingkatan Dua. Journal of Science and Mathematics Educational. 2, 89-101.

Elby, A., & Hammer, D. (2010). Epistemological resources and framing: A cognitive framework for helping teachers interpret and respond to their students' epistemologies. In L. D. Bendixen & F. C. Feucht (Eds.), Personal epistemology in the classroom: Theory, research, and implications for practice (pp. 409–434). New York, NY: Cambridge University Press

Ford, M. J. and Wargo, B. M. (2012). Dialogic Framing of Scientific Content for Conceptual and Epistemic Understanding. *Science Education*. 96 (3,) 369-391.

Gill, M.G., Ashton, P.T. dan Algina, J. (2004). Changing Pre-service Teachers Epistemological Beliefs about Teaching and Learning in Mathematics: An Intervention Study. *Contemporary Educational Psychology*. 29 (2), 164–185.

Havdala, R. dan Ashkenazi, G. (2007). Coordination of Theory and Evidence: Effect of Epistemological Theories on Students' Laboratory Practice. *Journal of Research in Science Teaching*. 44(8), 1134-1159.

Hofer, B. K. (2006). Domain Specificity of Personal Epistemology: Resolved Questions, Persistent Issues, New Models. *International Journal of Educational Research*. 45 (1-2), 85–95.

Hutchison, P. dan Hammer, D. (2010). Attending to Student Epistemological Framing in a Science Classroom. *Science Education*. 94(3), 506-524.

Kamisah Osman, Zanaton Ikhsan & Lilia Halim (2007). Sikap Terhadap Sains dan Sikap Saintifik di kalangan Pelajar Sains. *Jurnal Pendidikan*. 32 (2007), 39-60.

Liang, L. L., Chen, S., Chen, X., Osman Nafiz Kaya, Adams, A. D., Maclin, M. dan Ebenezer, J. (2009). Pre-service Teachers' Views about Nature of Scientific Knowledge Development: An International Collaborative Study. *International Journal of Science and Mathematics Education*. 7(5), 987-1012.

Liang, L. L., Chen, S., Chen, X., Osman Nafiz Kaya, Adams, A. D., Maclin, M. dan Ebenezer, J. (2009). Pre-service Teachers' Views about Nature of Scientific Knowledge Development: An International Collaborative Study. *International Journal of Science and Mathematics Education*. 7(5), 987-1012.

Lidar, M., Lundqvist, E., dan Ostman, L. (2006). Teaching and Learning in the Science Classroom: The Interplay between Teachers' Epistemological Moves and Students' Practical Epistemology. *Science Education*. 90(1), 148-163.

Liu, P. H. (2010). Are Beliefs Believable? An Investigation of College Students' Epistemological Beliefs and Behavior In Mathematics. *The Journal of Mathematical Behavior*. 29(2), 86-98.

Luft, J. dan Roehrig, G. (2007). Capturing Science Teacher's Epistemological Beliefs: The Development of the Teacher Beliefs Interview. *Electronic Journal of Science Education*. 11(2), 38-63

Mohd Najib Ghafar and Abd Rauf Ibrahim (2011). Penilaian Hubungan Tahap Penguasaan Konsepsi Sains dengan Tahap Kemahiran Proses Sains Guru Peringkat Menengah Rendah. Journal of Science and Mathematics Educational. 3, 1-19.

Phang, F. A., Abu, M. S., Ali, M. B., & Salleh, S. (2014). Faktor Penyumbang Kepada Kemerosotan Penyertaan Pelajar Dalam Aliran Sains: Satu Analisis Sorotan Tesis. *Sains Humanika*. 2(4).

Sandoval, W. A. (2005). Understanding Students' Practical Epistemologies and Their Influence on Learning through Inquiry. *Science Education*. 89(4), 634-656.

Schommer-Aikins, M. (2004). Explaining the Epistemological Belief System: Introducing the Embedded Systemic Model and Coordinated Research Approach. *Educational Psychologies*. 39 (1), 19-29.

Stathopoulou, C. & Vosniadou, S. (2006). Exploring the Relationship between Physics-Related Epistemological Beliefs and Physics Understanding. *Contemporary Educational Psychology*. 32, 255-281.

Tay, Chong Seng and Mohammad Yusof Arshad (2008). Penyoalan dalam kelas pengajaran sains. *Jurnal Pendidikan Universiti Teknologi Malaysia*. 13, 1-14. ISSN 1394-1801

Toulmin, S. (1958). The uses of argument. Cambridge: Cambridge University Press.

Trautwein, U. dan Lüdtke, O. (2007). Epistemological Beliefs, School Achievement, and College Major: A Large-Scale Longitudinal Study on the Impact of Certainty Beliefs. *Contemporary Educational Psychology*. 32(3), 348-366.

Tsai, C. C. (2007). Teachers' Scientific Epistemological Views: The Coherence with Instruction and Students' Views. *Science Education*. 91(2), 222-243.

Could Mother's Knowledge of Sex Education inhibit the Level of Sexual Harassment in 6-7 years Old Children?

DiahAndika Sari[1], LaelaFajriyah[2]
[1] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia
[2] MI Nurul Huda Palmerah West Jakarta, Indonesia

E-mail: diah_mursil@yahoo.com[1], jiyahfajriah@gmail.com[2]

Abstract: During the period 2010-2015 complaints of children sexual crime increased in Indonesia. From the report of the Indonesian National Child Protection Commission (KPAI) regarding violations of children's rights in Indonesia from 2,046 cases in 2010, 42% of them were sexual crimes. In 2011 it increased to 52%, in 2012 to 62%, in 2013 to 54%, and in 2014 to 52%. The amazing thing was that violence occurs in the children's nearest environment, such as at home and school (62%), the remaining 38% in public area. In addition, predators or perpetrators of crimes were committed by people which closest to the children, such as teachers, stepfathers, brothers, neighbours, even school guards. As we know, Mother is the closest person to the children at home, so the purpose of this study was to find out the relationship between knowledge of the mother about sex education with the level of sexual abuse in elementary school children. The method used quantitative correlational to see the causal relationship. The sampling technique was random sampling in 2 elementary schools in Palmerah sub-district, West Jakarta, Indonesia. The study was found that the t test was 5.226, greater than the t table of 1.998. It means there was a significant negative relationship between the knowledge of mothers about sex education with the level of child sexual abuse in the first grade elementary students in the District of Palmerah, West Jakarta, Indonesia. In other words, the higher the mother's knowledge about sex education, the lower the level of sexual abuse that occurs in children.

Keywords: mother's knowledge, sex education, child sexual abuse

Introduction

The most phenomenon children's Sexual abusecases happened in 2014 and the one got fully attention from the society was the sexual abuse to a kindegarten student of Jakarta International School (JIS), Indonesia. One of the students was being sodomized by several cleaning service workers. It is found that many sex abuses were still not being exposed yet. There are many parents that feel shy reporting about sexual abuse experienced by their children (VIVAnews, 2014) . In 2015, the case of children's sexual abuse experienced by a first grade student of Primary School in Cilincing area, North Jakarta, on August 24, 2016, around 3 p.m., done by a-53 year old man (http://news.okezone.com/read/2016/08/30/338/1476274/kakek-lima-cucu-di-cilincing-cabuli-bocah-sd.). In year 2016, similar case happened again towards second grade student of Primary School in Makassar, West Sulawesi in which she was raped by her older cousin in an empty building on the perpetrator's way to take the victim home by giving her 50.000 rupiahs. (http://news.okezone.com/read/2016/08/26/340/1473446/anak-kelas-2-sd-diperkosa-kakak-sepupunya-sendiri). At the same year, sexual abuse happened again toward 16 Primary School students by their sport teacher at Pagelaran, (http://news.okezone.com/read/2016/08/23/340/1471037/guru-bejat-cabuli-16-siswi-sd-saat-jam-pelajaran). These casses were only several examples of sexual abuse cases which are happening today. There are many similar cases with various types and motives.

Based on the data gathered by Centre of Data and Information (Pusdatin—Pusat Data dan Informasi), Commissioner of National Child Protection in 2015, the reports of children's right violation continued to increase during 2010-2015. The General Secretary National Child Proection Commissioner, Samsul Ridwan explained that total number of reports was 2.046, in which 42% cases were sex crimes. In 2011, the cases increased into 2.467 and 52% of them were sex crimes. While in 2012, 2.637 reports indicated 62% cases as sex crimes. In 2013, the reports increased to 2.676 cases and were dominated by 54% sex crimes. In 2014, the reports were 2.737 with 52% sex crime cases. Based on the data, most of child abuses happened in the nearest environment like houses and schools around 62 %, while the rest of 38% happened in public areas. Besides, the predators or perpetrators were mostly the nearest persons such as sons/daughters, teachers, step fathers, older brothers, relatives, neighbours, and even school-guards (http://news.liputan6.com/read/2396014/komnas-pa-2015-kekerasan-anak-tertinggi-selama-5-tahun-terakhir).

The data given by Indonesian Commissioner of Child Protection, also showed that the numbers of sex abuses toward children are getting higher every year. According to the secretary of this Commissioner Rita Pranawati, from year 2013 to 2014 the cases even increased up to 100% for both the victims and the perpetrators with various modes and strange. Many unexpected things happened. Besides the advanced of technology and parents' lack of educating and caring of their children, social environment was also one of the causes (http://news.liputan6.com/read/2451254/kpai-pelecehan-seksual-pada-anak-meningkat-100).

Based on the ages of the victims, Sexual abuse cases mostly happened to the children in the ages between 6-12 years old (33%) and happened the least to those between 0-5 years old (7.7%). Beside the factor of perpetrators' mental cruelty, both psychology and physically, generally the children are risky and easy to become the victims of

Sexual abuse acts (Bagong, 2010:14). Thus, sex education in the family is very important to be taught. The parents are required to actively play their roles especially in the education at home as the important factor.

Introducing sex education well in the appropriate age becomes the best choice since children's basic thoughts can be achieved if it begins from home (http://idai.or.id/public-articles/seputar-kesehatan-anak/mengajari-kewaspadaan-kekerasan-seksual-pada-anak.html). However, the parents often feel embarassed if their children ask questions about sex. They usually give several responses such as switching the topic, forbidding their children to propose questions which are considered taboo, and even getting mad to their children since these parents consider their children are not polite if asking such questions.

Many Sexual abuse cases toward children and unlimited information access make the children into risks to getting wrong information about sexuality. A survey of toptenreview.com showed that Indonesia places the top 10 rank country which access pornographic sources. Most of those porn pictures hunters are children and teenageers. This fact gives bad impacts to children as future generations of this nation. Research data mentioned that 36% of children get pornographic information from their private bed-rooms, 18% from the internet booth, and the rest of 12% from their friends' houses.

UNICEF stated that there were around 120 millions children became the victims of sex abuse around the world and or more than 100 victims were under 20 years old. Head of Commissioner of National Child Protection described that in 2013, there were 925 children's Sexual abuse cases handled by this commissioner; the perpetrator were varied from relatives, teachers, and friends. Even in the last 3 years, there were 3500-3600 cases handled by this commissioner (Indanah, JIKK,vol.7.Pelecehan Seksual Pada Anak. 2016:16).

The phenomenons of free sex or sex under-aged are caused by lack of healthy-sex education. This thing related to limited information about well and healthy sex in the society, even sex discussion tends to be considered as immoral and taboo to be openly discussed.

Background of the research

The characters of children between 6 – 7 years old are: (1) Egocentrism; (2) Transformational Reasoning; in which the children do not have logic ability to think broadly; (3) Centration; tends to focus on certain aspects from a stimuli; (4) Reversibility; Children's ability to think to make a simple analysis (Surna-Pandeirot, 2014:72-74). According to Kak Seto Mulyadi, Head of Commissioner of National Child Protection, Sexual abuseis any action violates children's right sexually, both verbally and physically covering dirty words addressed to children so that they become embarassed, shy, offended, angry, hurted, and also any action such as poking, squeeszing or touching inappropriately (Chomaria,2014:17).

Sexual abuse is any contact or interaction between adults and children, in which these children are used as sexual stimulator by other people who have strengths or control over their victims. These actions include inappropriate physical, expressing sexual actions or pornographic, used children to create pornography or showing genitals of adults to children (Chomaria, 2014:16).

Paramitha cited in Indanah explained that sex abuse is an action which forces someone involved in a sexual relationship or place someone as an un-wanted sexual object attention. Sexual abuse is also any sexual behaviour being connotated done by one party and unexpected by the targets so that this action causes negative reactions, shy feeling, angry, offended and etc., to the victims (JIKK, 2016:17). Sexual abuse refers to wide discussion; flirting, naughty whistle, sex connoted comments, porn humors, pinching, poke, patting or touching certain parts of the body, certain movements of sexual signals, dating invited with lure or threat, invitation of having intercourse to rap. Sexual abuse can be like negative comments/behaviours based on gender since basically Sexual abuserefers to gender harassment, a harrassment based on one's gender (Indanah, JIKK, 2016:18).

The most general type of Sexual abuse is something verbally such as sexual-chatting based, sex-appeals' ranks, comments which under-estimate gender, calling names and any personal comment about sex, while the most general non-verbal ones are sexual contact and seen (Indanah,JIKK, 2016:16-17). Several types of sex abuse to children are such as; a) looking with an odd and passionate look , b) giving tempted whislte, c) comments with dirty words which cause embarrassment/offended and lowering self-esteem, d) poking, tapping, hugging and giving inappropriate touching, e) being invited to watch porn movies, e) being invited to play porn scenes f) being shown genitals of the doers force their victims to see their genitals, and g) used as an outlet for lust, both with penetration and not (Chomaria, 2014:19).

According to Collier in Indiana (JIKK, 2016:18), in general, several causes of sex abuses are divided into 5, namely: a) sex abuses experienced from biologic factor, b) sex abuses experienced from culture and social factors, c) sex education about sex harrassments, d) family from the aspect of economic factor, and e) the feelings of sex harrassements from social learning factor and motivation.

Factors Influences Sex Abuses : (1)Internal factor; covering level of sex development (physical/psychological), the knowledge of understanding of children's reproduction devices. (2) External factor; covering lack of communication among family members, social environments and mass media or which is popular by information technology (Indanah, JIKK,vol.7.Pelecehan Seksual Pada Anak. 2016:19).

Sex education is giving correct knowledge to children to prepare them adapting with sexual behaviours in their future life and by giving this education, these children will get logic thoughts toward sex and reproduction (Gawshi in Madani, 2002:122). Sex education is teaching, realizing, explaining children since they start thinking of sex matters, passion and marriage so that those children become men, older and understand life stuff, they will know halal and undestanding (Syekh Abdullah Ulwan Nasih in Madani, 2002:122). International Conference of Sex Education and Family Planning 1962 reached an agreement that the goal of sex education is to produce adult humans who will be able to run their happy life since they can adapt with their society and environment and also responsible to themsleves and others (Sulistyo, 2004:19).

The most effective sex education is the one getting from parents or their substitutes, in a happy family. Happy marriage life will only be achieved by responsible and adult people (Sulistyo, 2004:25). Family's function gives big impacts toward children's life, trying to optimize children's growth (stimuli, detecting, early intervention), and giving pediatric services (curing, prevention, recovery). The results will effect health, physical growth, emotional quetion (EQ), cognitive (IQ), moral spiritual (SQ),social functions and multiple intellegences. Family enviroenment also infleunces sex relationship done by tenageers. Sex education taught by family to children when they are becoming tenaagers is very important. Family's control towards its children's behaviours will reduce sex deviation behaviours risks (Soetjiningsih and Ranuh, 2012:232).

Education given by parents to their children should be continue. Several things continuity that are important to become habit and be taught to children since they were born as the efforts of sex education are such as: (a) naming child suitable with his/her gender, (b) treating child suitable with his/her gender, (c) introducing child with his/her parts of body and their functions, (d) circumcision for boys, (f) teaching child about period or sex-dreaming, (g) building the feeling of embrassement as early as possible, (h) telling child about his/her parts of body which can be and cannot be touched, (i) telling child about appropriate and inappropriate touches, (j) do not let the child to be accustomed to be touched by another gender, (k) asking child to cover genitals, (l) separating children's beds, (m) requiring child to ask permission in certain time, (n) selecting any social media accessed by the child, (o) giving examples of healthy mingling with the opposite sex (Chomaria, 2012: 19-47).

Research Methodology

This research applied quantitative method with correlational approach to see the cause and effect relationship. The population of this study was all Elementary Schools in the region of Palmerah, West Jakarta. Madrasah Ibtidaiyah Nurul Huda Palmerah with 32 students and SDN 07 Kota Bambu with 32 students as well were chosen randomly as the samples. Thus, total number of the samples participated in this study were 64 students.

Findings and Discussion

The results of validity test of mothers' knowledge about sex education and level of sex abuses toward children were being tested to 30 rspondents with first total questions 41 items, and then 9 items were dropped, so that only 32 questions were valid.

While the reliabilty test gained from the questionnaire as the method in collecting the data applied the criterion of > 0.6 to be reliable. Based on the statistical calculation of SPSS v.22, it was found that: it was gained alpha score for the mothers' knowledge about sex education of 0.936 and for the level of children's Sexual abuselevel was 0.731. This indicated that the instruments used by the researcher in collecting the data were reliable.

Hypothesis Test

(a) Correlation Coefficient Tests

Correlation analysis is used to determine that one variable is stronger than the other one. Correlation coefficient test by using *Product Moment* from *Pearson* can be seen as follows:

Table 1. Correlations

		Mother's Knowledge about Sex Education	Children's Sex Abuse Level
Mother's Knowledge about Sex Education	Pearson Correlation	1	-.553**
	Sig. (2-tailed)		.000
	N	64	64
Children's Sexual Harassment Level	Pearson Correlation	-.553**	1
	Sig. (2-tailed)	.000	
	N	64	64

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

From the simple analysis of correlation (r), it was gained that Children's Sexual abuse level correlated with Mother's Knowledge about Sex Education with 0.5333. It indicated that there was strong correlation between those two variables. While the direction of the relationship was negative, which

explained that the higher the knowledge of the mothers about sex education, the lower the level of Sexual abuse toward first grade students of elementary school.

(b) Correlation test (t-test)

Table 2. Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	12.139	1.090		11.140	.000
Mother's Knowledge about Sex Education	-.042	.008	-.553	-5.226	.000

Children's Sexual Abuse Level

It can be seen from the table above that tcal was gained in the amount of 5.226, with the significant level of (a = 0.05) and freedom of degrees of (dk) = n-2, thus, Ho was rejected because tcal (5.226) > ttable (1.998) and significant value of (0.000) < (0.005). It can be concluded that there was negative and significant relationship between mother's knowledge about sex education and the level of Sexual abuse towards first grade students of Elementary School.

(c) Coefficient Determination Test

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.553[a]	.306	.295	.805

Predictors: (Constant), Mother's Knowledge about Sex Education

Based on the table above, it was resulted that R2 was 0.306 or KD= 0.306 x 100% = 30.6%. It indicated that the percentage of mother's knowledge about sex education with level of children's Sexual abuse reached 30.6%. While the rests of 69.4% were influenced or explained by other variable were not measured in this model.

Conclusion

Based on the research, mothers' knowledge about sex education about of sex abuse towards first grade Elementary School students at Palmerah Region, West Jakarta, it can be concluded that their knowledge about sex education has relationship with level of sex abuse toward children. It can be seen from correlation coefficient analysis which reached 0.553, and t-test resulted tcal   of 5.226 > ttable 1.998. Mothers' knowledge about sex education contributed 30.6% to children's sex harrassments. While the rests were influenced by other factors which were not measured in this study. There was a negative relationship between mothers' sex education to the level of children's sex abuse, which meant that if mothers' knowledge about sex educaton is higher, then the level of children's sex abuse of first grade Elementary school students at Palmerah region, West Jakarta, will be lesser.

References

Chomariah, Nurul. 2012. Pendidikan Seks Untuk Anak. Solo: Aqwam.
--------------. 2014.Pelecehan Anak. Solo: Tinta Medina.
Indanah, 2016. Pelecehan Seksual Pada Anak. Jurnal. JIKK Vol. 7 No.1, Stikes Muhammadiyah Kudus.
Madani, Yousef. 2014. Pendidikan Seks Usia Dini Bagi Anak Muslim: Panduan bagi Orang tua & Guru agar anak tidak menjadi korban. Jakarta: Zahra Publishing House.
News.2016. Kakek Lima Cucu di Cilincing Cabuli Bocah SD. http://news.okezone.com/read/2016/08/30/338/1476274/kakek-lima-cucu-di-cilincing-cabuli-bocah-sd. Diakses pada hari Minggu, 09 September 2019 pukul 23.50 WIB.
News.2016. Anak Kelas 2 SD Diperkosa Sepupunya Sendiri. http://news.okezone.com/read/2016/08/26/340/1473446/anak-kelas-2-sd-diperkosa-kakak-sepupunya-sendiri. Diakses pada hari Minggu, 09 September 2016 pukul 23.55 WIB.
News.2016. Guru Bejat Cabuli 16 Siswi SD pada Saat Jam Pelajaran. http://news.okezone.com/read/2016/08/23/340/1471037/guru-bejat-cabuli-16-siswi-sd-saat-jam-pelajaran. Diakses pada hari Minggu, 09 September 2016 pukul 24.58 WIB.
News.2015. Kekerasan Anak Tertinggi Selama 5 Tahun Terakhir. http://news.liputan6.com/read/2396014/komnas-pa-2015-kekerasan-anak-tertinggi-selama-5-tahun-terakhir. Diakses pada hari Minggu, 09 September 2016 pukul 23.10 WIB.
News 2016. Pelecehan Seksual Pada Anak Meningkat 100. http://news.liputan6.com/read/2451254/kpai-pelecehan-seksual-pada-anak-meningkat-100. Diakses pada hari Minggu, 09 September 2016 pukul 23.15 WIB.
Notoatmodjo S. 2010. Ilmu Perilaku Kesehatan Edisi Ke-I. Jakarta: Rineka Cipta.
Pandeirot, et all. 2014. Psikologi Pendidikan 1. Jakarta: Erlangga.
Pohan I. 2014. Seks dan Kehidupan Anak Sebuah Buku Pedoman Untuk Orang Tua. PT. Asri Media Pustaka.

Public, 2014. Mengajari Kewaspadaan Kekerasan Seksual Pada Anak
http://idai.or.id/public-articles/seputar-kesehatan-anak/mengajari-kewaspadaan-kekerasan-seksual-pada-anak.html. diakses pada 06 Desember 2014 pukul 14.30 wib.

Roqib M. 2008. Pendidikan Seks Pada Anak Usia Dini. P3M STAIN Purwekerto: Jurnal Pemikiran Alternatif Pendidikan. https://insaniaku.files.wordpress.com/2009/06/7-pendidikan-seks-pada-anak-usia-dini-m-roqib.pdf. di akses pada 20 November 2014 pukul 20.30 WIB.

Sarwono, S. W. 2011. Psikologi Remaja Edisi Revisi. Jakarta: Rajawali Pers.

Sulistyo, R. 2004. Pendidikan Seks. Bagian Obstetri & Ginekologi Fakultas Kedokteran Universitas Padjajaran Bandung.

Sugiyono. 2011. Metodelogi Penelitian Pendidikan, Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.

Suyanto, Bagong. 2010. Masalah Sosial Anak Edisi Revisi. Jakarta: Kencana Media Group.

Soetjiningsih, et all. 2012. Tumbuh Kembang Anak Edisi 2. Jakarta: EGC.

Upton, P. 2012. Psikologi Perkembangan. Jakarta: Erlangga.

Wikipedia, 2014. Kejahatan Seksual terhadap Anak di Indonesia. http://id.wikipedia.org/wiki/Kejahatan_seksual_terhadap_anak_di_Indonesia. di akses pada 05 Desember 2014 pukul 21.00 wib.

Wiyani, Novan Ardy. 2014. Psikologi Perkembangan Anak Usia Dini – Panduan bagi Orang Tua dan Pendidik PAUD dalam Memahami dan Mendidik Anak Usia Dini. Yogyakarta: Gava Media

Block Learning Model on Volley Ball for Senior High School Students

Doby Putro Parlindungan[1], James Tangkudung[2], Widiastuti[3], Dewi yanti[4]
[1] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia
[2,3] Universitas Negeri Jakarta, Jakarta, Indonesia
[4] Universitas Pamulang, Jakarta, Indonesia

E-mail: dobyparlindungan@umj.ac.id[1], Jamestangkudung64@gmail.com[2], Widi_harun@yahoo.com [3], Dosen01160@unpam.ac.id[4]

Abstract: Hight High School Model for Volleyball blocks for age learning. Research & Development (R & D) research method from Borg and Gall. The research subjects were East Jakarta High School students consisting of 20 limited test students (small group trials), 50 main trial students (field trials) and 35 effectiveness test models. The level of junior high school students is designed and to determine the level of ability of high school. The student volleyball block model of student volleyball block ability is 2.97. Then this volleyball block learning model is effective in improving volleyball block learning for high school students. (1) With volleyball block learning model for junior high school students learning, (2) With volleyball learning models for East Jakarta age HightSchool seniors that have been developed, obtained evidence from the test results of pretest and posttest data with significant differences between before and after the model care.

Keywords: Block Volleyball, Models volleyball

Introduction

Today's volleyball games, the development of block skill training models on volleyball games aims to develop more varied attack patterns so that the game in volleyball is more effective and interesting so that in the game it gives a variety of patterns of variation. Therefore the block skill development model can be done to increase block ability, therefore with the many block models in volleyball games, it becomes more interesting to learn, especially in terms of aspects of achievement that allow a team to have good cooperation in terms of individuals, groups, and team.

Background of the research

In terms of individuals, a volleyball player should have a basis for playing good volleyball and is supported by good physical abilities. According to Reitmayer, Grădinaru (2016) The modern volleyball game is characterized by speed and variety of actions, continuous improvement of technique, and an ever higher spiking point, creativity, and flexibility in choosing the defense system. in order to be able to do basic volleyball movements that are good and capable. That the conditions of good volleyball player seeds include physical requirements, namely good health, no disability, high body posture, good physical condition (strength, speed, agility, endurance, flexibility coordination, power) and physiologically has good muscle workability.

In volleyball sports that really need durability, speed, agility, and explosive power (power) where the explosive power is manifested as a jumping motion in making smash and block movements. Volleyball involves a great deal of defensive and offensive jumping Smash and block activities (Sheppard, 2016). in volleyball is the most important component of volleyball to support the success of creating points in volleyball. Apart from the physical aspect, the basic techniques in volleyball are important factors for sports achievement. Although volleyball is a team sport, individual basic skills are very important to the success of achievement. Basic volleyball skills are passing, smash and block, service, block, bait.

Smash and block is a very important skill to be the most effective weapon to get points in volleyball. the spike is usually used as a fundamental offensive tactic in the context of the attack. This technology needs to be used skillfully to get the maximum possible points in this context, players use the shot and the spike in their attack tactics based on the closed space in the opponent's court (Giatsis, et al., 2015). Smash and blocking is also the most difficult technique to do in volleyball because a good smash and blocker must be able to jump high, be good at hitting the ball when floating in the air and must be able to reach the ball well.

Don Shondell and Cecile Reynaud stated that Blocks in volleyball: Blocking is an attempt by one, two players, or three players to stop attacking it into the attacker 's court. Although the block can score points quickly, it is the most difficult volleyball skill to learn and master. All blocks are timed to the attack of the opponent. Touch blocks or controlled deflections into the player's own court can be converted to good passes and effective attacks to score points. The block is the first line of defense in volleyball. A block is an attempt of one, two, or three players to stop the ball in front of the net and deflect under the attacker's area. Although blocks can print points quickly, blocks are the most difficult skills to learn and master. Therefore, blocks are one of the right attacks. Touching blocks or controlling the game so that the players themselves can carry out good attacks and cause effective attacks to score points. The block is the first line of defense in volleyball.

According to Roberto Lobietti (2009) that the effectiveness of block is anticipation, decision making, movement speed, and jumping ability. So that the block in volleyball games is now a very effective attack to gain numbers, the skill of players to block in a match is the key to absolute victory, so the opponent's smash does not produce points because the ball can be blocked and falls on its own area. So, it is very interesting for researchers to develop a volleyball block model.

Research Methodology

Research and development (R & D) which refers to the theory of Borg and Gall. Research on the development of the smash and block training models in this study refers to the stages of R & D research that have 10 stages to produce products or models of smash training and volleyball blocks. The 10 steps can be described as follows:
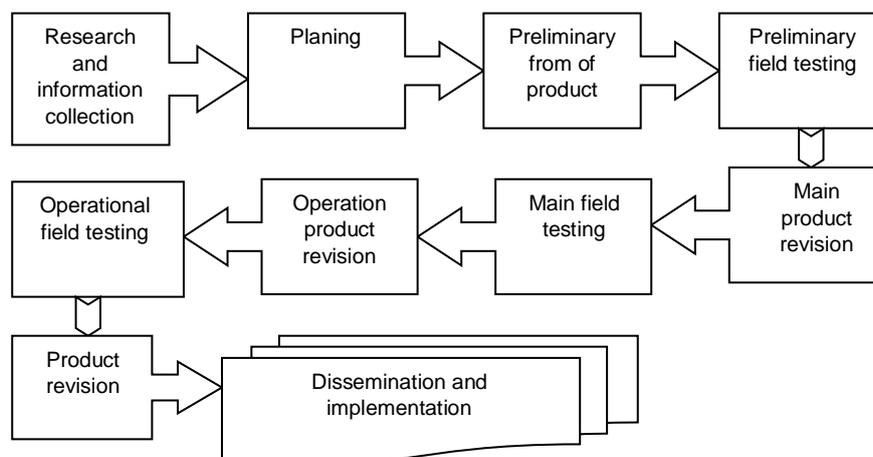
Figure 1. Research and Development Stage (Source: W. R. Borg, D. M. Gall, and Gall, Education Research)

Borg and Gall then explained in detail each step in the following explanation: 1) Gathering information and research results: literature studies, observations, and disclosure of the state of the art. Preliminary research is the steps used to assess the field situation with the aim of whether the model developed is accepted or not by the subject. The preliminary research was carried out by conducting literature studies, observations, field data collection, observation of the training process, identification of problems encountered in training, and interviews with extracurricular trainers /coaches in Jakarta regarding the models used and those to be developed by researchers. 2) Develop a research plan: such as formulating objectives, determining indicators of success, testing feasibility, time and costs needed. The initial design was in the form of making a smash training model and volleyball block. In making this developed model, researchers make the model then tested but previously consulted and tested by experts.

In this case, it acts as an expert judgment and provides input on the model in improving the model to be tested in the field. 3) Initial product development: such as training models, implementation instructions, and evaluation tools. The process and results of trials or validations are intended to obtain input, advice, and assessment through expert review /panel / expert judgment on the model developed. 4) Initial trials (preliminary field testing): trials in 1-3 schools using 6-12 subjects. At this time data was collected through observation, interviews, and questionnaires. The aim of the trial at this stage is to get qualitative feedback early on the feasibility of the product being developed. 5) Revise the results of the initial trial: do an analysis and revision of the results of the initial trial. 6) The main test (main field testing): testing in 3-10 schools with subjects from 30 to 200 subjects. Perform pre-test and post-test and use adequate control groups based on quantitative data. The purpose of the trial at this stage is to determine whether the product developed is in accordance with the objectives achieved. 7) Revision of the main trial results: test the analysis and revision of the results of the trial. 8) Operational field testing: trials in 10-30 schools involving 40-200 subjects. At the same time data collection was also carried out through observation, interviews, and questionnaires. The purpose of the trial at this stage is to determine whether the product is fully developed ready to be used at school even without the presence of the researcher. 9) Revision of the final product: do an analysis and revision of the results of the field test. 10) Discrimination and implementation: compile reports on the results of research and publications in scientific meetings or through journals, including the possibility to distribute products in mass form.

Findings and Discussion

Description of Pre-test data and volleyball Post-test block Control class

The following is a description of the results of the control group's pre-test and post-test on the results of the volleyball block. The data about the volleyball block ability of each player is obtained. The following is a description of the results of the pre-test and post-test volleyball block ability of the control group.

Table 1. Description of the Pre-test and Post-test volleyball data

	BLOCK VOLLEYBALL		
	Pre-test	*Post-test*	Diference
AVERAGE	1.78	2.52	0.74

Based on the table above it can be concluded that the average assessment of volleyball block skills in the pre-test control class was 1.78 and the average assessment of volleyball block skills in the post-test was 2.52, thus there was an increase of 0.74 points. This shows that there is an increase in volleyball block skills in the control class.
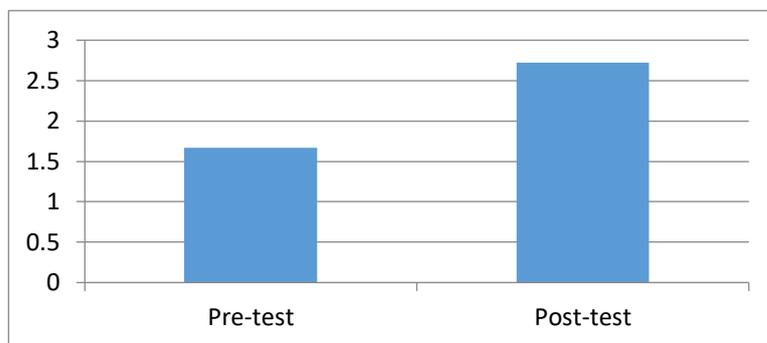
Figure 2. Comparison diagram of the average ability of the control class Block

As shown in figure 2, the post-test group in the volleyball block exercise control class gave a greater increase than the pre-test group of the study.

Description of Pre-test and Post-test volleyball Class data experiments

The following is a description of the results of the experimental group's pre-test and post-test on the results of the volleyball block. So, the data about the volleyball block ability of each player is obtained. The following is a description of the results of the pre-test and post-test volleyball block ability of the experimental group.

Table 2. Description of the Pre-test and Post-test volleyball data

	Block Volleyball		
	Pre-test	*Post-test*	Diference
Average	1.57	2.97	1.40

Based on the table above it can be concluded that the average rating of volleyball block skills in the pre-test control class was 1.57 and the average assessment of volleyball block skills in the post-test was 2.97, thus there was an increase of 1.40 points. This shows that there is an increase in volleyball block skills in the experimental class.
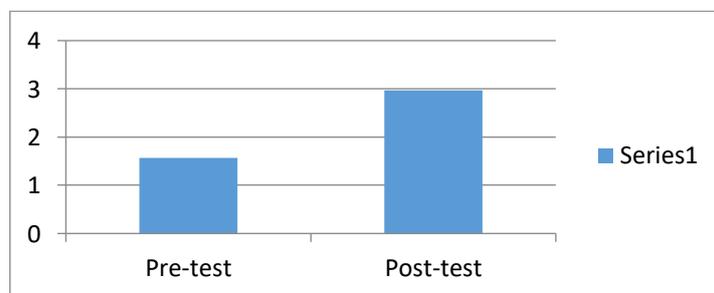
Figure 3. Comparison of average abilities diagram Experimental class block

Figure 3 shows that post-test group on the experimental volleyball block exercise, gave a greater increase than the pre-test group of the study. Thus, the recapitulation of data between the control group and the experimental group of volleyball block data can be summarized as follows:

Table 3. Recapitulation of Data Descriptions between Experimental Groups and Control Groups

	Block volleyball		
	Pre-test	Post-test	Difference
Experiment	1.57	2.97	1.40
Control	1.78	2.52	0.74

From the table above it can be seen that in the experimental group the value of the average block ability when the pre-test was 1.57 and the average value of the ability of the post-test block was 2.97. Changes in block ability after being treated with a new exercise model are 1.40. While the average value of the block group capability at the pre-test was 1.78 and the average value of the block ability of the post-test control group was 2.52. Changes in block ability after being treated with conventional training 0.74. From this description the model of the volleyball block exercise made can increase the ability of the volleyball block. the increase and comparison of the volleyball block's ability can be seen in the following chart:
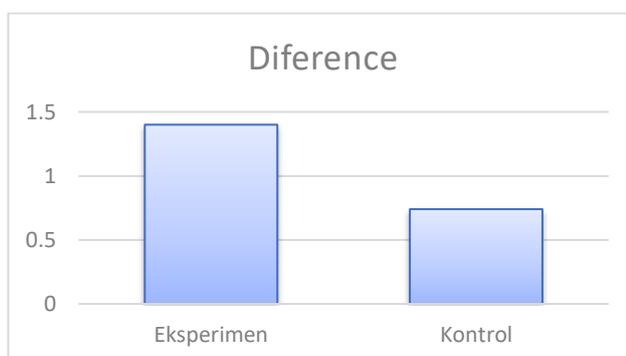
Figure 4. Differences in the Results of Training Between Experimental Groups and the Volleyball Block Control Group

From figure 4 the experimental group using the volleyball block exercise model gave a greater increase than the experimental group using conventional training.

Conclusion

Based on the data obtained, the stages of research and development as well as the results of field trials and data analysis that produced block volleyball model products, it was found that overall this product was good and effective carried out by coaches and volleyball players. This can be seen from field trials that show the trainer easily provides material and players easily carry out each variation of learning. Seeing in terms of product presence and level of efficiency, this model of volleyball block training is the right solution to the problems faced by volleyball players and players in increasing volleyball block ability.

References

Borg,W.R.&Gall,M.D.Gall. (1989). *Educational research*: An Introduktion, Filth Editional.(New York: Longman

Giatsis , G. et.al. (2015). The efficacy of the attack and block in game phases on male FIVB and CEV beach volleyball. Vol 10

Lobietti R. (2009). A review of blocking in volleyball: from the notational analysis to biomechanics. *J. Hum. Sport Exerc.* Vol. 4(2):93-99

Reitmayer & Grădinaru. (2016).Considerations regarding the optimisation of the spike in modern volleyball . Vol. 9

Sheppard, J. (2016). The effects of depth-jumping on vertical leap performance of high- performance volleyball players: An examination of the transfer of increased stretch-loadTolerance to spike jump performance. *Journal of Australian Strength and Conditioning. Vol. 24(1)*

Shondell, D. & Reynaud, C. *The volleyball coaching bible,Human Kinetics*, p. 242

Elementary School Students' Knowledge of Civics Education: A Study at Bangkok-Indonesian School (SIB), Thailand

Zulfitria[1], R.Andi Ahmad Gunadi[2], Happy Indira Dewi[3]
[1,2,3] Universitas Muhammdiyah Jakarta, Jakarta, Indonesia

E-mail: zulfitria81@gmail.com[1], abaca85@gmail.com[2], happy.indiradewi@gmail.com[3]

Abstract: This study aims to determine the implementation of learning civics education at Bangkok-Thailand Indonesian School. It is not easy to bring students able to understand the concepts and meaning of citizenship education. The research was conducted in Bangkok's Indonesian schools located on 600-602 Petchburi Road Bangkok 10400 Thailand within the Indonesian Embassy for Thailand. The qualitative research study was conducted from March to August 2018 by collecting the data through questionnaires, interviews and observations. There were 17 students participated in this study. The questionnaire showed that out of those 17 participants, 3 students got 50, 10 students scored 70 and another 4 students were scored 90.

Keywords: knowledge, education, citizenship

Introduction

In the Qur'an at surat al-Hujuraat (49:13): "O mankind, verily we created you from a man and a woman and made you nations and tribes so that you would know each other. Surely the noblest of you in the sight of Allah is the one who is most fearful among you. Lo! Allah is Knower, Knower (Depag: 2007)

The verse above explains that humans are created different nations and tribes but only devotion makes people more noble before God. This is in line with Republic of Indonesia's Law No. 20 of 2003 concerning the National Education System, Article 1 paragraph 1, which states that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by him, society, nation, and state. (Ministry of National Education: 2003) ". That true education is a learning process to develop self potential in students towards a better and noble character.

The world of education has a very difficult challenge because it is required to be able to give birth to humans who are not only able to master technology and information in order to compete internationally but also become civilized human beings.

The progress of civilization of a nation basically starts from development in the field of education. This is marked by the decline of the first word of Allah SWT in the Qur'an Al-'Alaq (96: 1-5), namely: Read by (mentioning) the name of your God who created, He has created man from a lump of blood. Read it, and your God is the one who understands, who teaches (man) with a pen, he teaches people what he does not know (Depag: 2007).

By reading, humans get instructions from Allah SWT who have hinted to all humanity to learn many things to be able to see the signs of the power of Allah SWT that exists in life, because by reading, of course many discover new things that are very useful as provisions live in the world and in the hereafter. (Zulfitria: 2017)

Education plays a very important role in improving the quality of human resources in a country. Education is an absolute thing that must be fulfilled in an effort to improve the standard of living of the Indonesian people so that they are not left behind by other nations.

Indonesia is an archipelagic country consisting of approximately 13,000 islands, with the fourth largest population in the world after China, India and America, and then Indonesia numbered approximately 270 million people scattered in several other countries.

Indonesia has many customs, tribes, regional languages and religions. There are five recognized religions in Indonesia, such as Islam, Catholicism, Protestantism, Hinduism, Buddhism, Confucianism, and beliefs. Departing from this diversity of cultures, a motto of Unity in Diversity was formed, which means different but still one, based on the state's foundation in the form of Pancasila.

Pancasila consists of five points, which read: (1) One Godhead, (2) Fair and civilized humanity, (3) Indonesian unity, (4) Popularism led by wisdom in representation, (5) Social justice for all Indonesian people. In this context the Indonesian state is loaded with pluralistic differences, in order to always love the nation's homeland and always maintain unity and unity everywhere, then Indonesian citizens who are anywhere in taking formal education will get Citizenship education subjects (Pkn).

Citizenship education is a subject that is used as a vehicle to develop and preserve noble values and morals rooted in Indonesian national culture (Susanto: 2013). According to Law No. 2 of 1989 concerning the National Education system, it is explained that "Citizenship education is an effort to equip students with basic

knowledge and abilities regarding the relationship between citizens and the state as well as the State Defense Preliminary Education (PPBN) in order to become reliable citizens by the Nation and the Unitary State of the Republic of Indonesia (Soemarsono: 2001). Subjects of Citizenship Education (PKn) are subjects that focus on the formation of citizens who understand and are able to exercise their rights and obligations to become intelligent, skilled, and characteristic Indonesian citizens mandated by Pancasila and the 1945 Constitution (Winataputra: 2009).

The subject of citizenship education is intended so that we have an insight into state consciousness to defend the country and have a mindset, pattern of attitude and behavior as a pattern of action that loves the homeland based on the Pancasila. That means that the instructional material for citizenship education in higher education must be continually improved, the teaching methodology developed matches, and the effectiveness of learning management.

Citizenship education is an education to provide initial provisions in defending the country based on love for the homeland, awareness of the nation and state, believes in the truths of the Pancasila ideology and the 1945 Constitution and the willingness to sacrifice for the interests of the nation (Ittihad, 2006: 1.37).

In general Citizenship Education subjects in elementary school aim to develop abilities (1) Think critically, rationally, and creatively in responding to citizenship issues; (2) Actively and responsibly participate, and act intelligently in community, national and state activities, as well as anti-corruption; (3) Developing positively and democratically to shape themselves based on the characteristics of Indonesian society in order to live together with other nations; (4) Interacting with other nations in the world arena directly or indirectly by utilizing information and communication technology (Winataputra: 2009).

It is not easy to bring students able to understand the concepts and meanings of citizenship education. Given that students naturally study in other countries so that the dominant level of thinking can negate the difficulties of students, it is recommended that teachers use and utilize manipulative and realistic objects around the life and environment of students. With these manipulative objects, students are expected to have experience manipulating the objects themselves to understand concepts and meanings, so that they will be more in-depth and appreciate the material they are learning.

Students will learn if they get motivation from the teacher, if the teacher provides fun activities, pays attention to their desires, builds understanding through what is known, creates a classroom atmosphere that supports and stimulates learning, provides activities that are appropriate to the learning objectives, provides challenging activities, gives activities that give hope of success, respect each student's achievements.

The attractiveness of a subject is determined by two things, first by the subject itself, and second, by the way the teacher teaches. Therefore, the professional duty of a teacher is to make lessons that are not actually interesting make it interesting, which is difficult to find easy, which was not meaningful to be meaningful. If the condition can be implemented by the teacher, namely students volunteering to learn more because of the need and learning is not just an obligation, then the teacher as a teacher can be said to be successful. But to achieve this is not easy because education, expertise and special attitudes and community recognition are needed. All of these things are known as four educator competencies, namely professional competence, competence in pedagogy, personality competence and social competence (Anitah: 2008).

In the process of Citizenship Education subjects, the various approaches and methods applied are adjusted to the material and characteristics of the students that are the subject matter. The diversity of approaches and methods applied to the process of Citizenship Education subjects can maintain a warm and interesting atmosphere, so that students are not overwhelmed with boredom and boredom.

Background of the research

Based on the background of this problem, this study was conducted with the title "knowledge of citizenship education subjects for elementary students abroad in Bangkok-Thailand Indonesian School.

Some problems are identified as follows: students have not memorized the sound of the Pancasila, students do not know the president and vice president of RI, students have not implemented systematic citizenship education. The formulation of the problem in this study is how is the knowledge of citizenship education of elementary students abroad? This study aims to determine the implementation of learning citizenship education at Bangkok-Thailand Indonesian School.

So, in the delivery of learning citizenship education at Bangkok Indonesia School in the 4th grade of elementary school using storytelling methods and teaching aids to make it fun and learning becomes more effective and efficient.
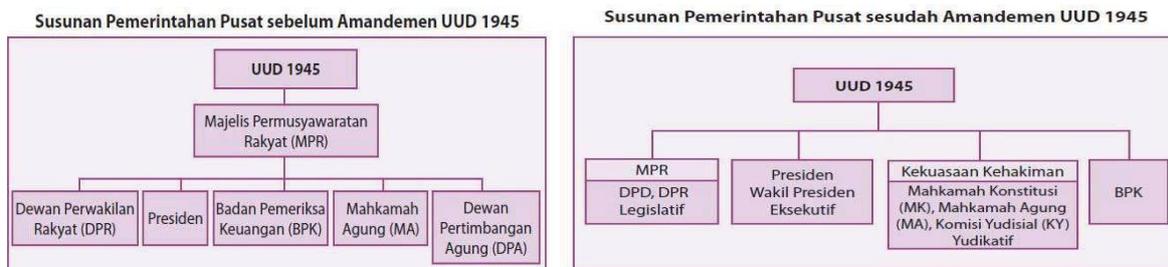
Figure 1. government organization at the central level

The chart above is a government organization at the central level that is very important to know children early on. So that children understand more about what institutions are related in government. Government is an organ that functions as a government. The system of governance is the whole or complete roundness of the components of government consisting of executive, legislative and judicial institutions (Dyah: 2006).

The President of the Republic of Indonesia is the head of state and head of government of the Republic of Indonesia. The president and vice president are elected in one pair directly by the people. The pairs of presidential and vice-presidential candidates are proposed by political parties or a combination of political parties participating in the general election before the general election. In carrying out his duties the president is assisted by the vice president. The vice president is elected directly by the people in a pair with the president through elections. The task of the vice president is as heavy as the president's duties. In carrying out their duties and authority the president is also assisted by state ministers in charge of certain affairs in the government. These ministers are appointed, dismissed, and accountable to the president.

Figure 2. picture vice president (left) picture president (right)

Research Methodology

The research was conducted in Bangkok's Indonesian schools located 600-602 Petchburi Road Bangkok 10400 Thailand Located within the Indonesian Embassy in Bangkok Thailand. Time for taking research data from March to August 2018 using qualitative research. The research subject was an informant who provided research data through interviews and observations. Respondents were grade IV elementary school students in the Bangkok Indonesia School (SIB) Thailand, totaling 17 students. Problems in this study that have been studied are social problems. So the researchers chose to use qualitative research methods to find, obtain, and analyze the results data from observations conducted by the research. According to Sugiyono (2011: 8) that qualitative research methods are naturalistic research methods because their research is carried out in natural settings.

Findings and Discussion

History of the Bangkok School of Indonesia

The Bangkok School of Indonesia was established on October 6, 1962 by the Embassy of the Republic of Indonesia, after collaboration between the Ministry of Foreign Affairs and the Ministry of Education and Culture. Located in the area of the Indonesian Embassy, at 600-602 Petchburi Road Bangkok 10400, Thailand. The Indonesian School of Bangkok consists of kindergartens, elementary schools, junior high schools, and high schools, which are located in one complex. After being closed for several years, kindergartens were reopened in 2007.

Although Indonesian schools in Bangkok have a small number of students and teachers, it does not make a big problem. This makes everyone hug like family. They are all friends with each student. None of them dislike, harass or attack each other. This is because every student is involved in almost all activities programmed by the school. So, if a student has a problem, students or other groups will encourage or help him solve it. In this case, every student here helps each other voluntarily.

We impose all subjects taught like in other schools in Indonesia, except for Thai which is considered as a lesson in local content because of the survival of students in this country. We also provide extracurricular activities held after school from Monday to Friday, except Tuesday. All students must take part in Tae Kwon Do for their own defense and all elementary school students must join Scouting while junior and senior high school students must join 'Karawitan' or Javanese traditional music. Primary students can choose soccer or badminton, while junior and senior high school students can play volleyball with the teachers. The purpose of this activity is to make students become skilled people and undergo their education or life.

Diving deeper into school info, this school has a few classrooms that can accommodate a maximum of 6 students. Students join certain classes such as English by native speakers and Thai together because of limited teacher time.

Since 2009, the Bangkok School of Indonesia has implemented the "Education Unit Level Curriculum", or School-based curriculum, but only develops a curriculum of around 60% of the target. This is because the number of teachers is limited, so most of them lack the time to prepare it. Since 2010, it has grown to 80%, and documents are more complete.

The total number of students is around 66 students and 16 teachers at the Bangkok Indonesian School. Almost all teachers teach multilevel subjects and many subjects. A teacher must be able to teach each subject needed. This factor makes a multipurpose teacher related to the number of teachers mentioned above. School hours begin at 8 am and finish at 3 pm.

Vision of the Indonesian School in Bangkok

Achieving an Indonesian-cultured school citizens, as well as students who are intelligent and competitive.

Mission of the Indonesian School of Bangkok

a) Conducting worship according to their own religious teachings
b) Instilling the values of Indonesia and developing cooperation through intra-and extra-curricular learning, as well as discussions and group dynamics
c) Implementing the effective remedial and / or enrichment learning and forming study groups to optimize the student's academic potential
d) Making students accustomed to competitive culture to join national / international level competition by providing a variety of academic and non-academic competitions, either inside and outside of the school)

The essence of Citizenship Education

Education is certainly not just to transfer knowledge and skills, but also an internalization of basic values, especially human values to students as the essence of education is a process that familiarizes people as early as possible to learn, understand, care for, and apply values agreed upon so that it is useful for individuals, communities, nations and countries.

Education is a conscious effort carried out by families, communities, and the government through the activities of school guidance, teaching and training as long as it takes place in schools and outside the school for life to prepare students to play a role in a variety of environments permanently for the future (Mulyasana: 2011).

Citizenship education has an important role as a vehicle to develop the abilities, character and character of democratic and responsible citizens (Zubaedi: 2012). Citizenship education is one of the very important subjects to be taught at the elementary school level.

Through subjects in citizenship education, it is expected that learning activities can achieve the expected goals as stated in Permendiknas, No. 22 of 2006 concerning content standards includes:

a) Think critically and rationally in the face of citizenship issues.
b) Participate actively, responsibly, and act intelligently in community, national and state activities and anti-corruption.
c) Developing positively and democratically to shape themselves based on the character of the Indonesian people in order to live together with other nations.
d) Interacting with other nations in the world arena both directly and indirectly by utilizing science and technology.

Scope of Subjects for Citizenship Education in Elementary School

Based on Minister of Education Regulation No. 22 of 2006 concerning the Standard Content of the National Curriculum, the Subject of Citizenship Education at the elementary / MI level aims that students have the following abilities.
a) Think critically, rationally and creatively in responding to the issue of citizenship.
b) Actively and responsibly participate, and act intelligently in community, national and state activities and anti-corruption.
c) Developing positively and democratically to shape themselves based on the characteristics of Indonesian society to live together with other nations.

d)   Interacting with other nations in the world arena directly or indirectly by utilizing information technology and communication.10 (Minister of National Education: 2006)

Based on Minister of Education Regulation No. 22 of 2006 The scope of Citizenship Education subjects for primary and secondary education in general includes the following aspects: (Winataputra: 2009)

a)   Maintaining the unity and unity of the nation, including living in harmony in diversity, love of the environment, pride as an Indonesian nation, Youth Oath, the Unitary State of the Republic of Indonesia, participation in state defense, positive attitude towards the Unitary State of the Republic of Indonesia, transparency and guarantee of justice.
b)   Respect for norms, laws and regulations, including orderliness in family life, school discipline, prevailing norms in the community, regional regulations, norms in the life of the nation, national legal and judicial legal and judicial systems international.
c)   Respect for human rights, including the rights and obligations of the child, the rights and obligations of community members, national and international human rights instruments, the promotion, respect and protection of human rights.
d)   Meeting the needs of citizens, including mutual cooperation, self-esteem as citizens, freedom of organization, freedom of expression, respect for joint decisions, self-achievement, equality of citizenship.
e)   Understanding the state constitution, including the proclamation of independence and the first constitution, the constitutions that have been used in Indonesia, the basic relationship of the State to the constitution.
f)   Understanding of power and politics, including village and sub-district governments, regional government and autonomy - central government, democracy and political systems, political culture, democratic culture towards civil society, government systems, press in democratic societies.
g)   Pancasila, including the position of Pancasila as the basis of the State and State Ideology, the process of formulating Pancasila as the basis of the State, Practicing the values of Pancasila in everyday life, Pancasila as an open ideology.
h)   Globalization, including globalization in its environment. Indonesian foreign policy in the era of globalization, Dapak globalization, International Relations and international organizations, and Evaluating globalization. "

Implementation of Learning Citizenship Education at Bangkok Indonesia School

According to Muhaimin (2001: 11), Citizenship Education must be enriched by the exchange of ideas to cross even fierce opinions about important issues in the life of society, nation and state. In the implementation of education, there is a need for a method in an effort to achieve the intended goals, because the method of an educational material is not possible to be absorbed effectively and efficiently by the students, therefore the method is a requirement that educational activities run well.

Thus, the stories are presented correctly, in harmony, with the context, and realize the goal of character education. Because the story method can activate and generate feelings through the topic of stories that contain good examples, including heroic stories.

In order for the learning process to run pleasantly the teacher uses a varied method of telling and in accordance with the learning done. The props used can be:

a.   Direct props, namely using original objects or actual objects so that children can understand the contents of the story and can see first hand the characteristics and uses of the tool.
b.   Indirect props, namely using objects that are not actual tools, telling stories with indirect props in the form of: (a) Artificial objects, the teacher uses artificial objects as props. These artificial objects should have proportions of shapes and colors that match the original, (b) Pictures, the teacher uses images as props, can be loose images, pictures in books or drawings consisting of 2 to 6 images that illustrate the story , (c) Flannel boards, the teacher uses a flannel board to attach the pieces of the picture to be presented in a story, (d) Puppet plays, the teacher uses various kinds of dolls that are staged in a story.

The researcher conducted research activities by taking data to the Bangkok Indonesian School on 24-27 Aguatus 2018 at the Bangkok Indonesian School. It is an essay for fourth grade students, namely the composition of the Indonesian government, the name of the first president of Indonesia and the next president to date along with his vice president's name. Then give questionnaires in the form of question instrument sheets about the sound of the Pancasila and understanding the practice of Pancasila values. Then the researcher did not forget to document the photos of several students and interview the class teacher.

From the questionnaire data can be presented from 17 students that there are 3 students get an average value of 50, there are 10 students get an average score of 70 and there are 4 students who get an average score of 90. It turns out that no student gets 100 points from the question essay given by the researcher.

Conclusion

Based on the results of the research and discussion, it can be concluded that what was done by the researchers regarding the knowledge of citizenship education subjects of elementary school students abroad at Bangkok Indonesia School was well done. The application is carried out by introducing the basis of the Republic of Indonesia, namely Pancasila and the composition of the government with the method of telling stories and using

teaching aids so effective and efficient that students more easily understand the knowledge of citizenship education.

References

Anitah, Sri et al. *Learning strategies in Elementary School*. Jakarta: UT

Amin, Zainul Ittihad. (2006). *Main material for citizenship education*. Jakarta: Open University.

Boediono, ed., (2003). *Competency standards for early childhood education for kindergarten and Raudhatul Athfal*. Jakarta: Ministry of National Education.

Dyah, Sri Wilujeng (2006). PKN Class IV Primary School. Jakarta: Erlangga.

Ministry of Education. Law of the Republic of Indonesia Number 20 of 2003 concerning National Education System, Article 1, paragraph 1.

Mulyasana, Dedy. (2011*), Competitive education and competitiveness*, Bandung: PT Remaja Rosdakarya.

RI Ministry of Religion. (2007). *Al-Qur'anulkarim translation of the word*. Bandung: Syaamil Al-Qur'an.

REGULATION of the Minister of National Education No. 22 of 2006

Susanto, Ahmad. (2013*). Theory of learning and learning in Elementary School*. Jakarta: Kencana

Sumarsono, S.(2001). *Citizenship education,* Jakarta: Gramedia Main Library.

Sugiyono.(2011). *Quantitative, qualitative, and R & D research methods*. Bandung: Alfabeta.

Taniredja, Tukiran. (2009). *Education citizenship*. Purwkerto: Alfabeta.

Winataputra, Udin S. (2009. *PKN learning in Elementary School*. Jakarta: UT

Zubaedi. (2013). *Character education design*. Jakarta: Kencana Prenada Media Groub.

Zulfitria, (2017). The Role of tahfidz Al-Quran learning in character education in Elementary School. Naturalistic: *Journal of Educational and Learning Research Studies 1 (2),*124-134

Enhancing Students' Mathematical Understanding of Three Dimension through PABARU Tools Aid

Nurbaiti Widyasari[1], Melisa Soptianingrum[2]
[1,2] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: nurbaiti.widyasari@umj.ac.id[1], melisa.s@denso.co.id[2]

Abstract: This research is motivated by low ability of mathematical understanding in three-dimension topic. This study aims to determine whether, through the PABARU tool aid, students can improve their mathematical understanding of the three-dimension topic. The research was conducted at one of primary school in Bekasi, Indonesia. The total participants in this research is 45 students of 5th grade. The study was conducted using action research classroom with Kemmis and Mc-Taggart models at the planning, implementation, observation, and reflection stages. There were three phases, namely pre-cycle, cycle 1, and cycle 2. The instruments comprised of mathematical understanding test and observation sheets. The results of the study show that there was improving the students' mathematical understanding and students had a better understanding in the learning process, not only with the method of memorization. Furthermore, the results of the observations pre-cycle reached a percentage of 20.0%, the first cycle was 51.1% and the second cycle 84.4%. The implication of this study is that the use of PABARU learning materials is recommended as one of the learning approaches to improve students' understanding of learning outcomes.

Keywords: Mathematical Understanding; Three Dimension, PABARU

Introduction

Many expertise said that mathematics understanding is one of important mathematics ability in mathematics competencies and needed to be developed in daily life to build basis thinking in solving mathematical problems (Kilpatrick, Swafford and Findell (2001)in Groves, 2013; Ansari & Wahyu, 2017; Hikmah et al., 2017; Widyasari, Nurbaiti; Hayyun, 2017; Lambertus, 2016). Base on those statements, we can make conclusion that mathematical understanding is one of important ability to develop other mathematical competencies in learning process. Example, students cannot develop their mathematical reasoning if they do not understand the concept. Mathematics learning at primary level in Indonesia has three fields of application, namely numbers, geometry and measurement, and statistics (DEPDIKBUD, 2016). One of the subjects of mathematics taught in elementary school is geometry including three and two dimensions. The three-dimension materials are part of geometry and emphasize students' ability to identify features, nets, and volume.

Background of the research

In fact, the importance of understanding ability is not in line with students' achievement. The results are indicated that 80% of students did not reach the minimum passing grade in pre-cycle. One of the factors which result in the situation before is tool aid use not suitable for students. As we know that elementary students still in the operational phase concrete especially in three-dimension topic. Suhartono (Jumrah, 2017) state that one of the difficulties faced by elementary school students is the difficulty in understanding the properties and nets of three dimension. Thus, students need to use concrete media to understand the mathematical concept. Using PABARU (board three dimensions, seen in figure 1) can help students to understand the properties, nets, and also implementation volume in word problems.

Based on the arguments and explanations previously, it motivates the researcher to conduct an action research classroom by using PABARU in enhancing primary school students' mathematical understanding ability in three-dimension topic. Thus, the purpose of this study is to enhancing primary school students' mathematical understanding through PABARU.

Figure 1. PABARU (Board Three Dimension) of Properties and Nets of Cube and Cuboid

Research Methodology

This study utilized action research classroom. It involves 45 grade-5 students. The action research method used in this study was action research by Kemmis and Mc-Taggart. This action research in class is a success if it fills:

1.Total of 75% of students can listen to the instructions given during learning activities.
2.Up to 75% of students can do activities with the PABARU.
3.Up to 75% of students are able to correctly solve the questions asked by the researcher.
4.Up to 75% of students are able to complete this task with PABARU support based on time.

After performing various activities from pre-cycle, cycle 1, and cycle 2. It shows that 31.1% of the students increased from pre-cycle (20%) to cycle 1(51.1%), and 33.3% of the students increased from cycle 1 to cycle 2(84.4%). This study also shows that activities of both students and teacher increased day by day in 3 phases (can be seen at table 1).

Findings and Discussion

After performing various activities from pre-cycle, cycle 1, and cycle 2. It shows that 31.1% of the students increased from pre-cycle (20%) to cycle 1(51.1%), and 33.3% of the students increased from cycle 1 to cycle 2 (84.4%). This study also shows that activities of both students and teacher increased day by day in 3 phases (can be seen at table 1).

Table 1. Teacher and Students Activities

Subject	Pre-Cycle	Cycle 1			Cycle 2		
		1st	2nd	3rd	1st	2nd	3rd
Teacher	30%	80%	80%	90%	100%	100%	100%
Students	30%	50%	50%	70%	80%	100%	100%

Based on the results of the mathematical understanding ability test and the observation sheets, the researchers note that the capacity for understanding increases. As explained in the previous introduction that the understanding of mathematics can be considered as the basis of the development of mathematics learning. This ability of understanding is essential for students to develop other abilities in mathematics. Therefore, to develop students' mathematical understanding ability, it is necessary to create an activity that can help students understand the concepts that they are learning. The process of interpreting concepts learned by students is certainly inseparable from the method or medium used by the teacher to transfer knowledge. In addition, the selection and use of methods or materials used by the teacher must be able to support student activity in the learning process. Indeed, active students in the learning process can help them understand a concept better and more in depth.

Activities that take place during the learning process can be done using learning materials, one of which is PABARU. In addition, based on the data presented previously, it appears that student activity is increasing because, with PABARU tool aid, students are more interested, more active, better able to understand the material. This is in line with Sadiman's statement (Sudarti, 2017) that the media or tool aid is very useful in supporting the learning process, not only to make the topic more concrete but also for other function. Before using PABARU, most students did not really understand the three-dimensional material because they were still learning through listen, write, and memorize documents. Thus, mathematical understanding of students is low.

It can thus be concluded that the PABARU has achieved the results expected by researchers and contributors in mathematical understanding of grade 5 students at Elementary School in Bekasi, Indonesia. By conducting research that starts from the planning, the action, the observation, and the reflection phase, the research obtains results related to the problem are:

a. Providing construction material through PABARU, so that students understand the material by themselves
b. Through the implementation of PABARU, students no longer became the passive subject but transform to be active subject. Students are directly involved in the learning process, they are more active and enthusiastic, so the learning process is not boring.
c. Learning activities more enjoyable, because students are more appreciative of learning activities as they are invited to learn to work together by doing group exercises to create solid geometry.
d. Students' mathematical understanding of the three dimensional in second cycle has improved significantly compared to the others.
e. 38 of the 45 students, had achieved the KKM score in Cycle II.

Conclusion

The results indicate that through the implementation of the PABARU in learning mathematics in three-dimension topic for grade-5 students in Bekasi can improve students' mathematical understanding of three dimension. Based on the results of the observation during the research on mathematical understanding in the pre-cycle reached 20%, the first cycle reached 51.1%. Furthermore, in the second cycle the mathematical understanding of the three-dimension increased to 84.4%. So that the average percentage increase from pre cycle to cycle II is 64.4%. Through PABARU students can understand the material and not just memorizing. Students can mention and understand objects and properties of cube and cuboid. Furthermore, students can understand that the nets of cubes and cuboid can be made more than one form. From the results of these comparisons, it proves that the mathematical understanding of students increases significantly. Based on previous explanation, it can conclude that the PABARU has been proven to be able to be used by students as a medium to improve students' mathematical understanding.

References

Ansari, B. I., & Wahyu, N. (2017). Mathematics understanding and anxiety in collaborative teaching. *Journal of Physics: Conference Series*, *943*(012040), 1–7.

DEPDIKBUD. (2016). Standar Kompetensi Lulusan Pendidikan Dasar dan Menengah – BSNP Indonesia. Retrieved March 23, 2018, from http://bsnp-indonesia.org/standar-nasional-pendidikan/standar-kompetensi-lulusan/

Groves, S. (2012). Developing Mathematical Proficiency. *Journal of Science and Mathematics*, *35*(2), 119–145.

Hikmah, N., Mahakam, J. P., Vol, V., Penelitian, A., Negeri, S. D., Ulu, S., & Model, F. (2017). Pengembangan Multimedia (Audiovisual) Pembelajaran Matematika Pada Materi Bangun Ruang Bagi Siswa Kelas IV SD. *Jurnal Pendas Mahakam*, *2*(1), 83–90.

Jumrah. (2017). Peningkatan Pemahaman Konsep Geometri Melalui Metode Demonstrasi Siswa Kelas V SDN 186 Lembang. *Histogram: Jurnal Pendidikan Matematika*, *1*(1), 12–26.

Lambertus. (2016). Developing skills understanding of mathematical. *International Journal of Education and Research*, *4*(7), 315–326.

Sudarti. (2017). Upaya Meningkatkan Hasil Belajar Konsep Bangun Ruang Sisi Datar Melalui Penggunaan Media Power Point Kelas VIIIG SMP Negeri 1 Kedungjati Semester Genap Tahun Pelajaran 2015/2016. *Majalah Ilmiah Inspiratif*, *2*(04), 50–72.

Widyasari, Nurbaiti; Hayyun, M. (2017). *Pengembangan Pembelajaran Matematika SD*. Jakarta, Indonesia: Fakultas Ilmu Pendidikan UMJ.

Student Brawls in Vocational High School:
Case Study in West Jakarta

Sri Imawati[1], Mas Roro Diah Wahyu Lestari[2], Dayana Farzeeha Ali[3]
[1,2] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia
[3] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia

E-mail: immawati83@gmail.com[1], masrorodiah@yahoo.co.id[2], dayanafarzeeha@utm.my[3]

Abstract: The aim of this study is to find out the causes and effects, place and time, psychological perpetrators, and prevention and control efforts on student brawls at Vocational High School in West Jakarta. The method used in this study is a qualitative case study; while observation, interview, documentation, field notes, and coding manual were chosen as techniques and procedures for collecting the data. The results of this study showed that (1) Student brawls were caused by several factors, i.e. tradition, solidarity, friends invitation, attention deficiency, economical factors, friend threat, senior influence, less of interest in reading and writing, to be recognized, and feeling great. (2) Student brawls generally happened at Daan Mogot, Taman Kota, Gantung, Cengkareng, Kompas, Roxy, Pesing, PDI area, Kalideres, Grogol, and other strategic places. The study indicated that the most susceptible time i.e when going to school or home, at night, while meeting the enemy, Monday, Thursday, Friday, Saturday, Saturday night and Sunday night, the school birthday moments, and tomb sweeping day (nyekar). (3) The impacts or negative effects that found in this study were: achievement decreases, drugs, late home return, light and heavy injuries, death, gang member, traffic jam, the refuse of society, residents and police arrested, imprisoned, expelled from schools, anti-social, free sex, and married in early age. (4) Some psychological factors that lead students to participate in student brawls were: process for finding identity, desire to look great, looking for life purpose, hard-advised, justify on their behavior, and puberty. (5) Some prevention and overcoming on student brawls principally can be solved through the support of graduate students, schools, parents, police officers, peers, and society.

Keywords: student brawls, impacts, psychological perpetrators, high school

Introduction

Education is very important and needed by everyone in Indonesia as affirmed in the Constitution of the Republic of Indonesia Year 1945 Article 31, paragraph 1-3, namely: 1) gaining an education is the right of every citizen of Indonesia, 2) basic education is compulsory for every citizens and must be financed by the government, 3) the constitution regulates noble character, piety, intelligence of the nation, and increasing faith cultivated and organized by the government through a national education system. Why education is very important and needed by everyone? It's because education can help demonstrate many unique things in life, education rekindles the spirit of curiosity, education fosters the braveness to lots of questions and also to a lot of answering questions in life, education fosters self-awareness that science is very important, education carries on enlightenment and education makes an unpretentious and modest person.

According to Alpiyanto (2010: 31) to educate is different from teaching, the spirit of educating is to make students have both reasonable and moral basis intelligence, while teaching is knowledge transfer textually. Learners are human beings who have brain and liver, resulting in educating teachers should not lose sight of the importance of the liver. Following confirmation of the importance of educating with the heart: men of superior character, achievement, and contribute to the world born of human education that educates with love and affection and a soft heart.

Basic function, and national education goals set out in the National Education Act was incredible, that of education is expected to be born young people who have superior quality, namely; intellectually, spiritually, and emotionally. Of course not easy to make a generation that has superior quality, it takes commitment and cooperation from all parties including parents, teachers, school systems, government regulation, the role of community leaders, and the willingness of individual intact. If all the parties can run in parallel and consistent it will be born the younger generation with superior quality which will become the nation's next generation of Indonesia.

Background of the research

David Elkind in James Wm. Noll (2009: 55) explains about the importance of reform in education. Education reform is collaboration between the technology and philosophy of education. If both of these can be the basis of education, the education reform will happen. The following description of the opinion of David Elkind: educational is, however, more than technology. It is, at its heart, people dealing with people. We need to the make every effort to ensure that the technological revolution in education creates the kinds of teachers, curricula, and social climate that will make constructivism a reality in our classrooms.

BKKBN and PPNA (2012: 15-16) stated that Vocational High School level students in the category of early adolescence and into the late teens, the following description of the categories of early adolescents and teenagers up: early teens experience physical changes, emotional imbalance and stability a lot of things. Teens want to be noticed further has the attitude and self-effacing and idealistic, spirit and have emotional stability.

Student brawls conducted Vocational High School students in West Jakarta is one of the less commendable actions outside of school. Student brawls are not to be left alone and as if it has become a culture. Student brawls must be resolved and removed from West Jakarta of Indonesia in particular and in general. The Jakarta administration, teachers and school principals, parents, community leaders, seniors, community organizations, police and apparatus must be met and a serious dialogue to overcome the problem of student brawls in Jakarta. Because the main task of a student is studying seriously and learning lots of knowledge and skills as much as a provision of life in the future.

Based on the data recap victims of student brawls in Jakarta and surrounding areas (1999-2015), every year the number of seriously wounded and died as a result of student brawls were reported by the print and electronic media number is always more than one person. Data victim of student brawls in the Special District and surrounding Jakarta in year period 1999 - 2015 which successfully gathered information from various parties totaling 28 people. 28 people on average died tragically and pathetic, which certainly left a deep sorrow for those left behind.

The condition has been described by the writer above and those conditions make the writer interested to study the question of student brawls Vocational High School in West Jakarta with qualitative case study approach. The writer takes West Jakarta because of the five areas in Jakarta, West Jakarta, including the most active brawls. The writer chose public vocational school 35 Jakarta Barat for the reason that of the SMK in Jakarta Barat with the most active brawl is SMK N 35 Jakarta Barat. The writer's great expectation is in order to overcome the problem of student brawls in West Jakarta and save Indonesia's young generation will become the nation's next generation of Indonesia. Rest assured that the students were just victims of the system and be assured there are many roads to embrace them to get them back to the path of goodness and truth. Students are human beings who have a heart and mind, and therefore should touch them by heart anyway so right on target.

The purpose of this study is: to know and to investigate on the causes of Vocational High School student brawls in West Jakarta, to know and learn about the place and time of Vocational High School student brawls in West Jakarta, to identify and assess the impact of Vocational High School student brawls in West Jakarta, to investigate and assess the psychological state actors of Vocational High School student brawls in West Jakarta, and to identify and assess the prevention and control student brawls of Vocational High School in West Jakarta.

Reseacrh Methodology

The research method used in this study is a qualitative research method case study type. According to Ahmadi (2014: 69) a case study chosen because it is considered suitable to strip completely on issues Vocational High School student brawls in West Jakarta. In a simple case study can be interpreted as an inquiry or investigation of some or all aspects of the specific case studied.

According to (Lincoln and Guba, 1981: 371) in Ahmadi (2014: 69), there are several definitions of the case study, namely: a portrait of reality, a part of life, little life, events, unit of measure, examinations were deeply about something, intern examination about this one.

According Muhadjir (2007: 178) a case study is a study produced by the naturalistic approach is called Guba as a case study and not study a sample representation of the population in positivistic and rationalistic approach.

According to (Guba & Lincoln, 1981: 375) in Ahmadi (2014: 72), there are reasons where someone took a case study that describes a systematic and concise manner phenomenon, grounded; This provides an experiential perspective, holistic and lifelike (Lifelike), summarizing data coverage so as to answer the research questions effectively. Techniques and data collection procedures performed using the following methods: observation, interviews, documentation, field notes, and coding. Below will be explained in detail about the meaning of each data collection techniques are:

Observation (observation), Sugiyono (2014: 145) states that based on the implementation process, the observation can be classified into two types, namely participant and non-participant observation. The aspects of instrumentation, observations can be structured and unstructured.

Interview, according to Sugiyono (2014: 186) interviews can be interpreted as a conversation between two people or more, with the intent or purpose. Still according to Sugiyono (2014: 186) interviews may provide information on the construction of the people, events, organizations, opinion, and so forth, either associated directly or indirectly with the issues being examined.

Documentation in the opinion of Emzir (2011: 169), in addition to observation and interviews, researchers also need documents to complete the study. Emzir mentioned that the required documentation can be a budget, advertising, job description, annual reports, notes, school files, correspondence, biographies, rules, policies, pictures, video, or other written data.

Note Fields, Moleong (2007: 208) stated that field notes are notes made while researchers in the field doing research. This note field acts as a recorder on every event that can be captured by the five senses researcher.

Manual coding, Saldana (2009: 3), explained that in a qualitative study of data coding or encoding of data plays an important role in the process of analyzing the data and determine the quality of the data abstraction research results. To become proficient in conducting qualitative analysis, the authors have much to learn about how to encode the data is good and right. Saldana explained the definition of code that any researcher who wishes to become proficient at doing qualitative analysis, must learn to code well and easily. The excellence of the research rests in large part on the excellence of the coding.

The data analysis research in the field according to Spradley model described by Moleong (2007: 302-303) consisting of: 1) a descriptive observation, 2) domain analysis, 3) focused observation, 4) taxonomic analysis, 5) observations elected, 6) componential analysis and 7) ends with the analysis of the theme. The analysis of the model, it appears that data collection and analysis conducted alternately. Each researcher finishes acquiring data, then that's when researchers conducted an analysis of the data obtained. And so on, until the data is saturated and study questions unanswered.

Findings and Discussion
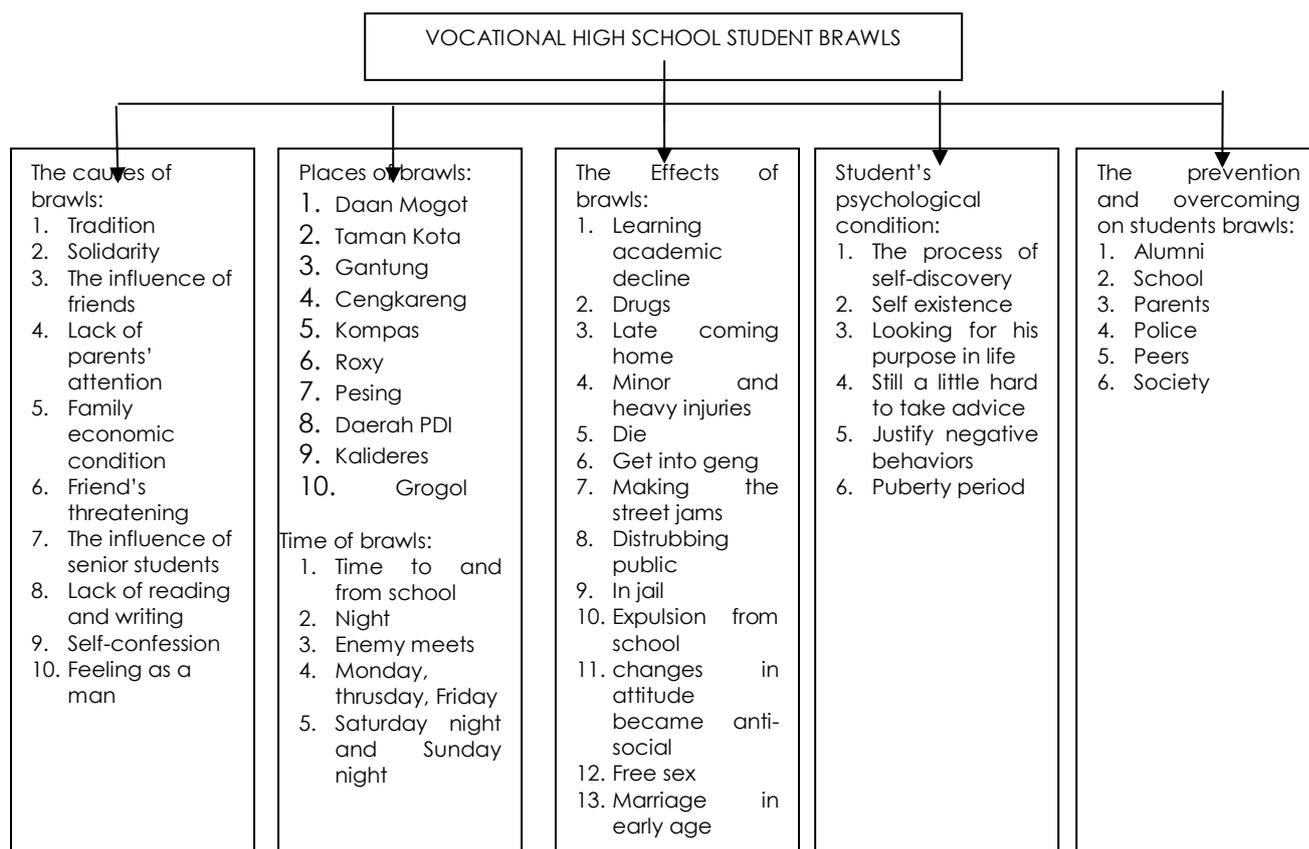
Figure1. Flow Research

Students do brawl without premeditation and the reason students do brawl is to demonstrate self-existence in front of other students. Students do brawl because of the brawl is the tradition of the previous class brothers. Students do brawl without premeditation. There are some students who opt for a particular vocational high school because it's as famous vocational high school for brawls; such students are usually already involved brawl since junior high school. Actually, students do not want a brawl but often invited in advance by other schools and if not then maybe the fight will be a victim.

Brawl was conducted in a safe place out of the reach of the Police, because in fact, the children are afraid being caught by the police, because this case will be very high risk affair with the police. There is no set place to brawl, wherever met with the enemy; the student should be ready to brawl. While generally a brawl only in some places. If the inter-school students met and they consider hostile and if between transport meetings in which there are different students to school, then brawl will occur. Brawl is a negative thing hated by the people, for the brawl might be detrimental to the surrounding community such as damage and casualties misplaced. SMK N 35 Jakarta Barat is located in West Jakarta, where the area of West Jakarta is prone areas of student brawls.

Not all students who do brawl has academic achievement decline, all back to him each can or cannot divide their time between fights with their learning. Student brawls certainly lead to casualties injured mild or severe injury. Students who brawl have unstable emotion and tend not to care about other people who are not familiar. Brawls make students do not consistently and in a state of confusion between obeying the words of the alumni or the rules that apply in school. So it is a not rare, student who fights bravely against the teacher.

The conditions of teenagers in the process of self-discovery is not then justify these teens perform negative actions such as student brawls. Students already have the identity and the principle of life so in fact they were inappropriate conduct student brawls. Identity depends upon individual people. The future is determined by the people themselves and not others.

Police jobs are not easy to overcome the problem of student brawls. However, police must have plenty of ways to overcome the problem of student brawls in West Jakarta. Peer is a friend of the same age with the actors brawl; in general, adolescents are more dissuaded by their peers as compared to the older ones. Vigilante is wrong action and it will also make students who do brawl more hate with the treatment community.

Conclusion

The cause of student brawls Vocational High School in West Jakarta, namely: has become a school tradition that is passed down, solidarity between friends, unaffected by the invitation of a friend, a lack of attention from parents, family economy down to the middle, the threat of a friend, was influenced by his senior, much less read and write, to be recognized its existence, and feel as a man (that man was allowed to fight).

The place and time of student brawls Vocational High School in West Jakarta are: Daan Mogot, Taman Kota,Gantung , Cengkareng, Kompas, Roxy, Pesing, area PDI near school SMK Negeri 35 Jakarta Barat, Kalideres, near the terminal Grogol, and strategic place the other is the cross base. While time student brawls in West Jakarta, namely: time to and from school, at night, when meeting the enemy, Monday, Thursday, Friday, Saturday, Saturday night and Sunday night (for brawl villages perpetrators also teenagers / students), the anniversary of the school, and when *nyekar* (in memory of a school friend who died of student brawls).

Impact of student brawls Vocational High School in West Jakarta, namely: learning achievements decline, intersect with drugs (smoking, marijuana, and drinking), come home late, minor injuries and heavy, die, get into gangs, making the streets jams, disrupting public, caught by citizens and police, in jail, expulsion from school, changes in attitude became anti-social, free sex, and married early age.

The condition of psychology perpetrators of student brawls of Vocational High School in West Jakarta, namely: in the process of self-discovery, was trying to say was great by the people around him, was looking for his purpose in life, still a little hard to take advice, justify negative behaviors, and is in a period of puberty (physical and psychological development). In this period required intensive support from those closest is: parents, siblings, and teachers. At this time also the students as a teenager in need of a good example of the people around him.

Preventing and overcoming on student brawls of Vocational High School in West Jakarta, namely:

Alumni, preventing and overcoming on student brawls of Vocational High School in West Jakarta by the alumni are: advising the younger class so do not do brawl again, invites the younger class to participate in activities that are positive, initiate peace between students who do brawl, and inform about the dangers generated from student brawls.

Educational, preventing and overcoming on student brawls of Vocational High School in West Jakarta by the school, namely: teachers should be patient in the face of the students involved in the brawl, the teachers do not get bored to always advise the students involved in the brawl, teachers should be able to set good examples for their students, teachers must be able to be a good friend for the students involved in the brawl, schools have always maintained a good relationship with the parents, to enable extracurricular activities in school, and to require their students to a lot of reading and writing.

Parents, preventing and overcoming on student brawls of Vocational High School in West Jakarta by parents are: parents must instill religious values to their children since the children were small, parents should be able to communicate well with their children, parents must meet the economic needs of their children, parents need to know the character of their children, and parents should always coordinate with their children's homeroom.

Police officers, preventing and overcoming on student brawls of Vocational High School in West Jakarta by Police officers, namely: Police must also learn the hours vulnerable student brawls, the police also have to record the places that are prone student brawls, the police must always stand by its personnel to anticipate brawl students, provide counseling in schools that are prone student brawls, and working closely with the school and parents.
Peers, preventing and overcoming on student brawls of Vocational High School in West Jakarta by peers, namely: advising his friends who did student brawls, do not bring friends towards acts negatively, and should be a good role model for their peers.

Society, preventing and overcoming on student brawls of Vocational High School in West Jakarta by the public, namely: to break up the students do student brawls, report immediately to the authorities, do not use emotions when dealing with student brawls, and may not use anarchistic ways in overcoming brawl students in their area.

References

Ahmadi, Ruslam. (2014). *Metode penelitian kualitatif.* Yogyakarta: Ar-Ruzz Media.

Alpiyanto. (2011). *Hypno heart teaching.* Bekasi.

BKKBN DAN PPNA. (2012). *Kurikulum dan modul pendewasaan usia perkawinan.* Jakarta: BKKBN.

 Data Korban-Korban Tawuran Pelajar di DKI Jakarta dan Sekitaranya, Kurun Waktu 1999-2015.

Emzir. (2011). *Metode penelitian pendidikan kuantitatif dan kualitatif.* Jakarta: PT. Raja Grafindo Persada.

Nada, Tasbih. (2008). *Smart parenting.* Jakarta: Azkia.

Noll, James Wm. (2009). *Taking sides clashing views on educational issues.* New York: Higher Education.

Moleong, Lexy J. (2007). *Metodologi penelitian kualitatif.* Bandung: PT Remaja Rosdakarya.

Muhadjir, Noeng. (2007). *Metode keilmuan.* Yogyakata: Rake Sarasin.

Saldana, Johnny. (2009). *The coding manual for qualitative researchers.* Los Angeles: SAGE.

Sugiyono. (2014). *Metode penelitian kuantitatif, kualitatif, dan R&D.* Bandung: ALFABETA.

The Effect of Regional Performance Allowances to the Improvement of Teachers' Performance at DKI Jakarta

Widia Winata[1], Ahmad Suryadi[2], Ansharullah[3], Mahani Mokhtar[4]

[1,2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia
[4] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia

E-mail: widia.winata@umj.ac.id[1], ahmadsuryadi@umj.ac.id[2], step_ansharullah@yahoo.com[3], p-mahani@utm.my[4]

Abstract: This study aims to determine the effect of providing Regional Performance Allowances (TKD) on improving teacher performance in the DKI Jakarta area, Indonesia. This study uses a descriptive-quantitative approach with a survey method. The sample used was 45 teachers with civil servant employment status. Data collection is done by distributing instruments / questionnaires with a percentage analysis of the answers given. Based on the results of the study there were 86.39% of teachers who stated that the provision of TKD was very significant influence on improving teacher performance in DKI Jakarta. TKD is able to encourage teachers to do their best, increase teacher income, motivate work, improve team work, competence, discipline, productivity, focus on student learning outcomes, and teachers are able to buy learning devices.

Keywords: performance, regional performance allowances, teachers.

Introduction

The success of education is determined by various aspects or components of education, including: teachers, students, curriculum, and infrastructure. Policies and regulations related to improving the competence and welfare of teachers are regulated in regulations and legislation, both at the central and regional levels. At the Central level, Law Number 14 of 2005 concerning Teachers and Lecturers has been issued which regulates teacher competency, professionalism and welfare which are derived from Government Regulations and Ministerial Regulations.

One effort to improve competency and professionalism and teacher welfare is done by providing performance allowances by providing additional allowances with a relatively large nominal value. The DKI Jakarta Government, through Governor Regulation No. 22 of 2017 concerning Regional Performance Allowances for Principals, Deputy Principals, Teachers, School Supervisors, Supervisors and Staff of Learning, explained how the regulation of the allowance was provided. Through this Governor's regulation, every teacher Civil Servants (PNS) or Prospective Civil Servants is given regional performance allowances in the form of additional money from the basic salary of Rp. 1,100,000, - for prospective civil servants and Rp.6,100.00, up to Rp. 9.360,000, for PNS from group II to group IV.

In general, teachers in the DKI Jakarta region receive a salary of around Rp. 4,500,000 per month. For teachers who have just been appointed as civil servants, the salary range is Rp. 3,500,000 per month (Irianto, 2018). The salary is supplemented by professional certification allowances and Regional Performance Allowances (TKD) so that every teacher in DKI Jakarta who has a civil servant status has an average income of around Rp. 13,000,000 per month. In the Governor's Regulation of the Provincial Special Capital Region (DKI) of Jakarta mentioned PNS teachers with groups II / a dd II / d of Rp. 6,210,000, - The higher the class of a teacher, the more money he can get. At the highest level, teachers can get Rp. 9.360,000, - in groups IV / d.d IV e (Regulation of the Governor of the Province of the Special Capital Region of Jakarta, Number 22 of 2017: 68). The provision of regional performance allowances aims to improve the quality of service to the community, improve discipline and performance of civil servants and prospective civil servants, improve justice, welfare, integrity of civil servants and prospective civil servants and improve the orderly administration of regional financial management.

Efforts to improve teacher welfare are in line with the increasingly heavy duty and function and authority of teachers as professional educators with the main task of educating, teaching, guiding, directing, training, evaluating, and evaluating students in early childhood education in formal education, basic education, and secondary education is expressly stated in the Law (Law Number 14 of 2005). The task carried out by a teacher is not only teaching but educating and even up to the process of evaluating student learning outcomes. This performance burden deserves appreciation in the form of adequate salaries and benefits to support teacher competence and professionalism.

Providing better teacher salaries and performance benefits must be balanced with a significant increase in teacher performance after receiving a fairly large salary and TKD. There needs to be an evaluation to see whether the performance allowance is able to increase the competence and professionalism of the teacher to be better after receiving the TKD. In Winarni's research stated that work performance assessment influences employee performance because it has a positive reaction and can motivate them to work better. Employee discipline increased by 78% after being given benefits. Furthermore, it is stated that benefits in any form can motivate work, both individually and together or in groups (Winarni, 2016: 278).

In order to evaluate the provision of performance allowances for teachers and education staff in DKI Jakarta, research is needed. A number of questions need to be asked, how is the teacher's performance in DKI Jakarta? Will teacher performance improve after being given performance benefits in DKI Jakarta? Through this research, it is expected to be able to explain whether there is an effect of giving regional performance benefits to improving teacher performance in DKI Jakarta.

Background of the research

In the study of educational technology, there are relatively new issues in Indonesia, namely Human Performance Technology. In the definition of education technology in 2012 states that the role of educational technology in addition to functioning to facilitate learning (facilitating learning), is also intended to improve performance (performance improvement). Performance technology describes how the implementation of education and training programs (training) or training refers to professional or occupational needs (Prawiradilaga, 2018: 15). The definition and scope of performance technology is closely related to educational technology. According to Pershing stated the notion of human performance technology as follows:

> *Human performance technology is the study and ethical practice of improving productivity in organizations by designing and developing effective interventions that are results-oriented, comprehensive, and systemic (Pershing, 2006: 6).*

Thus, performance technology emphasizes that many interventions can be done through an instructional approach in improving human performance. His analysis opens opportunities to overcome gaps and problems faced in the world of work (Prawiradilaga, 2008: 157).

The term performance is a translation of English, namely performance which is the output produced by the functions or indicators of a job or profession in a certain time (Wirawan: 2015: 5). Furthermore, Wirawan explained that there are 3 factors, namely: (1) internal factors of employees which are inherent factors of the employee; (2) internal factors of the organization's internal environment related to physical and non-physical support from the workplace organization; (3) organizational external factors, related to situations and conditions, events, outside the organization (Wirawan, 2015: 7-8).

Related to the development and improvement of teacher performance, it is explained that teacher performance is defined as the work achieved by teachers both in quality and quantity (Winarni, 2016: 278). Teacher performance appraisal measures the extent to which teacher performance improvements achieved in a certain period are carried out in various ways, including the use of Human Resources (HR) performance indicators. In its measurement, it can be made in the form of an HR assessment matrix that can be compiled both quantitatively and qualitatively like a survey (Rufaidah, 2012: 305).

To see the performance of a person, group or organization, a performance assessment in the form of a performance measurement system is needed. The performance appraisal process departs from traditional financial measures which then move to a dynamic business environment (Rivai, 2011: 595). Thus, various performance measures emerged, including Balance Score Cards (BSC), Six-Sigma, and others.

In relation to the management of education human resources, a system for measuring the performance of teachers and education personnel has been formulated in the Regulation of the Governor of DKI Jakarta Number 22 Year 2017. The provision of TKD aims to: (a) Improve the quality of services to the community; (b) Increasing discipline of PNS and prospective PNS; (c) Improving the performance of civil servants and prospective civil servants; (d) Improving justice and welfare of civil servants and prospective civil servants; (e) Improving the integrity of civil servants and prospective civil servants; and (f) Increasing orderly administration of regional financial management. There are two components of teacher performance appraisal, namely: attendance with a weight of 70% and work performance of 30% consisting of individual achievements (teacher competency tests, etc.) and group achievements (national exam results, student achievement / violations at school. Based on results This performance measurement is given a Regional Performance Allowance (TKD) in the form of a nominal amount of money (allowances) in accordance with attendance, individual achievement, and achievement / violation of the school.The measurement of teacher performance is very important to measure teacher performance and then determine how much benefits are received each month.

Research Methodology

This study uses a quantitative descriptive approach with a survey method used to obtain information about TKD. According to Ary, survey research can be carried out because the purpose of this study is to describe the actual conditions, find information that can be used in decision making (Ary, 2004: 447). Data collection is done by distributing instruments / questionnaires with a percentage analysis of the answers given. The instrument in the form of a questionnaire was asked directly to 45 respondents (teachers) in the DKI Jakarta area. The research process lasts for six months (October 20018-March 2019).

Findings and Discussion

In order to get an idea of the effect of performance allowances on improving teacher performance, a research questionnaire was compiled and disseminated containing 10 questions related to the effect of providing Regional Performance Allowances (TKD) on teacher performance improvement in DKI Jakarta. Answers to questions are made on Likert scales ranging from 1-4, namely: strongly agree (score 4), agree (score 3), disagree (score 2), and strongly disagree (1).

Based on the questionnaire given to 45 PNS teachers in DKI Jakarta from November 2018 to January 2019, data processing and analysis were carried out in the percentage of 4 answer choices. Discussion or discussion is associated with the results of data analysis through the percentage of respondents' answers. The following is an overview of the effect of giving TKD on teacher performance in DKI Jakarta.There are 10 questions given and answers submitted by respondents. Based on these questions it can be described as follows:

1. TKD encourages teachers to do their best

Question 1 given to respondents is: "Does the TKD encourage teachers to do their best?". There were 60% who stated strongly agree and 33% agreed. Meanwhile, those who stated they did not agree 7% and 0% who strongly disagree.
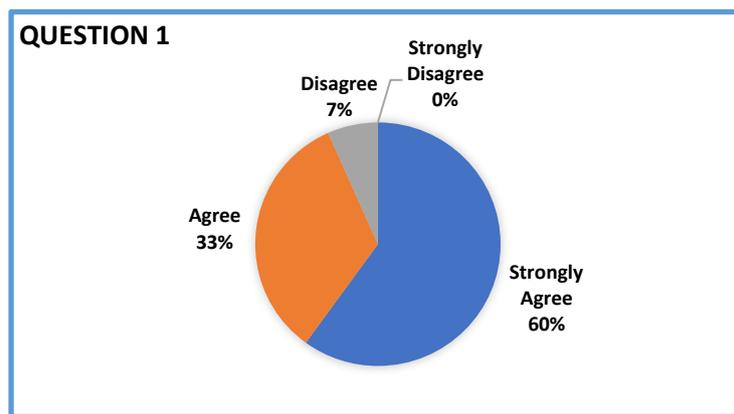
Figure 1. Percentage Question and Answers (Q&A) Number 1: Does the TKD encourage teachers to do their best?

Thus, 93% of teachers stated that TKD was able to encourage teachers to do their best after getting TKD.

2. TKD significantly increases teacher income

Question 2 given to respondents is: "Does the TKD significantly increase teacher income?". There were 60% who stated strongly agree and 36% agreed. Meanwhile, those who stated they did not agree 4% and 0% who strongly disagree.

Figure 2. Percentage Question and Answers (Q&A) Number 2: Does TKD significantly increase teacher income?

Thus, there were 96% of teachers stating that TKD was able to increase teacher income significantly.

3. TKD motivates teachers to work longer than before

Question 3 given to respondents is: "Does TKD motivate teachers to work longer than before?". There were 51% who stated strongly agree and 45% agreed. Meanwhile, those who stated they did not agree 2% and 2% who strongly disagreed.

QUESTION 3

Strongly Disagree 2%
Disagree 2%
Strongly Agree 51%
Agree 45%
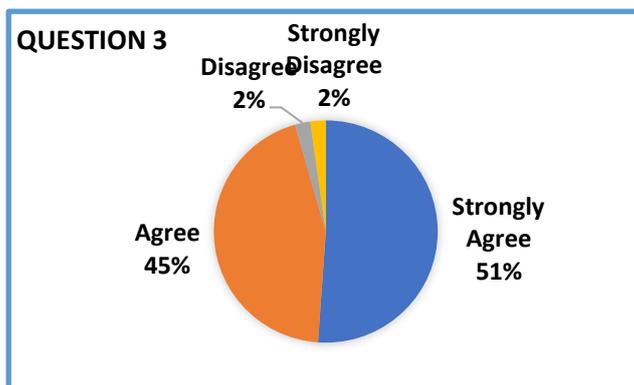
Figure 3. Percentage Question and Answers (Q&A) Number 3:
Does TKD motivate teachers to work longer than before?

Thus, there were 96% of teachers stating that TKD was able to motivate teachers to work longer than before.

4. TKD increases teachers in teamwork at school

Question 4 given to respondents is: "Does TKD increase teachers in team work at school?". There were 45% who stated strongly agree and 42% agreed. Meanwhile, those who stated that they did not agree 13% and 0% who strongly disagree.

QUESTION 4

Strongly Disagree 0%
Disagree 13%
Strongly Agree 45%
Agree 42%
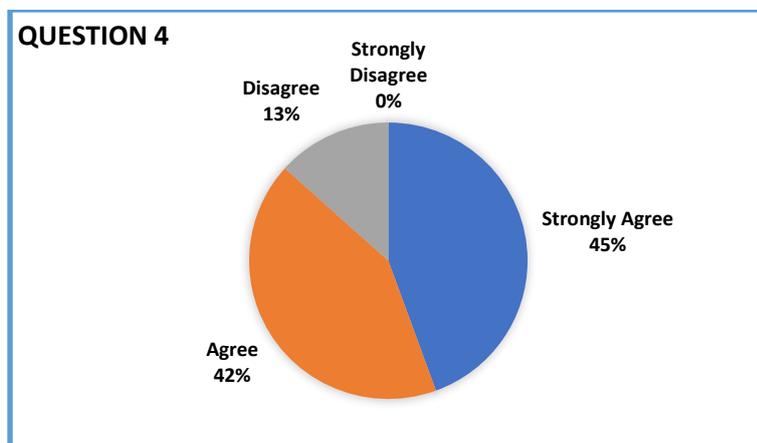
Figure 4. Percentage Question and Answers (Q&A) Number 4:
Does TKD improve teachers in teamwork at school?

Thus, there were 87% of teachers stating that TKD was able to significantly improve teachers in team work in schools.

5. TKD motivates teachers to improve competence

Question 5 given to respondents is: "Does TKD motivate teachers to improve competence?". There were 67% who stated strongly agree and 31% agreed. Meanwhile, those who stated they did not agree 2% and 0% who strongly disagree.
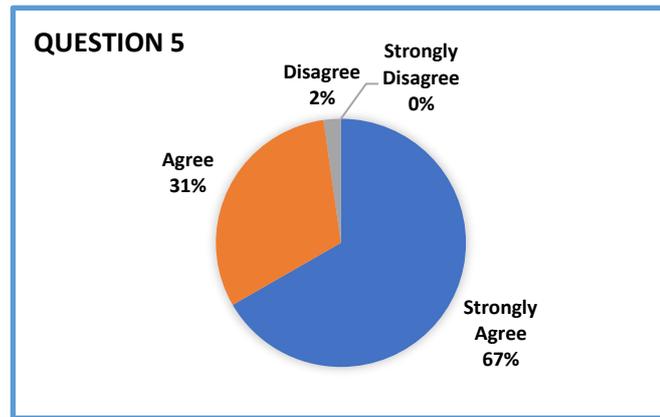
Figure 5. Percentage Question and Answers (Q&A) Number 5:
Does TKD motivate teachers to improve competence?

Thus, there were 98% of teachers stating that TKD was able to motivate teachers to improve competence significantly.

6. TKD builds the spirit of competition to do the best among teachers

Question 6 given to respondents is: "Does TKD build a spirit of competition to do the best among teachers?". There were 65% who stated strongly agree and 33% agreed. Meanwhile, those who stated they did not agree 2% and 0% who strongly disagree.
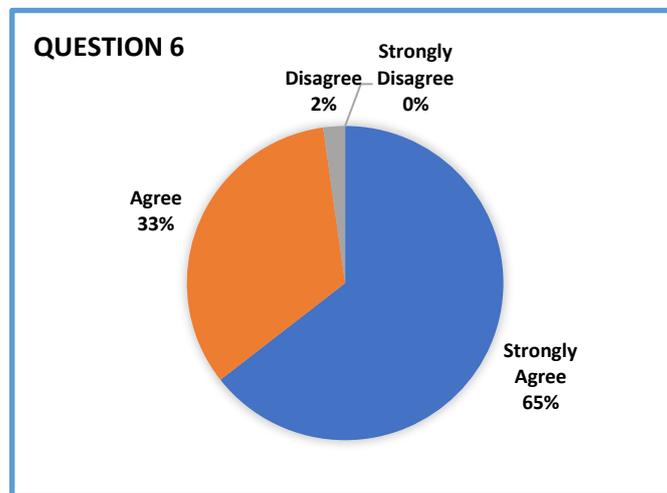
Figure 6. Percentage Question and Answers (Q&A) Number 6:
Does TKD build a spirit of competition to do the best among teachers?

Thus, there were 98% of teachers stating that TKD was able to build a spirit of competition to do the best among teachers significantly.

7. TKD increases teacher discipline in carrying out their duties

Question 7 given to respondents is: "Does TKD increase teacher discipline in carrying out their duties?". There were 76% who stated strongly agree and 22% agreed. Meanwhile, those who stated they did not agree 2% and 0% who strongly disagree.
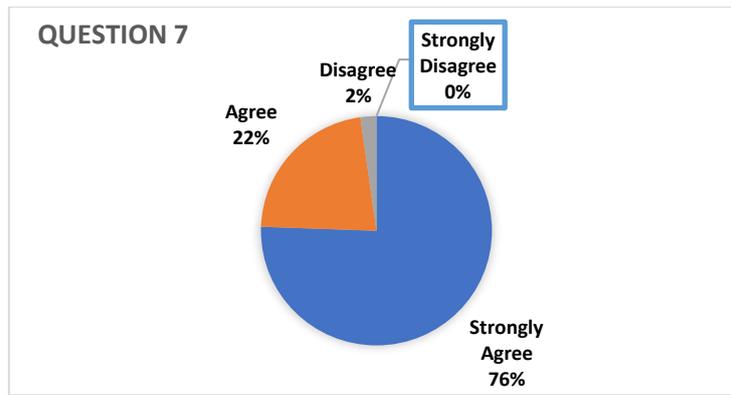
Figure 7. Percentage Question and Answers (Q&A) Number 7:
Does TKD improve teacher discipline in carrying out their duties?

Thus, there were 98% of teachers stating that TKD was able to improve teacher discipline in carrying out teacher duties significantly.

8. TKD increases teacher productivity

Question 8 given to respondents is: "Does TKD increase teacher productivity?". There were 76% who stated strongly agree and 22% agreed. Meanwhile, those who stated they did not agree 2% and 0% who strongly disagree.
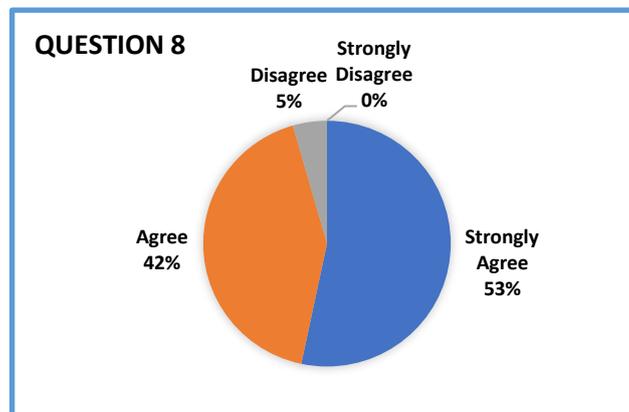
Figure 8. Percentage Question and Answers (Q&A) Number 8:
Does TKD increase teacher productivity?

Thus, there are 95% of teachers stating that TKD increases teacher productivity significantly.

9. TKD makes each teacher focus on student learning outcomes
Question 9 given to respondents is: "Does TKD make each teacher focus on student learning outcomes?". There were 44% who stated strongly agree and 47% agreed. Meanwhile, those who stated that they did not agree 9% and 0% who strongly disagree.
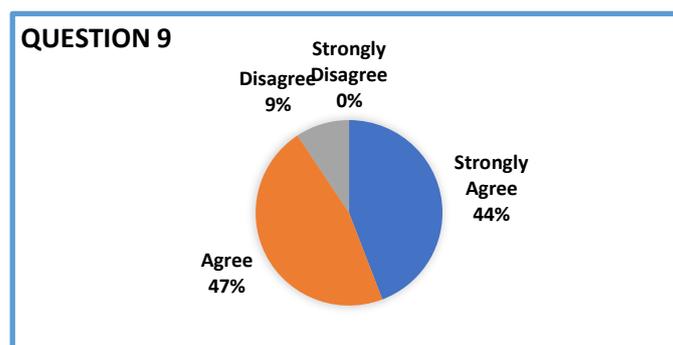
Figure 9. Percentage Question and Answers (Q&A) Number 9:
Does TKD make each teacher focus on student learning outcomes?

Thus, there were 91% of teachers stating TKD was able to make each teacher focus on student learning outcomes significantly.

10. TKD makes teachers able to buy learning tools/equipment

Question 10 given to respondents is: "Does TKD make teachers able to buy learning tools/equipment?". There were 27% who stated strongly agree and 38% agreed. Meanwhile, those who stated they did not agree 33% and 2% who strongly disagree.
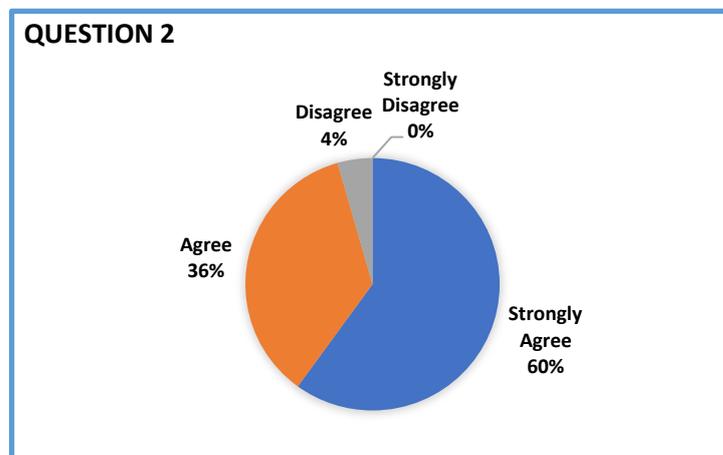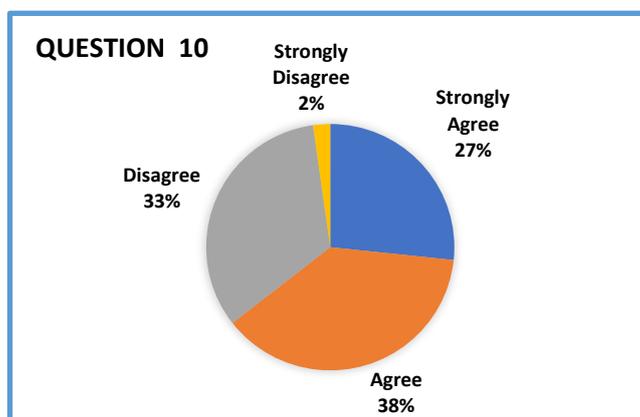

Figure10. Percentage Question and Answers (Q&A) Number 10:
Does TKD enable teachers to buy learning tools/equipment?

Thus, 65% of teachers stated that TKD was able to make teachers able to buy learning tools/equipment.

In general, it can be explained that the effect of giving TKD on improving teacher performance has been very good. The following is an overview of the influence of TKD on improving teacher performance based on a combination of all the questions given to respondents:
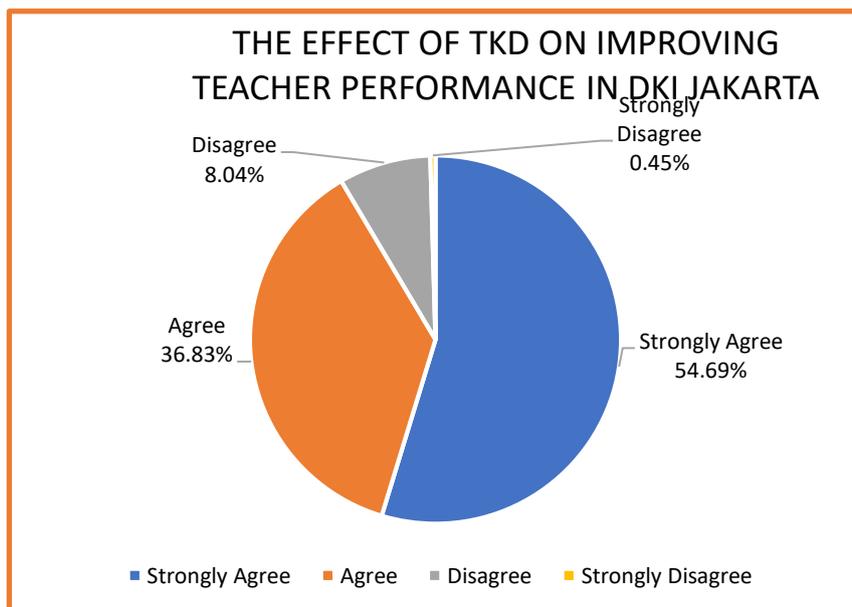
Figure 11. General Answer
Percentage of the Effect of TKD on Improving Teacher Performance in DKI Jakarta

Based on figure 11, there were 54.69% of respondents who said they strongly agreed and there were 36.83% who agreed. Meanwhile there are 8.04% who disagree and there are 0.45% who strongly disagree. This shows that the provision of regional performance allowances has a very significant role with a total percentage of agreeing and strongly agreeing at 86.39% which illustrates the agreement on the influence of TKD on improving teacher performance in DKI Jakarta.

Conclusion

Based on the analysis and discussion, it can be concluded that:

1. In general, the provision of regional performance allowances has a very significant role with a total percentage of agreeing and strongly agreeing at 86.39% which describes the agreement on the influence of TKD on improving teacher performance in DKI Jakarta.
2. Partially based on the 10 questions asked: (1) There are 93% of teachers stating that TKD is able to encourage teachers to do their best after getting TKD; (2) There are 96% of teachers stating that TKD is able to increase teacher income significantly; (3) There are 96% of teachers stating that TKD is able to motivate teachers to work longer than before; (4) There are 87% of teachers stating that TKD is able to significantly increase teachers in team work in schools; (5) There are 98% of teachers stating that TKD is able to motivate me to improve competence significantly; (6) There are 98% of teachers stating that TKD is able to build a spirit of competition to do the best among teachers significantly; (7) There are 98% of teachers stating that TKD is able to improve teacher discipline in carrying out teacher duties significantly; (8) There are 95% of teachers stating that TKD increases teacher productivity significantly; (9) There are 91% of teachers stating that TKD is able to make each teacher focus on student learning outcomes significantly; and (10) There are 65% of teachers stating that TKD is able to make teachers able to buy learning tools/equipment.
3. Provision of regional performance allowances in DKI Jakarta can be a model for other regions in order to improve teacher'sperformance even though there are still many factors that need to be updated.

References

Ary, Donald. (2004). *Pengantar penelitian dalam pendidikan*. Yogyakarta: PustakaPelajar.

Irianto, Bowo. (2018). Gaji Guru PNS di DKI MaksimalRp. 14 Juta Sebulan. megapolitan.kompas.com. 11 Januari 2018.

Kamal, Fahmi. (2018). Pengaruh penilaian prestasi kerjaterhadap kinerja karyawan. *Jurnal Penelitian Ekonomi dan Bisnis, 2 (1),* 11-20.

Peraturan Gubernur Provinsi Daerah Khusus Ibukota Jakarta. Nomor 22 Tahun 2017 tentang Tunjangan Kinerja Daerah bagi Kepala Sekolah, Wakil Kepala Sekolah, Guru, Pengawas Sekolah, Penilik dan Pamong Belajar.

Pershing, James A. (2006). *Handbook of human performance technology: Principles, practices, and potential*. San Fransisco: Pfeiffer.

Prawiradilaga, Dewi Salma dan Uwes Anies Chaeruman. (2018). *Teknologi kinerja: Modul Hyoercontent*. Jakarta: Prenada Media Group.

Prawiradilaga, Dewi Salma. (2008). *Mozaik teknologi pendidikan*. Jakarta: Kencana.

Rufaidah, Popy. (2012). *Manajemen strategik*. Bandung: Humaniora.

Undang-undangNomor 14 Tahun 2005 tentang guru dan dosen. sumberdaya.ristekdikti.go.id

Winarni, Rina., Ahmad Muhtadi& Emma Surahman. (2016). PengaruhPenilaianPrestasiKerja dan KompensasiterhadapKinerja Tenaga TeknisKefarmasian Non-PNS InstalasiFarmasi RSUP Dr. Hasan Sadikin. JurnalFarmasiKlinik Indonesia, 5 (4), 278-287.

Wirawan. (2015). Evaluasi Kinerja Sumber Daya Manusia. Jakarta: Salemba Emp

Efforts to Improve Learning Outcomes for Mathematics At SDN Aren Jaya VI Bekasi Through Media Pocket Counting

Lativa Qurrotaini[1], Siska Kusumawardani[2], Devy Dwijayanti[3]
[1,2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: Qurrota22@yahoo.co.id[1], Siska.kusuma@umj.ac.id[2], Devy.Dwijayanti@gmail.com[3]

Abstract: The research affected by the still low level of the results of learning math students in the learning activity. This research aims to find out whether through media Pocket counting can improve results in the material students learn math addition and subtraction. The research was carried out in primary schools Country Aren Jaya VI Bekasi. The subject is a grade I in semester II in the lesson 2017-2018. This research is a research action class that consists of two cycles, namely, cycle I and cycle II. The research was carried out using models of Kemmis and Mc-Taggart through the stages of planning, implementing, observations, and reflections.The research results obtained data that how to improve the results of learning math through counting Pocket media is done through treatment in classical and in the group in the activity of learning, so that students can easily understand the concept Basic addition and subtraction arithmetic and makes students active, motivated and passionate in following the activities of learning.Results of the study improved the results of learning math have reached success indicators, on cycle I the value of the overall average of 33.33% percentage with 57.38 and cycle II average value achieved with 77.77% percentage of 77.86.Based on the entire class action research activities that can be summed up through the Pocket media counting can improve the results of learning math at grade I SDNAren Jaya VI Bekasi.

Keywords: Media Pocket Counting, Results of Learning Math, Grade I

Background of the research

Based on the results of observation and interviews, it is known that students have difficulty in learning mathematics particularly material addition and subtraction, one of the factors is fewer students involved in learning activities. At the time of delivering the material, not a few teachers who gave it in a monotone without any variations that make students interested and enthusiastic to follow the lesson. Teaching and learning activities are still often using the conventional method, namely, the teacher explains material counting using the fingers and then the students followed suit and the lack of media in learning, teaching and learning activities.

Addition and subtraction is one material that exists in the mathematics classroom. The summation can be defined as the process of merging in the concept of a set, and reduction can be defined as the process of separation in the concept of the set. (Muhsetyo, 2011, p. 3.12). Furthermore, the addition is the addition of the number with the number in the other, and the reduction is a reduction in the number with another number. (Srimuliani, 2016, p. 532).The function of media in learning among other things: 1) overcoming the limitations of experience possessed by learners; 2) can exceed the classroom; 3) enables direct interaction between learners with their surroundings; 4) produce uniformity of observation; 5) can embed the basic concepts, concrete, and realistic; 6) media stir up new interest and desire; 7) media evokes and stimulates a child's motivation to learn; 8) gives an integral/thorough experience of concrete up to the abstract (Taufik, 2010, p. 81)

One of the media that can be used i.e. media Pocket counting. Media Pocket counting is a learning medium aimed to help explain the material addition and subtraction in the composition. This medium-shaped shirt with six boxes of attached or referred to the Pocket. This Pocket doubles as a determinant of the value of a number, i.e. the units and tens. Through media Pocket counting expected students can understand the material more clearly and understand.When the teacher can use the media properly, then the material given to students will be accepted. Students who receive the material clearly will certainly get good learning results. Therefore, media Pocket counting expected to increase material yield learning math addition and subtraction. This media really help students in conducting operations to calculate the summation or subtraction.A number of bags are props or media which consists of a number of bags made of paper, cardboard, cloth bags or plastic bags that contain colored paper or eyedropper color colorful color coded rib. (Dienes in Haryana, Syambasril, and Sabri, 2012, p. 6).

Research Methodology

The methods used in this research is the Research Action class. The research looked at the class act constitute a scientific activity undertaken by teachers in class with its own path to design, implement, and reflect on, watching the action through a few cycles of collaborative and participatory aiming to repair or improve the quality of the learning process in its class (Kunandar, 2012, p. 46). Strengthen the previous opinions, according to (Arikunto, 2010, p. 130), research action class is a permatan against activities that deliberately presented, and happen in a classroom.

Findings and Discussion

Based on the results of observations made, there are some things that are found on the implementation of the actions, both at the first meeting until the third meeting of the cycle I. The findings of which are contained in table 4.1:

Table 1. The Findings of Cycle I

No	The findings Cycle I	The Repair Plan
1	Students more excited and active in learning mathematics because of a media Pocket counting	Making the learning process more fun so eager students and students can easily receive the learning material presented
2	Making students do not feel satisfied in using media Pocket counting always like to repeat again, so there are some students who feel saturated waiting to get a turn	Researchers will apply learning strategies group so that each student can finish the question of addition and subtraction are given more of a reserved
3	Almost all the students are already familiar with basic concepts of arithmetic by using Pocket counting with solve addition and subtraction without saving without borrowing	Researchers will continue to monitor the development of students in arithmetic using media Pocket counting
4	There are still many students who still don't understand the basic concept of arithmetic calculations with engineering saves and reduction with techniques borrowed	Researchers try to explain basic concepts slowly back counting summation and subtraction techniques saving technique borrowed by using media Pocket counting
5	A fun math learning because learning while playing	Researchers do not burden the students to learn in a monotone, but by playing will facilitate students in learning the material received with mathematical fun because baikPembelajaran learn while playing

After seeing the final results of cycle II, that cycle II as a whole have shown very good results and have reached the target that has been desired. The implementation of the action research carried out shows the results of the intervention the action expected of the research is to improve the results of learning math material addition and subtraction, with always giving referrals, guidance, and motivation to students to always practice seriously.It is evident that there is an increase in the results of learning math from cycle I to cycle II. In cycle II, the average rating was reached students is increased compared to 77.86 cycles I of 57.38. Similarly, the number of students who successfully attain the KKM cycle II as much as 28 students or 77.77% increase compared to the cycle I as many as 12 students or 33.33%. Improved student learning outcomes in cycle II has reached the specified success criteria 75% of students achieving the KKM.These findings can be seen in table 4.6 below:

Table 2. The Findings of Cycle II

No	Findings cycle II
1	Using the learning strategies group, the students are more enthusiastic in following the learning activities
2	All students got a turn to resolve the question of counting with the use of sums of Pocket media
3	Almost all the students already understand the concept of arithmetic addition and subtraction by counting Pocket media
4	The results of learning math students are significantly increased with the value of an average of 77.86

Based on the description of the results of the actions carried out discussion of the results of the action, the discussion related to the process of learning activities of PreCycle up to Cycle II. After a wide range of activities from the activity of pre-cycle, cycle I and cycle II obtained data from the results of the reflection of the end of the cycle I and cycle II about the results of the study of mathematics students in arithmetic addition and subtraction. The results of the initial study, the cycle I and cycle II has then conducted data analysis as a form of hypothesis testing action

with a comparison between the results studied mathematics before the given action by having given the action end of the cycle I and the end of the cycle II.

Conclusion

The results of learning math SDN Aren Jaya Jakarta VI can be enhanced through media Pocket counting. This is evident based on test results for research, after a wide range of activities ranging from pre-cycle average overall of 38.97 with percentage of 10.81%, up to a given action on cycle I of 57.38 with percentage of 33.33% while on cycle II students experiencing significant increases that is reaching the average value of 77.86 with percentage of 77.77%. Thus it can be concluded the cycle II completely achieve the KKM i.e. 69 and 75% success criteria. Through media Pocket counting, results in mathematics learning arithmetic addition and subtraction can be improved and students already understand how the basic concepts of how to compute addition and subtraction. The results of this research can provide information that one of the ways to improve the results of learning math addition and subtraction is a material with the application media Pocket accounting.

References

Arikunto, S. 2010. Prosedur Penelitian. Jakarta: PT RinekaCipta.

Haryani, T., Syambasril., dan Sabri, T., 2012. Penggunaan Media Kantong Bilangan Untuk Meningkatkan Aktivitas Belajar Siswa Dalam Pembelajaran Penjumlahan Bilangan di Kelas II Sekolah Dasar Negeri 02 Nanga Man. Artikel Penelitian, diakses pada 4 Agustus 2018

Kunandar. 2012. Langkah Mudah Penelitian Tindakan Kelas Sebagai Pengembangan Profesi Guru. Jakarta: PT RajaGrafindo Persada.

Muhsetyo, G. 2011. Pembelajaran Matematika Sekolah Dasar. Jakarta: Universitas Terbuka.

Srimuliani, N. 2016. Upaya Meningkatkan Kemampuan Operasi Hitung Penjumlahan dan Pengurangan Bilangan Bulat Siswa SD Kelas IV. Jurnal Pendidikan Guru Sekolah Dasar Edisi 6 Tahun ke-5 : 532. diakses pada 25 Februari 2018.

Taufik. 2010. Strategi Belajar Mengajar. Jakarta: Inti Prima.

Language Crime in Indonesia: Forensic Linguistics Approach

Ahmad Fadly[1], Aida Sumardi[2]
[1,2] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: ahmad.fadly@umj.ac.id[1], aida.sumardi@umj.ac.id[2]

Abstract: Indonesian language seems impolitely used in social context since Reformation Era. The language can trigger conflicts even criminality. To solve it, Information and Electronic Transaction Act (UU ITE) had been legitimated in 2008. Nevertheless, language violence has been taking place more and more. Some cases involved linguists to be expert witness to give explanation based on linguistic approach. However, there are still challenge in court process. One of the biggest challenges is involving context in interpreting the linguistic evidence. Once involving sentence context and sometimes involving discourse context.

Keywords: language crime; forensic linguistics; language context

Introduction

Nowadays language is not only argued on the relation between words and their reference objects, but also is discussed on its social function. However, the quarrel between Analogist and Anomalist (Bloomfield, 1995: 2) has contributed to basis for linguistics. Besides the dispute has been supporting linguistic development in a wider field, particularly on language usage in social context. The appearance of critical paradigm is the biggest evidence of logical and anomaly of language as well. As a matter of fact, language (discourse) shapes the world and the world shapes the language (Johnstone, 2002: 9). Specifically, language (discourse) has relation to social power (Van Dijk 1996; Billig 2003; Haryatmoko 2017). Consequently, language can be used to control somebody else. On the other side, it was influenced by cultural and political background of the user. News that was originally written to inform society has changed its function to persuade readers. The journalist who reported the news was influenced by the ideology of press agent, and so on. Moreover, language use now can trigger conflicts.

Some people use language to make invective speech, to manipulate others and also to threaten. Those negative acts have not bobbed up in Indonesia. Since Reform Era in 1998, Indonesian mass media has been using language more impolitely. It was depicted with *reformasi kebablasan* ('the overdosed reformation') which was indicated by spreading of impolite words massively on mass media (Rahyono, e.al., 2005: 54). This fact continues until now, especially on social media. Indonesian language has moved from its origin function. Formerly Indonesian language was "created" to unify the diverse races, tribes and languages (as we know that Indonesia consists of various languages and dialects). However, when Indonesian language become mother tongue for most Indonesian society, the noble idea begins to be left. Besides Indonesian language on social media tends to be used for political purpose even the users do not explicitly admit that they are performing political campaign. Unfortunately, the language use on social media and public area directs towards polarization and are divided into two main ideologies based on political affiliation. As a result, Indonesian people blame and conflict each other due to different preference so that potentially causes disintegration.

The netizen, the user of social media, easily type emotional and even aggressive words. Moreover, they react too much when another netizen posted news that contain information about politics. Finally, conflicts among netizen could not be avoided. To solve that, therefore, Information and Electronical Transaction Act (UU ITE) was released in 2008. Therefore, law field takes more attention to Indonesian language because it is not only used to formulate law, but also to violate and to enforce the law as well. In other words, Indonesian language and linguistics give significant role in law supremacy. Thus, Indonesian language function in law field is wider than before. Indonesian language now could also be seen as an evidence in the courtroom.

Background of the research

In spite of applying UU ITE, language problem in Indonesia has not been finished. Unfortunately, the problem seems increasingly day by day. This condition endangers the nation because the law should be designed to make people feel safe and peaceful. However, in reality the law has not been able to answer the issue of language, especially on social media. At the same time, aggressive words are very productive used in various media. Indeed, the determination of the status to be convicted or not a defendant in a case involving language is not merely a single factor. Moreover, the power of attorney over the decision is in the hands of the judge. However, standards or parameters that can indicate the defendant is guilty or not are very necessary. Thus, the involvement of linguist as expert witnesses is crucial due to the main problem is regarding Language.

Forensic linguistics is an interdisciplinary study between law and linguistics. Literally, forensic linguistics derived from *forensic* and *linguistics* which the term *forensic text* refers to a text that is somehow implicated in a legal or criminal context. So, parking ticket, a contract, a health department letter, a suicide note, a manifesto of a murderer, an essay and even a book can be forensic text (Olsson, 2008: 1). Theoretically, forensic linguistics is the application of linguistic knowledge such as phonetics, stylistics, pragmatics, dialectology and semantic used in

courts during the process of police investigation with the goal of solving crimes and legal issues (Olsson, 2008; Ramezani,et.al., 2016). It could be doubtlessly said about when the first time forensic linguistics as a scientific discipline, but obviously stated that from ancient Greece on certain occasions Greek play writers accused each other of plagiarism (Ramezani,et.al., 2016: 377). However, the interdisciplinary science has developed in America and Europe since 1997 (Tiersma and Soolan, 2003: 213).

Forensic linguistics can be divided into many kinds: plagiarism or authorship violence, defamation, insults, fraud, spreading hoaxes, and so on. In Indonesian context, since releasing of UU ITE a number of language crimes through social media have been increasing.

Research Methodology

As an effort to obtain the truth deeply, this study uses a qualitative approach using the literature review. These researchers collected data from The Decision of Supreme Court of Republic of Indonesia (Mahkamah Agung RI) regarding linguistic cases that had occurred in Indonesia. The Decision of Supreme Court of Republic of Indonesia verdict was due to having permanent legal force (inkracht). Collecting the data, these researchers found three decisions.

The first data is The Decision Numbered 1635 K / Pid.Sus / 2016 snared Article 29 Jo Article 45 paragraph (3) of the Information and Electronic Transaction Law (UU ITE) which strengthened the Decision of the Surabaya High Court Number 303 / PID / 2016 / PT. BBY on June 20, 2016 conducted by Khalilur Rahman Abdullah Sahlawiy bin H. Ahmad Farhan Humaidi with a criminal offense "intentionally and without rights sending electronic documents containing threats of violence, directed personally".

The second data is The Decision numbered 326 / Pid.Sus / 2017 / PT.DKI which corroborated the Decision of the South Jakarta District Court No. 820 / Pid.Sus / 2017 / PN.Jkt.Sel dated November 2, 2017 conducted by Muhamad Tamim Pardede with snares of Article 45A paragraph (2) in conjunction with Article 28 paragraph (2) of the RI Law concerning Amendment to Law No. 11 of 2008 concerning Information and Electronic Transactions (UU ITE) regarding hate speech for certain individuals and / or groups based on race, religion, ethnicity, and intergroup (SARA).

Meanwhile the third data is The Decision numbered 230 / Pid.B / 2017 / PN.Bau which ruled Samaruddin aka Deni bin La Ode Nuhu charged with Article 45 A Paragraph (2) Juncto Article 28 Paragraph (2) Law of the Republic of Indonesia No. 19 of 2016 concerning Amendment to Law No. 11 of 2008 concerning Information and Electronic Transactions which reads "with the right and without the right to disseminate information intended to generate hatred or hostility for certain individuals and / or groups based on race, religion, ethnicity, and intergroup (SARA). Finding the three data, these researchers analyzed them by referring to linguistic theory, particularly on the role of context in analyzing it.

Findings and Discussion

Some language crime in Indonesia can be categorized into various types. Basically, there are cases such as hate speech, blasphemy, spreading hoax, and cases of insults. However, there are only 2 cases regarding to language crime based on The Decision of Supreme Court of Republic of Indonesia, they are hate speech and aggressive speech.

First Data

Based on The Decision Numbered 1635 K / Pid.Sus / 2016 snared Article 29 Jo Article 45 paragraph (3) of UU ITE, the defendant named Khalilur Rahman Abdullah Sahlawiy bin H. Ahmad Farhan Humaidi was suspected intentionally and without rights sending electronic documents via short message (SMS) containing threats of violence, directed personally. As an information that this case was between Amir (victim) and Khalilur Rahman (defendant). Language evidence analyzed in the decision was emphasized on lexical, grammatical and functional meaning. The evidence could be depicted below.

1. "Amir tae!! (means 'Amir feces'. That utterance is similar to Ass hole in American English and is categorized to vulgar greeting)
2. "Kalau ente masih sebar fitnah dengan SMS busuk itu, saya potong kepala ente di depan emak ente yang bengis dan gak tau malu itu" (means 'If you still spread the slander with that rotten text via SMS, I cut your neck in front of your mother who is violent and shameless'. That utterance was categorized to conditional warning.)
3. "Kampret ente ya" (means 'Shit you'. That utterance was categorized to invective word.)

Second Data

Based on The Decision of the Supreme Court of the Republic of Indonesia Numbered 326 / Pid.Sus / 2017 / PT.DKI which corroborated the Decision of the South Jakarta District Court No. 820 / Pid.Sus / 2017 / PN.Jkt.Sel dated November 2, 2017 conducted by Muhamad Tamim Pardede with snares of Article 45A paragraph (2) in conjunction with Article 28 paragraph (2) of the RI Law concerning Amendment to Law No. 11 of 2008 concerning Information and Electronic Transactions (UU ITE), the defendant was suspected to distributing hate speech based on SARA via

YouTube Channel. In this case, language evidence was textually interpreted. It means that to get holistic meaning needs to involve sentence context and ignore nonlinguistic context. The linguistic evidence could be shown below.

1. "Maka suatu negara yang penguasanya tidak berhukum dengan hukum Allah, terus penduduknya tidak berjuang untuk menegakkan hukum Allah, maka seluruh penguasa negara tersebut beserta rakyatnya kafir kabeh" (means 'Then a country whose rulers do not rule with God's law, and the people do not struggle to uphold the law of God, so that all the rulers of that country and their people are all infidels'). That utterance was an interpretation of the defendant based on literal translation from the Holy Book (Alquran)

2. "Revolusi yah kalian" (means 'Do a revolution". That utterance is an appeal or propaganda.)

The main problem in those linguistic evidence is number (2) that appealing people to do a revolution. In a legitimate country, revolution that means mass mobilization to replace legitimate government is violating the law.

Third Data

Based on the Decision of the Supreme Court of the Republic of Indonesia Numbered 230 / Pid.B / 2017 / PN.Bau which ruled Samaruddin aka Deni bin La Ode Nuhu charged with Article 45 A Paragraph (2) Juncto Article 28 Paragraph (2) Law of the Republic of Indonesia No. 19 of 2016 concerning Amendment to Law No. 11 of 2008 concerning Information and Electronic Transactions which reads "with the right and without the right to disseminate information intended to generate hatred or hostility for certain individuals and / or groups based on SARA. The linguistic evidence in this case could be depicted below.

1. "Hebo x yg nonton G30 s pki eehh kya nh semua orang bau bau nh pki semua" (means 'It's so awful to watch G30S/PKI, it seems like everyone in Bau Bau are PKI'). G30S/PKI or The Thirtieth of September Movement. G30S is abbreviation from Gerakan 30 September was a self-proclaimed organization of Indonesian National Armed Forces members who, in the early hours of 1 October 1965, assassinated six Indonesian Army generals in an abortive coup d'état. PKI, which is abbreviation from Indonesian Communist Party, is a prohibited party in Indonesia by Stipulation of the Provisional People's Consultative Assembly (TAP MPRS) Numbered 25/ 1966.

2. "Orang baubau semua PKI" (means 'Bau Bau citizen are all PKI')

The main problem in those linguistic evidence is number (2) that accusing all Bau Bau citizen as PKI members. That utterance could trigger hatred among them.

Context Boundaries

Context plays significant role in interpreting language or speech. In some cases, there are context invoked to mean language evidence. The contexts, however, are divided into two kinds: sentence context and discourse context. Sentence context means that to interpret word's meaning, it can link up to another word in the same sentence. Meanwhile, discourse context related to linkage between one word to another word in different sentence. The two contexts were used to mean an utterance. The other cases that showed different approach to mean linguistic evidence were the case between an outstanding lawyer initialled FA and a famous musician initialled ADP on Twitter and the great case of Former Governor of DKI Jakarta, Basuki Thahaja Purnama (Ahok). In FA-ADP case, even though linguistic evidence was literally interpreted, it took attention to relation of participants (Speaker and Hearer) to get linguistics situation. Whereas in Ahok case, the relation between participants was not primarily taken attention, but religion approach.

Conclusion

Language crime cases in Indonesia have been increasing since the legitimation of Information and Electronical Transaction Act (UU ITE). Some of linguistic evidence are interpreted based on sentence context. On the other hand, some of them are interpreted based on discourse context.

References

Billig, Michael. (2003). Critical discourse analysis and the rethoric of critique". (2003). in *Critical Discourse Analysis: Theory and Interdisciplinary*. Weiss, Gilbert and Ruth Wodak (Eds). New York: Palgrave Macmillan

Bloomfield, Leonard. (1995). *Language*. Jakarta: PT Gramedia Pustaka Utama.

Haryatmoko. (2017). *Critical discourse analysis (Analisis Wacana Kritis): Landasan teori, metode dan penerapannya*. Jakarta: Rajawali Pers.

Johnstone, Barbara. (2002). *Discourse analysis*. Massachusetts: Blackwell Publisher Inc.

Olsson, John. (2008). *Forensic linguistics*. London: Continuum.

Rahyono, et.al. (2005). Kearifan dalam bahasa: Sebuah tinjauan pragmatis terhadap profil kebahasaan media massa pada masa Pasca-Orde Baru". *Journal Sosial Humaniora*, 9 (2), 46-56.

Ramezani, Farshad, Arefeh Khosousi and Kathayoun Moghadam. (2016). Forensic linguistics in the light of crime investigation. Pertanika Social Sciences and Humanities, 24(1), 375-384.

Sawirman, et.al. (2014). *Linguistik forensik* (Volume 1). Padang: Pusat Studi Ketahanan Nasional Universitas Andalas.

Tiersma, P. and L. M. Soolan. (2003). The linguist on the witness stand: Forensic linguistics in American Courts, 221-239.

Van Dijk, T.A. (1996). Discourse, power, and access, in Carmen Rosa Caldas-Coulthard and Malcolm Coulthard, *Text and Practices: Readings in Critical Discourse Analysis*. London/New York: Routledge.

The Analysis of Mathematical Communication Ability of Junior High School Students at Bangkok Indonesian School (SIB) Reviewed Based on the Students' *Self-Efficacy*

Ririn Widiyasari[1], Arlin Astriyani[2]
[1,2] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: ririn.widiyasari@umj.ac.id[1], arlinastri07@gmail.com[2]

Abstract: The purpose of this research is to find out the mathematical communication ability of students in solving algebraic problems in terms of students' self efficacy. This study used a qualitative approach with a type of descriptive research. The data source used in this study was the eighth grade students of the Bangkok Indonesian School (*Sekolah Indonesia Bangkok*/SIB) Thailand. The data were collected through questionnaires and interviews. The subjects in this study were 3 students selected according to the level of self-efficacy of students, classified as high, medium and low level. The stages of data analysis were carried out by reducing data, presenting data, and drawing conclusions. The results of the study showed a few points. First, students with high self-efficacy categories were able to use all indicators of mathematical communication skills very well and express mathematical ideas in the form of mathematical communication to find solutions to an algebraic problem very well. Second, students with medium level of self-efficacy categories were able to use mathematical communication indicators well even though there are errors but not significant. Third, students with low self-efficacy categories were still able to use mathematical communication indicators properly although they had difficulties expressing mathematical ideas visually so that the solution to an algebraic problem produced was also in appropriate.

Keywords*:* mathematical communication ability, self efficacy, algebraic

Introduction

Self-efficacy and mathematical communication ability have a very important role in achieving the goals of mathematics education in schools. In addition, self-efficacy and mathematical communication ability are also needed for the success of students in school. One way for students to have strong mathematical abilities early is by improving the learning process. Although the learning process is not the only factor that influences students' low mathematical abilities, their role in student success in academics is very important.

National Council of Teachers of Mathematics (NCTM) in the year of 2000 mentions that mathematics learning programs must provide the widest opportunity for students to compile and link mathematical thinking processes, communicate mathematics, analyze and assess mathematical thinking, and use mathematical language to express mathematical ideas. One way for students to have these mathematical abilities, the government seeks to perfect the mathematical curriculum that is in accordance with the demands of mathematics learning, namely 2013 Curriculum.

This approach is believed to be able to help active students in learning activities, which in turn can support the achievement of mathematics learning goals. As stated in Permendiknas Number 22 of 2006 concerning the Standard of Content, that the purpose of mathematics learning is so that students have the ability to: (1) understand mathematical concepts; (2) using mathematical reasoning; (3) problem solving; (4) communicate mathematics; and (5) having an attitude of appreciating the usefulness of mathematics. From the description it can be seen that the four objectives are interrelated and support each other. For example, mathematical communication ability can support other mathematical abilities, such as problem-solving abilities. Students with good mathematical communication ability can be represented a problem correctly and this will support in solving problems, meaning that if students cannot communicate properly in interpreting problems and mathematical concepts then they cannot solve the problem properly.

Mathematical communication ability will make someone able to take advantage of mathematics for the sake of themselves and others, so that it will increase positive attitudes towards mathematics both within themselves and others. A positive attitude is an affective aspect that plays an important role in learning mathematics for example self-efficacy. The results of research conducted by Betz and Hacket in 1983 (Pajares, 2002: 11) reported that with high self-efficacy, in general a student is able to solve mathematical problems compared to students who have low self-efficacy. In addition, Hacket (Pajares, 2002: 10) also mentions that self-efficacy can make students easier and feel more able to work on the math problems, no matter how complicated the problem.

Based on the description above, it is necessary to conduct research that examines the 'Mathematical Communication Ability of Junior High School Students at Bangkok Indonesian School (SIB) Reviewed Based on The Student's Self Efficacy.'

Background of the research

This research is motivated by the existence of mathematical communication problems of junior high school students in Bangkok Indonesian School (SIB) especially class VIII. Based on interviews conducted with junior high school mathematics teachers at the Bangkok Indonesian School (SIB) class VIII, the results showed that most students were still unable to describe problem situations and stated solutions to problems using algebraic images, tables or presentation, students also were not able to use a thorough representation for state mathematical concepts and solutions. In addition, students also cannot use mathematical language and symbols correctly.

The description of the role of self efficacy in mathematics learning can be seen when students experience unpleasant situations, where confidence in their ability to organize and control their use of abilities, especially in their skills in mathematics can be used as a motivator, so students will increase their efforts to achieve achievement as expected. The higher self efficacy the individual has, the higher motivation he/she has to enlarge the efforts to achieve more optimal results.

Based on the experience of researchers as mathematics teachers, the facts above were also found in students in the schools where they taught. Efforts to overcome this have been done, one of which is by looking for variations in learning methods that can involve students in learning mathematics directly in real life, for example by inviting students to go to the nearest shop or bank to practice their own way of calculating discounts at shops and flowers in the bank visited. However, if the activity is carried out continuously then there will be less effective learning, because a lot of time is wasted and requires several teachers to supervise that will disrupt the teacher's study hours.

Teaching methods are only based on theory and learning in the classroom, not infrequently making students feel bored quickly when given subject matter. The description above explains that in addition to factors from within students, external factors such as the use of methods also affect students' self efficacy which if not addressed immediately will have an impact on student learning achievement. Efforts to improve self efficacy must be done immediately, because if this affective aspect is low, it will negatively affect the cognitive aspects and skills aspects, because these three aspects are simultaneously very influential in achieving students 'cognitive aspects including students' mathematical communication ability.

Research Methodology

In this study, a qualitative approach to the type of descriptive research was used to determine the mathematical communication ability of students of Class VIII Junior High School in Bangkok Indonesian School (SIB) Thailand in the Review of students' Self Efficacy in solving algebraic problems. Sugiyono (in Trianto, 2010: 179) says that qualitative research is a research used to examine patterns of natural object conditions in which researchers are key instruments. Qualitative research is descriptive analytical (Trianto, 2010: 180).

In this study 3 students from class VIII were taken as the research subjects. Previously given a self efficacy questionnaire to students and selected 1 student with high self efficacy ability, 1 student was capable of medium self efficacy and 1 student had low self efficacy ability and then was given a test of mathematical communication ability.

The data obtained in this study were the results of students' mathematical communication ability tests and transcripts of interviews to the research subjects. Before conducting the research, researchers firstly did observations. Arikunto (in Gunawan, 2014: 143) argues that observation is a technique of data collection carried out by conducting careful research and systematic recording. The data obtained is then validated using technical triangulation and analyzed by performing data reduction, data presentation, and data verification (Gunawan, 2014: 210-211).

Findings and Discussion

This study began with the dissemination of students' self efficacy questionnaires on class VIII students. The results of this questionnaire can be used to determine the level of self efficacy of students. Grouping students is based on the self efficacy questionnaire conducted before the implementation of learning. Based on the results of the self efficacy questionnaire in class VIII, three students were selected with high self efficacy categories, medium self efficacy, and low self efficacy. The self efficacy category of students can be seen in Table 1:

Table 1. Grouping of Students in terms of Self efficacy

Number of Subject	Category Self Efficacy	Criteria
I	90	High
II	70	Medium
III	50	Low

A total number of 3 subjects were chosen based on self efficacy category to be analyzed deeper.

Based on the formulation of the problem is to describe mathematical communication ability based on each student's self efficacy categories. Self efficacy can be a strong predictor of student achievement (Britner and Pajares, 2006). Students with high self efficacy can use all indicators of mathematical communication very well.

Students are able to describe problem situations and state solutions to problems using images, tables, or algebraic presentations, students are also able to express results in written form, they are able to use thorough representations to express mathematical concepts and solutions, and make mathematical situations by providing ideas and information in the writing form is very good. In addition, they use mathematical language and symbols appropriately. They are able to express mathematical ideas in the form of mathematical communication to find a solution to an algebraic problem very well. Students with high self efficacy consider difficult tasks as a challenge (Bandura, 1993). Based on the results of the research by Pasandaran and Rusli (2016) also states that students with high self efficacy tend to be flexible in trying to communicate their ideas into symbolic languages. Fast et al. (2010) also stated that the higher level of mathematics self efficacy positively influences students' mathematical performance including in solving problems in mathematics.

Students with medium self efficacy can use all mathematical communication indicators even though they are still not good. Students are able to describe problem situations and state solutions to problems using images, charts, tables, or algebraic presentation. They are able to express mathematical ideas in the form of mathematical communication to find solutions to a problem well even though there are errors, but not significant. It's just that students are still not careful in describing mathematical ideas visually. They have been able to express their mathematical ideas in writing. They are also able to use terms, symbols, and mathematical structures well, although they are often lacking in presentation.

Students with low self efficacy are not good at using several indicators of mathematical communication. They still have difficulty expressing their mathematical ideas visually so that the solution to a problem produced is also not right. They also often lack thorough use of terms and mathematical notation. While the ability of students in indicators to express ideas in writing is also not good. Students who lack confidence or students with low self efficacy categories tend to have high levels of anxiety. This anxiety triggers the low achievement achieved by students. This was also reinforced by Apriliani and Suyitno (2016) who stated that students who were very anxious or could be categorized as panic had not been able to answer the problem correctly. Furthermore Ismawati, Junaedi, and Masrukan (2015) stated that students with high, medium, and low anxiety levels differed in completing thinking strategies and processes when solving problems.

Conclusion

Based on the results of the research and discussion obtained, a conclusion can be drawn on the mathematical communication ability of class VIII Junior High School students of the Bangkok Indonesian School (SIB) Thailand in solving algebraic problems in terms of student self efficacy as follows:

Students with high self efficacy can use all indicators of mathematical communication very well. Meanwhile, students with medium self efficacy can use all indicators of mathematical communication well even though there are errors but not significant, and students with low self efficacy cannot use all indicators of mathematical communication properly, they cannot express mathematical ideas appropriately.

References

Apriliani, L.R. & Suyitno, H. (2016). Kemampuan berpikir kreatif matematis berdasarkan kecemasan Matematika pada pembelajaran Creative Problem Solving berteknik Scamper. *Unnes Journal of Mathematics Education Research, 5(2*), 131-140.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28(2*), 117–148.

Britner, S. L., & Pajares, F. (2006). Sources of science self-efficacy beliefs of middle school students. *Journal of Research in Science Teaching, 43(5)*, 485–499.

Fast, L. A., Lewis, J. L., Bryant, M. J., Bocian, K. A., Cardullo, R. A., Rettig, M., & Hammond, K. A. (2010). Does math self efficacy mediate the effect of the perceived classroom environment on standardized math test performance?. *Journal of Educational Psychology, 102(3)*, 729–740.

Gunawan, A. W. (2006). *Genius learning strategy*. Jakarta: PT. Gramedia Pustaka Utama.

Ismawati, N., Junaedi, I., & Masrukan. (2015). Strategi dan proses berpikir dalam menyelesaikan soal pemecahan masalah berdasarkan tingkat kecemasan matematika. *Unnes Journal of Mathematics Education Research, 4(2*), 93- 101.

NCTM. (2000). *Principles and standards for school mathematics*. Amerika: The National Council of Teachers of Mathematics, Inc.

Pajares, F., & Schunk D, H. (2002). *Self-beliefs and school success: Self efficacy, self concept, and school achievement*, Chapter in R. riding & S. Rayner (Eds) Perception (pp. 239-266), London: Ablex Publishing.

Pasandaran, R.F. & Rusli, M. (2016). Profil berpikir dalam menyelesaikan masalah aljabar berpandu pada taksonomi Solo ditinjau dari Tingkat Efikasi Diri pada Siswa SMP Al-azhar Palu. *Journal Pedagogy, 1 (1*), 86-96.

Peraturan Menteri Pendidikan Nasional Republik Indonesia Nomor 22 Tahun 2006 tentang Standar Isi Untuk Satuan Pendidikan Dasar dan Menengah. Jakarta: Kemendikbud.

Trianto. (2011). *Model-model pembelajaran inovatif berorientasi konstruktivistik*. Jakarta: Prestasi Pustaka.

Application of Transformative Learning on Nurturing Psychological Domain of HEBAT

Aswati Hamzah[1], Nooraida Yaakob[2], Mohd Norawi Ali[3]

[1,2,3] School of Educational Studies University Sains Malaysia 11800 Penang

E-mail: aswati@usm.my[1], nooraida@usm.my[2], norawi@usm.my[3]

Abstract: Uncertainty and rapid changes of the current world defy the way higher educational institution nurturing and transforming individual students' potential to remain relevant and competitive. Recently, University Sains of Malaysia (USM) has set realistic future brand for its graduates in an acronym HEBAT which stands for 'Holistic', 'Entrepreneurial' in having the character of an entrepreneur, 'Balanced' or in equilibrium, 'Articulate' and 'Thinker' or being thoughtful,". The transition from schooling system to university environment involves multi-facet of coping mechanism that urge self reorientation among school fresh graduates. Therefore, there is a need to deploy appropriate pedagogy that could allow them to develop balance and holistic self potential. This article will elaborate the process of implementing transformative learning pedagogy which aims to nurture two psychological aspects of human dimensions embedded within HEBAT that are intrapersonal and interpersonal. Discussion then will embark upon the cause and consequences of applying transformative learning pedagogy as crucial platform for student to deal with transition phases as well as promoting self transformation and enhancement of their psychological development as university students.

Keywords: *transformative learning*; interpersonal intrapersonal, HEBAT

Introduction

Education in 21 century brings about challenges and changes at all levels that are unfamiliar and unique to certain extent. Higher education in specific is dealing with a dilemma to generate knowledgeable and skilful graduates that are relevant and marketable to remain competitive and survive in uncertain economical situation. Education orientation no longer serves as a platform to prepare graduates to fulfil the market demand as practically accepted for decades ago. Educational practices are now among others expected to enable graduates become knowledge creator with such innovative thought and adaptable skills to be a job creator and demonstrate high assertiveness towards psycho-social surrounding. WHO has forecast increasing rate of mental health issues in the coming decades among global citizen due to life pressure and high risks life. Thus at university level, educational aims are intended to allow students to be nurtured holistically, particularly in the key aspects of psycho-social development such as well being, self worth, assertiveness, intrapersonal and interpersonal besides enhancement of their intelligence ability. For this reason, therefore USM established the initiatives to produce graduates carrying the 'HEBAT' branding for the future. HEBAT graduates would be able to fulfil the needs of the country and internationally, possessing global mindsets, having a 'sense of belonging' towards the university, society and country as well as portraying strong self-identity achieved through the various strategic mechanisms and initiatives. From different point of views university educational practices has different spectrum as compared to schooling system. Academic orientation and individual potential development are among central focuses of both levels of education but with different aims and requirements of pedagogical aspects and learning practices.

Background of the research problem

Traditional teaching method being practiced enable student to memorize learning content mostly at school levels. To make it worst, the culture of exam oriented affected the teaching and learning practices and remain dominant as public constantly shows more interest on academic achievement and demonstrate high appreciation towards grading and exam scores. At different occasion this nuances are related to common perspective on higher education purposes which sees the significant role of traditional university is to transfer knowledge in specific area to undergraduate students in a responsive learning environment. Students enrolled in university programs to gain expertise and understanding in a wide range of disciplines by learning a series of lessons and concepts designated by disciplinary experts. The lessons learned within universities are passed on to others as they pursue lives and careers outside of the institution. With current changes and challenges of 21 century learning as well as the beginning of IR 4.0 it's crucial to question on enormous potential for universities status quo in dealing with challenging paradigms and openly practicing new ways of living, thinking, teaching, and learning. The process of knowledge production and the consequent transfer of knowledge from experts to laypersons (or professors to students) is seem to be a significant role of the university until this time. However, close observation on the movement of ideas and the needs to change was raise up by scholars from various disciplines. Among others the most explicit thought spotted in the book *Educational Vision for the 21st Century,* by O'Sullivan (1999) that warned us on the nature of University Learning practices as he argues on the following

> "will we educate for the global marketplace, or will we educate for peace, social justice, diversity and integral development?" (p. 158)

In line with the above mentioned situation the best step to nurture and reshape student holistic development should take place during their first academic year. The first year live as university students in any university globally or locally will face the transition period from school life to colleges or campuses life test. Academic orientation for some courses e.g. teacher training course demand development of integral development such as right attitude, intrapersonal, interpersonal aspects wellbeing and huge spectrum of psychological attributes. The psychological domains, those that lays in affective domain will be centre of observation. Unfortunately, in the past the structure of curriculum and assessment has given emphasis to cognitive aspects and provide less monitoring on the nurturing the affective and psychological aspects. Therefore, transitional context of university lives demand an appropriate learning approach besides other types of informal learning within university activities are in urgent need to allow them to transform holistically. Thus justify on employing particular types of transformative learning to nurture and promote holistic development

Transformative Learning (TL) university education and HEBAT

According to Professor Michael Anderson *Professor* in the Faculty of Education and Social Work at The University of Sydney who introduce the Learning Wheel below, in the past we has misled educational practices by putting too much focuses on the cognition aspect (in blue spectrum). Those attribute on green and yellow spectrum which was the inner core of human being were being less emphasised. Thus justify new directions that require full board of transformations mostly at university level. The transition from schooling systems to university level in Malaysia manifest a group of student whom are cognitively competent but lacking on psycho social competent that later emerge as poor and less in soft skills even after graduated. From one side of the coin HEBAT plays as a benchmarking to guide the whole university on setting the target of all students' programs planning. At different practical perspective TL compliment translational context of HEBAT as it objectives is to revise old assumptions and ways of interpreting experience through critical reflection and self-reflection (Cranton, 1996).
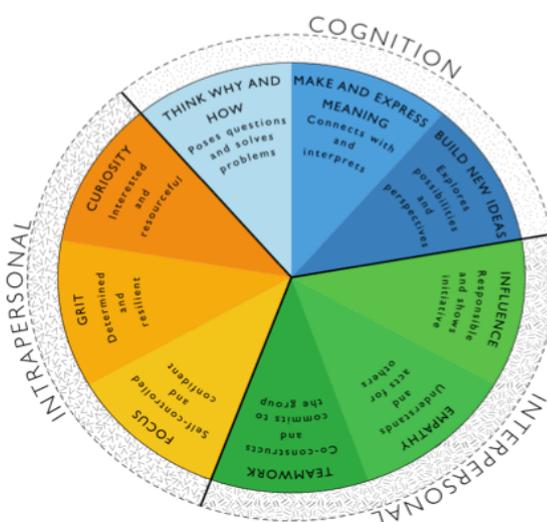
Figure 1. Learning wheel

TL was available in educational literature quite sometimes ago and was first systematically put forward as learning theory by Jack Mezirow (1970's). It was later become an interest of huge number of scholars from various field and educational practices mostly those that are related to education for adulthood. This brief article will refer to the work by three prominent scholars of TL Jack Mezirow, Norma Nerstrom (2014) and (Knud illeris, 2015). Among others the main characteristic for TL is opportunity to change the habit of minds in the course of consistent reflective activities, to create meaning through systematic learning structure. It's also borrow the constructivist point of view where learners are proactive in nature that allow them to develop sense of autonomy while managing experience and view on certain things. Within the process learner will involve seriously with dialogic progression and demonstrate participatory learning culture to allow them to reach the turning point which later facilitate changes and take responsible step to transform. Transformation may involve all aspects learning domain; cognitive, affective, psikomotor and beliefs. Mezirow, illeris and Nerstrom provides different types of model in terms of TL application. Mezirow suggest 10 steps of TL while Nerstorm comfortable with Four main elements of TL model and Illeris carry out TL in Six stages application model.

Methodology: Application

Blending transformative learning into new abstract subject area Psychology at transition level specifically provides new learning dimensions to student. Psychological content is full of abstract facts and assumption and yet was prove to be scientific in nature. The main aim is to provide platform for the student to nurture HEBAT psychological dimensions that belong to intrapersonal and Interpersonal spectrum according to Michael Anderson Learning Wheel of transformation. Data were analysed from student reflection, indirect conversation with lecturer

and tutors for PGA 102 and school student selected by the school. Number of schools was base on purposive sampling and confirmation by Education District Office. The whole procedures take about one whole semester (14 weeks) and one-day program with the school. Following table shows the analysis of interconnectedness between application of TL the activities involve and targeted HEBAT elements for each activities

Ta**ble 1.** Interconnectedness between TL (Mezirow, Nerstrom and Illeris Integrated Model) within subject of Adolescences Interpersonal and Intrapersonal Development (PGA 102) and Socio Education Intervention Project and HEBAT

TL principles	Application (Mezirow and Illeris and Nerstrom)	Experiencing and nurturing Psychological dimensions of self and others	HEBAT
1.Disorienting dilemma 2.Self-examination 3.Sense of alienation	1.Conversation with student – self awareness of their abilities and what they need to do to develop themselves **REFLECTION and REFELECTIVE**	Analysis on interpersonal and intrapersonal between issues, themselves and adolescents Within issues and themselves (real world issue, situational and contextual) **REFLECTION and REFELECTIVE**	Articulate, holistic balance
4.Relating discontent to others 5.Explaining options of new behaviour 6.Building confidence in new ways	2.Joined up curriculum – lead and coach students to study subjects/modules for a career pathway. Assessment should also be joined up e.g. students work on 2 projects /case studies and see the whole process through. Will build confidence **REFLECTION and REFELECTIVE**	Project based learning Generate own topic/ justify and defence topic Critical analysis and deep thought on ideas Weekly assessment by peers and tutors Spontaneous presentation and self reflection Socio-education intervention program/project (development phase) Designing and developing product and program **REFLECTION and REFELECTIVE**	Holistic Balance, equilibrium Thinkers and being Thoughtful, Critical thinking Entrepreneur
7.Planning a course of action 8.Knowledge to implement plans 9.Experimenting with new roles 10.Reintegration	3. Student learns from own learning experience and next time round experiments and plans a clearer course of action **REFLECTION and REFELECTIVE**	Testing out in real world School visit and carry out intervention of their product to selected group of secondary school students Monitoring intrapersonal and interpersonal attributes among students and group members Data collection and group reflection **REFLECTION and REFELECTIVE** Changes reflective writing amendment and report	Entrepreneur Holistic Balance, equilibrium Thinkers and being Thoughtful, Critical thinking Entrepreneur

Findings and Discussion

For this writing, summary of qualitative information will be discuss. Four main resources of data information that are undergraduates student, lecturers and tutors, secondary school students and teachers involves from selected schools.

Elements/source of data	Lecturers/tutor	Undergraduate students	School teachers	Secondory school students
Intrapersonal	*Achive the target to nuture their intrapersonal aspects* *Positive development among the student* *Good opportunity to Promote creativity and innovative thinking*	*Tap their own intrapersonal spot* *Ability to monitor and observe our own and others intrapersonal attribute* *More confidence Creative and innovatife Humble and open for criticsm*	*Simple but meaningful way to connect with adolescent intrapersonal need* *Small group intervention is more effective* *Would invite them to do more interactive session with selected group of students*	*We see more on ourselves* *i feel brave to share my story and feeling* *it is fun and we enjoy the session* *we did not know our own ability at first* *there are many ways to connect to*

	Increase decision making skills and become autonomous learners	*Self-reflection aware and understand intrapersonal development in real world* *Create new way to connect to intrapersonal e.g to overcome stressfull task and take good and positive attitude out of it* *Spontaneous and immedeat responses* *We talk more to ourselves* *We learn to do reflection*	*who are in need*	*ourself*
interpersonal		We learn to deal with others We know how to deal with tension and problem related to outsiders We learn to communicate better We know hoe to deal with disagreement	Our student see role model They learn from activities	
strength		We learn a lot I gain confident to talk spontaniously I learn to deal with pressure and problems I feel i have much to give to students I feel being appreciated Im ready to share my thought	*Their program are good and innovative* *We will invite them to do more activities in school* *Please involve more students in school*	
weaknesses		Stressfull at first We are not familiar to this type of learning process Its hard for me to explain psychological fact spontaneously Too short time in school	Limited time and number of students Should inform us earlier to be include in school program	

Conclusion

Result from qualitative data analysis shows different dimensions of thought among those involve in this experimentation.

Most obvious comments from the lecturer indicates uncomfortable feeling and behaviour against new practices. This respond was mentioned by past research as there's a belief that transformative learning is not for everyone, and neither is it applicable to all fields of study.

"In my role as a university instructor, I have found that many students are comfortable with subject-oriented learning and become uncomfortable when alternative models for learning are proposed in classrooms. Many professors are not trained as educators, and transformative learning is a complex teaching method that entails a great deal of time and energy". Moore (2005)

References

Anderson, M and Jefferson, M. (2014). 4C Transformative Learning. https://www.aare.edu.au/blog/?tag=4c-transformative-learning. 2 April 2019.

Christie, M., Carey, M., Robertson, A and Grainger, P. (2015). Putting transformative learning theory into practice University of the Sunshine Coast (USC) Australian Journal of Adult Learning, 55(1), pp 9-30.

Cranton, P. (1996) Professional Development as Transformative Learning. San Francisco, CA: Jossey-Bass

Illeris, K. (2015). Transformative learning in higher education. Journal of Transformative Learning, 3(1), 46-51.

Mezirow, J. (1997) 'Transformative Learning: Theory to Practice', New Directions for Adult and Continuing Education, 74, 5-12

Manson, B. Poitras, E., and Hong, Y.J. (2010). Enhancing Language Skills and Fostering Perspective Transformation in Adult ESL Education: A Transformative Learning Approach, Adult Education Research Conference. http://newprairiepress.org/aerc/2010/papers/47

Moore, J. (2005). Is Higher Education Ready for Transformative Learning? A Question Explored in the Study of Sustainability, Journal of Transformative Education, 3(1), pp 76-91.

Nerstrom, N. (2014). An Emerging Model for Transformative Learning, Adult Education Research Conference. http://newprairiepress.org/aerc/2014/papers/55

O'Sullivan, E. (1999).Transformative learning: Educational vision for the 21st century. Toronto, Canada: University of Toronto Press.

The Influence of Authentic Assessment Models to the Reasoning Ability of Statistic in the Statistics of Education in PGSD FIP UMJ Students

Muhammad Hayun[1], Fitri Rosmi[2]
[1,2] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: mhayyun@umj.ac.id[1], fitrirosmi92@gmail.com[2]

Abstract: This research is based on the low student learning outcomes in the education statistics course, most of which have difficulty in completing assignments and statistical subject exams, especially related to the mathematical statistical abilities of FIP UMJ PGSD students. The purpose of this study was to determine the effectiveness of the use of the valuation model in the PGSD student learning process, especially related to mathematical abilities in the subject of education statistics, so as to provide improvements and diagnosis in statistical learning which in fact is learning to count so that requires students' mathematical abilities. The research methodology used was an experimental method with a quasi-experimental approach in the form of a posttest only control group design, namely there was an experimental class as a treatment class, which provided an authentic assessment model and a control class as a comparison class that was not given any treatment or left natural without ignoring the potential. The results of the study were that there was an influence on the model of the mathematical ability of students in the education statistics subject which was very significant with the value t = 3.57 with sig. 0.001 <0.05, and also the contribution of influence or value of Determination of 0.20 meaning influence Authentic assessment models for mathematical abilities in statistical subjects are very significant.

Keywords: authentic assessment model, statistical reasoning ability, students of FIP UMJ

Introduction

The Statistics course is a basic and compulsory subject for all students at all universities. This course equips students to understand the types of data, how to collect data, process data and analyze and interpret data obtained. Statistical courses also require students to have basic abilities, namely numeracy (mathematical) because statistics are inseparable from the calculation process such as addition, subtraction, multiplication or division. Statistics teaches how a scientist has knowledge based on data and facts in the field so that in drawing an objective, transparent, fair and comprehensive conclusion. The efficacy of statistics can be seen from its contribution to the discovery of new theories expressed in the form of statistical models or arguments involving statistical concepts (Kadir, 2016: 1).

Background of the research

In statistical learning students are also required to understand the types of data and forms of data so they can differentiate, sort out how data is collected, how to analyze and what kind of analysis tools are used. Statistics is the study of how to collect, process / group, present, and analyze data and draw conclusions by calculating uncertainty based on the concept of probability. Besides that, statistics also emphasize reasoning skills and good problem solving skills so that they can determine the results and processes that are experienced well too. The reasoning ability in statistical learning is the basic must-have for every student, especially those who have just studied statistics, they can calculate, analyze, and interpret the processes that are passed and determine the type of data, analysis techniques and tools / formulas that must be used to solve a problem in statistics. Delmas defines statistical reasoning as statistical thinking in generating statistical information. This includes the ability to interpret a set of data, graphics and a number of statistical information (Martadiputra). Reasoning is a process to analyze a problem based on data and facts that are then correlated with theories that have been built. The reasoning ability is not based on intuition or imagination, but is present in the concept of reality that is attached to rational and logical thoughts. Reasoning is in line with thinking critically, creatively and analyzing an existing problem or event. Common sense abilities are usually possessed by people who are resilient, diligent and objective. Reasoning is a thought process that departs from observing the five senses (empirical observations) which produces a number of concepts and understandings (Maryati, 2017: 133).

Chervaney defines statistical reasoning as what students can do with statistical content and uses their skills in using statistical concepts to solve statistical problems. They see statistical reasoning as a process consisting of the following three steps: (1) comprehension, (2) planning and decision making, and (3) evaluation and interpretation (Garfield, 2002, Yusuf, 2017). Statistical reasoning ability also means the ability to understand well how to choose, present, reduce, and present data that will be used for existing problems (Maryati, 2017: 1). Statistical thinking is the ability to understand and understand the statistical process as a whole, and apply understanding to real problems by giving criticism, evaluation, and making generalizations relating to 1) describing data; 2) organizing data; 3) represent data; and 4) analyze and interpret data.

To improve students' statistical reasoning abilities various kinds of learning approaches are carried out in the form of learning, assessment, classrooms, as well as teaching competencies. One approach that is assumed to be able to improve students' reasoning abilities is the valuation approach. Assessment is a process for giving decisions to someone whether or not according to criteria. According to Nitko the assessment is a process to obtain information

used to make decisions about students, curriculum, programs, and education policies (Arifin, 2012: 8). Thus the appropriate assessment model to improve the ability of statistical reasoning is to use authentic judgment. Authentic assessment is an assessment that refers to use, teaching, and assessment that reflects real-world assignments (Shelley Keyser, 2008; Robyn Collins, 2013; Anthony, 2005; Anna Maria, 2014, Novita Sari and Wardani Rahayu, 2017).

Research Methodology

This study aims to determine the effectiveness of the assessment model on the learning of statistical subjects in the FIP PGSD UMJ students and how much the model contributes to the students' reasoning abilities in learning educational statistics. The research method used is the experimental method with the true experimental approach, meaning the researcher conducted random sampling on the respondents and carried out the design of determining many respondents and many classes used. The research design used was the pre-test-post-test control group design. The research design is as follows:

Table 1. Research design

Kelas	Pre-test	Treatment	Post-test
R	O1	X	O2
R	O3	-	O4

The sampling technique used is random sampling, which is randomizing the population that is the object of research. The population in this study were the third semester students of the PGSD FIP UMJ study program and the samples in this study were 50 people, with an experimental class of 30 people and a control class of 25 people.

Findings and Discussion

This research was conducted for 3 months, from October to December 2018 in the third semester (odd), which was attended by 50 students. The results of the study were divided into two groups: the experimental class as the treatment class and the control class as the comparison class, each of which was 25 students. Descriptions of the results of the research presented include pre-test and post-test, according to the pre-experimental design that was described in the form of descriptive statistics such as minimum-maximum values, mean, variance and std. Deviation.

Pre-Test

Based on the data obtained in the pre-test in the experimental class obtained the value of statistical reasoning ability for a minimum score of 60 and maximum 92, the average value of 68.56, std. Deviation 8.10. While for the control class a minimum score of 55, a maximum of 95, and a mean score of 68.16 and stad. Deviation of 10.98. This statistical reasoning ability of the two groups is relatively the same in both the experimental class and the control class, it can be seen in the table 2 below:

Table 2. Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Experiment	25	32,00	60,00	92,00	68,5600	8,10391	65,673
Control	25	40,00	55,00	95,00	68,1600	10,98742	120,723
Valid N (listwise)	25						

Post-test

Based on the data obtained through post-test obtained in the experimental class the average value (mean) = 82, 36, std. Deviation of 5.36. Whereas in the control class, the mean value = 76.39, std. Deviation 6.40. Thus the comparison of the average value of the experimental class is relatively higher than the control class, so there is a very significant difference. This can be seen in the table 3 below:

Table 3. Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Experiment	25	28,03	65,38	93,40	82,3620	5,36574	28,791
Control	25	28,25	62,38	90,63	76,3920	6,40277	40,996
Valid N (listwise)	25						

Pre-test – Post-test

From the results of testing on the experimental class with paired sample technique the test value t = 9,887 with sig. 0,000 <0,05, on df 24, it is said to be significant, meaning that there is a difference in the value of statistical reasoning ability at pre-test to post-test in the experimental class with a mean (difference) of 13,8. Thus there is a very significant increase in the value of experimental class statistical reasoning abilities from pre-test to post-test, as shown in the table 4 below:

Table 4. Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre-test – Post-test	-13,802	6,979	1,396	-16,68	-10,920	-9,887	24	,000

Pre-test – Post-test (Control)

From the results of testing on the experimental class with paired sample test the test value t = 4.811 with sig. 0,000 <0,05, on df 24, it is said to be significant, meaning that there is a difference in the value of statistical reasoning ability at pre-test to post-test in the control class with a mean (difference) of 8,23. Thus there is a significant increase in the value of the control class statistical reasoning ability from the pre-test to post-test, as shown in the table 5 below:

Table 5. Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre-test – post-test	-8,232	8,55	1,711	-11,764	-4,700	-4,811	24	,000

Hypotheses of Data
Pre-test

In testing the initial reasoning ability (pre-test) in each group, namely the experimental and control groups, obtained t test value = 0.146 with sig values = 0.884> 0.05 and df = 48, then there is no difference in the value of reasoning abilities in both groups. the initial ability of the two groups before being given treatment or giving assessment techniques is the same, it is also seen in the average value that is not too far which is equal to 0.4 the difference in average. This can be seen in the table 6 below the independent sample test:

Table 6. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Nilai	Equal variances assumed	2,851	,098	,146	48	,884	,400	2,73054	-5,090	5,89
	Equal variances not assumed			,146	44,149	,884	,400	2,73054	-5,102	5,90

Post-test

Whereas in testing the reasoning ability (post-test) after being given treatment in the experimental group by giving authentic assessment techniques and the control group not given treatment, obtained the test value t = 3.57 with the value sig. = 0.001 <0.05 and df = 48, then there are differences in the value of reasoning abilities in both groups. Thus, there is a very significant effect of authentic assessment techniques on statistical reasoning abilities of FIP UMJ PGSD students, with a contribution value of 0.20 or an average value of difference of 5.97, it can be seen in the table 7 below:

Table 7. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Nilai	Equal variances assumed	,864	,357	3,573	48	,001	5,97	1,671	2,610	9,329
	Equal variances not assumed			3,573	46,57	,001	5,97	1,671	2,604	9,331

Discussion

Reasoning ability is an ability that must be possessed by someone who is mature enough to analyze, differentiate and verify various problems faced in his life. In Bloom's taxonomy reasoning ability is at the stage of analysis (Analyz) which determines to distinguish, classify, and identify characteristics of a problem (Zainal Arifin, 2000: 16). In the results of this study it was found that the valuation technique that is authentic assessment contributed greatly to the statistical reasoning abilities of PGSD students, it obtained a value of t = 3.57 with sig. 0.001 <0.05 this proves that there are differences in reasoning abilities of students who are given an authentic assessment model higher than students who do not provide authentic (conventional) assessment models. In statistical learning that requires strong reasoning skills, one way to encourage students to use their brain abilities is by authentic assessment models. Authentic assessment is a process of collecting, reporting and using information about student learning outcomes by applying the principles of assessment, ongoing implementation, authentic, accurate, and consistent evidence of public accountability. Authentic assessment is an assessment that uses a variety of assessment techniques that aim to encourage students to always be active and complete the tasks given.

Conclusion

Based on the results of the research and discussion above, it can be concluded that there is an influence of the Authentic evaluation model on statistical reasoning abilities in the subjects of educational statistics in the FIP UMJ students is significantly, with a value of t = 3.57 with sig.0,000 <0.05 df = 24 and determination value of 20%. This means that the authentic assessment model provides sufficient contribution to the value of students' statistical reasoning abilities.

References

Arifin, Zainal. (2012). Learning Evaluation.Jakarta : Kemenag RI

delMas, Robert, C. (2002). Statistical Literacy, Reasoning, and Learning: A Commentary. Journal of Statistiks Education Volume 10, Number 3. (2002).www.amstat.org/publications/jse/v10n3/delmas_discussion.html.

Delmas. R, Garfield. J. & Ooms. A. (2005). Using Assessment Items to Study Students' Difficulty Reading And Interpreting Graphical Representations Of Distributions. Proceedings of the Fourth International Research Forum on Statistical Reasoning, Literacy, and Reasoning (on CD). Auckland, New Zealand: University of Auckland.

Maryati, Iyam. (2017). The Improvement Of High School Students' Reasoning Ability Through Contextual Learning. Journal "Mosharafa", Volume 6, Number 1, Januari. p.129-139.

Nisa, Sholihatun, et.all. (2019). Ability of student statistics in materials Presentation of histogram data through pmri learning. Journal of Mathematic Education. Volume 13, Number 1, Januari. p. 21-40

Sari, Nopita dan Rahayu, Wardani. (2017). Ability Of Statistics Replacement: Application Of The Model. Journal of Education Evaluation. Volume 8, Number 2, Oktober. p. 67-68.

Yusuf, Yusfita. (2017). Construction of statistical reversation In the research statistics. Scholaria, Vol. 7 No 1, Januari 2017. p. 60 – 69.

Improving Mathematical Problem-Solving Ability Using Three-Dimensional Props Learning Media with Assisted Question Card

Mugiono[1], Hastri Rosiyanti[2], Viarti Eminita[3]
[1,2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: mugimugimugiono@gmail.com[1], hastrirosiyanti@gmail.com[2], phiartea.emn@gmail.com[3]

Abstract: This study was aimed at improving the ability of mathematical problem solving usingthe learning media, three-dimensional teaching aids, namely assisted question cards. The samples were eighth grade students at Muhammadiyah 28 Junior High School, Bekasi.The method of this research was classroom action research. The actions were carried out in 2 cycles. Each cycle consisted of 3 sessions, 2 sessions for treatment and 1 session for the test. The instruments used to collect data were in the form of written test, questionnaires, and field notes. The data obtained were quantitatively described. The results of study showed that there was an improvement in students' problem solving abilities after participating in learning with three-dimensional learning aids through assisted question cards.Based on the pre-test and the test in the first and second cycle, there was an improvement of problem solving skill with an average value of students.In pre-test the average score was 32.37and at the end of cycle I the score increased into 55.64 and last at cycle II it also significantly improved into 66.69. In conclusion, the learning media of three-dimensional props, assisted question cards, significantly increasedthe mathematical problem-solving abilities at the end of the cycle.

Keywords: problem solving skill, three-dimensional learning props, assisted question card

Introduction

Education is very important since it determinant nations' development and human resources ability. In spite the regulation which state that students' potentials in order to become a man of faith, fear of God Almighty, noble, healthy, knowledgeable, skilled, creative, independent, and become democratic and responsible citizens in fact quality of education unsatisfied.

The poor quality of education is caused by many factors, most of which are limited activities and management of the learning process.Learning success is very dependent on the ability of the teacher to process learning that can create situations that allow students to learn so that it is the starting point of the success of learning.

Students' mathematical problem-solving abilities can be used as activities in the learning process. "Solving mathematical problems can help students to improve their abilities, discover new knowledge and play an active role in learning activities. However, the importance of problem-solving skills is not supported by the students' current skills"(Widyasari & Rosiyanti, 2018).

Background of the research

The process of mathematical problem-solving ability is one of the basic mathematical abilities that must be mastered by middle school students. Problem solving is one of the learning objectives or fundamental components of the school mathematics curriculum in various countries."The importance of having problem solving skills is reflected in Branca's statement that mathematical problem solving is one of the important goals in learning Mathematics, even the process of solving mathematical problems is at the heart of Mathematics"(Hendriana& Sumarmo, 2014).

Mathematical problem-solving abilities of students can be used as the main activity if it is developed through a learning process that not only transfers knowledge to students, but also helps students form and construct the knowledge they have and can empower their ability to solve the problems they face. Such learning cannot be realized only through listening to the teacher's explanation, memorizing, giving routine questions, and teacher-centered learning processes.

According to Reys, et al (Kandou, 2014)"problem solving is a learning approach to solve various Mathematical problems and and can be distinguished from routine problems or better known as story problems and non-routine problems". Polya explained four steps in problem solving, namely understanding the problem (Understanding the problem), arranging the plan (Devising the plan), implementing the plan (Carrying out the plan), and re-testing (Looking back). The stages of solving problems according to Polya are easier to understand and very simple, the activities carried out in each step are clear and cover all steps for solving problems from other opinions. Based on the pre-test results showed that 59.37% of the number of students got a test score of Mathematics problem-solving ability in very less categories and 40.63% got a less category and the average value of students was 32.37.

To overcome the above problems, there are many ways that teachers can do in teaching and learning activities, especially on Mathematics. In learning Mathematics in schools, teachers can use learning media that can involve active students in learning, both physically and mentally so that the material taught by the teacher becomes more concrete and students will remember it for a long time. It takes the right learning media for students to improve

students' mathematical problem-solving abilities, to change the learning situation so that it is student-centered, to build the knowledge that students have to be better so they can motivate students to think and analyse a problem at hand. According to Hamalik(Nurseto, 2019)"the use of media in learning activities can generate new desires and interests, increase motivation and stimulation of learning activities, and even psychologically affect students".

One of the learning media that supports the learning process in building material is a three-dimensional medium. Media three-dimensional props are forms of building space such as cubes and beams. Media props can be used to help students understand related material that is still abstract. Because media props can show it seems that an object that is still abstract becomes an object that is concrete. In this case the questions given about building space include calculating the surface area of cubes and beams, calculating the volume of cubes and beams assisted by a question card. This study focuses on efforts to improve students' mathematical problem-solving abilities. Sudjana and Rivai(Nurseto, 2019)"suggest several benefits of media in student learning processes, namely: 1.) Can foster student learning motivation because teaching will attract their attention. 2.) The meaning of teaching material will become clearer so that students can understand it and allow mastery and achievement of teaching goals. 3.) The method of teaching will be more varied, not solely based on verbal communication through words. 4.) Students are more active in learning activities, not only listening but also observing, demonstrating, doing directly, and acting out".

Research Methodology

The method used in this study is classroom action research. According to Arikunto (Rosdiati, 2017)that classroom action research is action research carried out with the aim of improving the quality of classroom learning practices. Class action research is a research activity that is class context which is implemented to solve a problem in learning faced by the teacher, improve the quality and results of learning and try new things in learning to improve the quality and learning outcomes.

The subjects of this study were students at Muhammadiyah 28 Junior High School, Bekasiin class VIII-1 with a total of 32 students consisting of 15 male students and 17 female students. The time of the study was carried out in the even semester of the 2017/2018 school year. This research was conducted to find out the increase in the results of students' mathematical problem solving ability tests.

The research design used in this study is using the spiral model Kemmis and Mc Taggart(Danuri, 2018)which starts from planning, action, observation, and reflection. Following are the research design drawings:
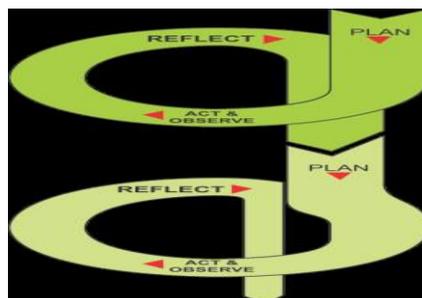
Figure 1. Spiral Kemmis Model Classroom Action Research Design and Mc Taggart

In this study, the data collection techniques used were tests and non-tests. The test used in this study is a matter of pre-test and post-test. Tests are conducted to determine the level of mathematical problem-solving abilities of students. Non tests in this study are through questionnaires, field notes, and documentation in the form of photos of student activities during learning.

Findings and Discussion

The results of this class action research consist of two cycles. The action in cycle one was carried out in two sessions and in the second cycle two sessions were held. In each cycle of action includes the stages of planning, implementation, observation and reflection. Before the cycle activity, the researcher carried out giving pre-test question. From the results of the analysis obtained the highest level of mathematical problem-solving abilities of students, the lowest level of mathematical problem-solving abilities of students, the number of students who complete learning, the number of students who did not complete learning, and the average score student's. When conducting the pre-test, the results of the students 'problem solving ability tests were still low, for this reason the researchers sought to improve students' mathematical problem-solving abilities by using the three-dimensional teaching aids assisted by question cards.

When giving pre-test questions, there are still many students who have not been able to work on the test and even some students who do not understand how to solve the test, then the researcher gives direction so that in doing it in accordance with the steps according to the pattern. Based on the results of the pre-test of students' mathematical problem-solving abilities, a study was conducted focused on efforts to improve the ability of mathematical problem solving by using three-dimensional learning aids assisted by question cards. The results of the problem-solving ability test in the pre-test can be seen in the following table:

Table 1. Increasing Students' Mathematical Problem-Solving Ability from Pre-Test, Cycle I, Cycle II

Result	Student's Score Less Than KKM		Student's Score More Than KKM		Student's Mathematical Problem-Solving Level's		
	Not Complete (%)	Number of Students	Classical Completeness (%)	Number of Students	Highest Value	Lowest Value	Average
Pre Test	100	32	0	0	50	21.43	32.37
Cycle I	531.3	17	46.87	15	71.43	41.07	55.64
Cycle II	15.62	5	84.38	27	85.71	51.79	66.69

Based on table 1, information is obtained that the highest value of students in the pre cycle is 50, while the lowest value is 21.43, the average value is 32.37. The number of students who complete learning 0 while students who do not complete 32 students or all students in the class do not get a score above the KKM. From the results of the pre-test, researchers will attempt to improve students' mathematical problem-solving abilities.

After giving the pre-test questions then the action in the first cycle was carried out with two sessions. The results of the problem-solving ability test in cycle one can be seen in table 1. Based on table 1. information obtained that the highest value of students in the first cycle was 71.43, while the lowest value was 41.07, the average value of students was 55.64. The number of students who completed the study were 15 students with classical completeness of 46.87%. As for students who did not complete as many as 17 students with incomplete learning of 53.13%. From the results above, the value of the Mathematics problem solving ability test for students does not meet the criteria for success of action.

After giving the questions to the cycle, then proceed with reflection. In its implementation, there are several obstacles that require improvement in order to meet the criteria for success of the expected action. Some things that need to be considered include: 1.) Group discussion activities need to be improved 2.) Teachers are more assertive in managing the course of discussion 3.) students must be more serious in group discussion activities. Based on table 1. information obtained that the highest value of students in the second cycle is 85.71 while the lowest value is 51.79 and the average value of students is 66.69. The number of students who completed the study were 27 students with classical completeness of 84.38%, while students who did not complete as many as 5 students with incomplete learning were 15.62%. With these results, the criteria for the success of the action have been fulfilled and the research is stopped.

Conclusion

The learning media of three-dimensional props, assisted question cards, significantly increased the mathematical problem-solving abilities at the end of the cycle. In pre-test, the average score was 32.37 and at the end of cycle I the score increased into 55.64 and last at cycle II it also significantly improved into 66.69.

References

Danuri, D. (2018). Peningkatan motivasi dan prestasi belajar mata kuliah matematika 3 mahasiswa PPGSD universitas PGRI Yogyakarta melalui cooperative learning tipe Jigsaw. *Jurnal JPSD (Jurnal Pendidikan Sekolah Dasar), 4(1)*, 14-16.

Hendriana, H., & Sumarmo, U. (2014). *Penilaian pembelajaran matematika.* Bandung: PT Refika Aditama.

Kandou, J. T. R. S. (2014). *Pembelajaran matematika dasar bagi anak berkesulitan belajar.* Yogyakarta : Ar-Ruzz Media.

Nurseto, T. (2019). Membuat media pembelajaran yang menarik. *Jurnal Ekonomi dan Pendidikan, 8(1)*, 19-20.

Rosdiati, R. (2017). Upaya meningkatkan hasil belajar matematika melalui model pembelajaran kooperatif Ttpe STAD siswa sekolah dasar. *SUARA GURU, 3(2),* 315–322.

Widyasari, N., & Rosiyanti, H. (2018). Developing material for promoting problem-solving ability through Bar Modeling Technique. *Journal of Physics: Conference Series, 948 (1),* 012055, 1-5.

Action Research in Extracurricular Students of Junior High School 4 South-Sinjai Regency

Ika Yulianingsih[1], Galang Pakarti Mahardika[2], Taufik Yudi Mulyanto[3]
[1,2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: Ikawood345@gmail.com[1], Galangpm200@gmail.com[2], Tym91161@gmail.com[3]

Abstract: This study aims to determine the improvement of the results of badminton smash training through game modification in extracurricular students of Junior High School 4 South Sinjai. The subjects in this study were 25 students. The research method used is action research with the design of kemmis and Mc taggart. This study consists of two cycles in which each cycle consists of eight meetings. The test is done at the end of each meeting. The test is a badminton smash test. The results of the study of 20 students showed the results of a complete pre-cycle test of 6 students. Students increased in cycle I as many as 14 students and continue to increase in cycle II as many as 18 students. Therefore, in the second cycle of success criteria has been achieved then the researchers do not need to take action on the next cycle. This it can be concluded that the exercise by using game modification can improve the result of badminton smash skills on the extracurricular students of Junior High School 4 South Sinjai-Sinjai regency.

Keywords: badminton smash skill, game modification

Background of the research

Physical education is essentially an educational process that utilizes physical activities to produce holistic changes in the quality of individuals both physically, mentally and emotionally. To improve the achievement of students specifically in the field of sports, schools often hold extra-curricular activities to support students to improve their talents in certain branches of exercise.

One sport that is often held in extra-curricular schools is badminton because there are many students who are interested in the sport. Smash is a basic technique that is quite difficult for students to, because doing a smash must have prior-based skills such as physical training, coordinated technical training. etc.

Ahmad Dar Hilal et al. (2012) explained that: Badminton is a game of two players using lightweight rackets and a shuttle cock. Badminton is racket sport, it is a game requiring quick sudden movements and fast reactions. A smash hit is one of the sharpest punches down over the net which aims to get as many points as possible, to win (attacking). In harmony with the opinion of Raul Valldecabres et, al., (2017) that Badminton is a game consists of hitting the screen across the side of the court over the net, trying to send it to the area in the opponent's side where is hardest for them to hit it back. Because the main goal is to turn off your opponent. The character of this blow is hard and the pace of the Shuttlecock is hard. The results of a study conducted by Gurmeet Singh and Yogesh (2011) that on the game of Badminton show that badminton players need to have certain levels of muscular strength, power, local muscular endurance, agility, flexibility and athleticism. To be able to get a hard hit, a good elastic force is needed, elastic strength is a type of strength in which muscles can move quickly to a prisoner, who has a combination and the speed of contraction and speed of motion is called power (James Tangkudung, 2012: 69). Exercise that is suitable and can develop strength is resistance training, where we have to push, pull, lift, or hold weights.

According to Tumin, the smash was divided into three parts: smash, Forehand / Back hand full-smash, and Forehand / backhand half smash. According to James pool, the way to do a forehand smash is as follows. (a) Touch the shuttle when he is in front of your body, and do it with your arms outstretched, (b) When contact, the wrist and forearm must rotate very quickly, (c) During contact, the area of the racket is inside flat position pointing down, (d) Shuttle punch hard, (e) Sharp falling angle is more important than shuttle sliding speed, (f) Don't do a more backward smash from three quarters of your field. The technique of smash blows gradually every player must master it perfectly. Its benefits are so large to increase the quality of the game. Aksan explained a number of things that need to be considered in doing badminton smash movements: (1) Get used to moving quickly to take the right hit position, (2) Pay attention to the racket handle, (3) The body's attitude must be flexible, both knees bent and still concentrate on how . (4) The introduction of the racket and how it is above the head by stretching the arms to reach it is as high as possible and the wrist power is used when hitting it. (5) The end of the series of motion blows with the perfect movement of the racquet swing in front of the body. (Hermawan, A). According to Zhao Zhang (2016) that the overhead smash is commonly divided into three phases for analytic and instructional purposes: preparation, acceleration and follow through

Research Methodology

The method used in this research is action research. Action research is a form of reflective research carried out by participants in social situations to improve the reasoning and fairness of their educational practices and social practices. The action research model used in this study used the Kemmis and McTaggart models. This model is considered to be in accordance with the research by considering the emphasis that handles only one problem. The

research design used was the Kemmis and Mc model. Taggart, in the form of one cycle or activity which includes the design stages in each round, namely: (1) Planning / Planning, (2) Actions / Acting, (3) Observation / Observing, (4) Reflection / reflecting, and will be held planning revisions on a repeat cycle if needed.

This research will be carried out for 8 weeks with a total of 8 meetings a week, a total of 16 meetings according to the schedule of a meeting of badminton curricular activities in Sinjai-soul SMPN 4. The subjects in this study were students who took part in the Sinjai-Selatan SMPN 4 badminton extracurricular activities, totaling 20 students.

Findings and Discussion

The results of data collection in the pre-cycle can be seen as many as 8 students who scored below 60, 6 students who obtained sufficient grades (60-74), 6 students who got good grades (75-89) and no students were able to obtain the above scores 90, so that it can be concluded that as many as 14 students (60.00%) students have not been able to reach the minimum completeness limit, namely: 75.00. While students who have reached the minimum completeness limit are 6 students (30.00%). After being treated with training in badminton smash skills in extracurricular students of Sinjai-south Junior High School 4 in general, it can be said to be good, because the percentage of completeness of the training results of badminton smash skills in the first cycle is 70.00%, and students who have not completed the training results are 6 students because not yet reached the minimum completeness criteria (KKM) value of 75.00. While in the second cycle the percentage of completeness of learning outcomes of badminton smash skills experienced a significant increase, namely 90.00% and students who have not completed only 2 students. So between the first cycle and the second cycle, there was an increase of 20.00% after being given treatment in the form of the application of badminton smash game modification for 2 cycles or 16 meetings. For more details can be seen from the graph diagram below.
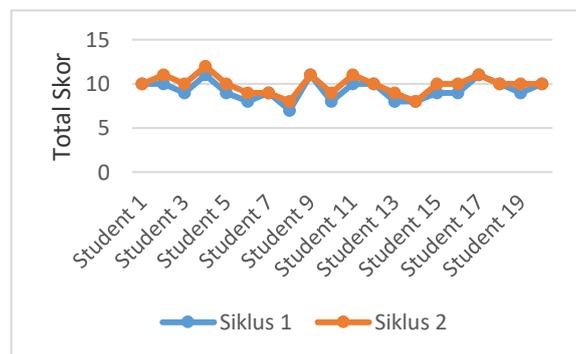
Figure 1. Comparison Chart of Cycle I & Cycle II Badminton Smash Skills

Conclusion

From the results of the tests in the final cycle is the exposure to the data from the results of the smash skills test carried out by researchers and collaborators. The results of the implementation of badminton game modification can be said that it can improve badminton smash skills in extracurricular students at Sinjai-south SMPN 4. Based on the results of the research tests above, it can be concluded that there are still students who have not reached the minimum completeness criteria limit of 75.00 which is as many as 2 students with a percentage (10.00%) of students. While students who have reached the limit of completeness criteria are 21 students, namely (84.00%).

References

Ahmad Dar Hilal et, al., *(2012)*. Impact of feedback methods on skills learning of badminton., *International Journal of Sports Sciences and Fitness, Volume 2(2).*

Arikunto, suharsimi. (2008). *Prosedur penelitian suatu pendekatan praktis*, Jakarta: Rineka cipta.

Daryanto. (2011). *Penelitian tindakan kelas dan penelitian tindakan sekolah beserta contoh contohnya*". Yogyakarta: Gaya Media.

Ekawama. (2013). *Penelitian tindakan kelas edisi revisi.* Jakarta selatan:Referensi Gp Press Group.

Eliseo Andreu-Cabrera.,(2009). *Traditional children's games in the mediterranean: Analogie.,* Journal of Human Sport & Exercise, Vol IV (3): 201-210

Gollhifer,Albert dan Wolfgang Taube. Jen Bo Nielsen.(2012). *Routledge Hanbook of Motor Control and Motor Learning.* New York: Routledge.

Gurmeet Singh and Yogesh., Effects of different feedback methods on badminton skills learning. *Journal of Physical Education and Sport ® (JPES), 11(*3): 245 - 248, 2011 online ISSN: 2247 - 806X; p-ISSN: 2247 – 8051; ISSN - L = 2247 - 8051 © JPES

Rusmono. (2012). *Strategi pembelajaran dengan problem based learning itu Perlu.* Jakarta: Ghalia Indonesia.

Saifuddin Anwar.(2011). *Reliabilitas dan validitas.* Yogyakarta: Pustaka Pelajar.

Schmidt Richard A, Wrisberg, Craig A danWrisberg. (2008). *Motor learning and performance*. USA: Human Kinetics.

Slameto. (2015). *Belajar dan faktor-faktor yang mempengaruhinya*. Jakarta: Reneka Cipta.

Sri Nuraini dan Hartman Nugraha. (2015). *Teori dan praktek permainan kecil.* Jakarta: LPP UNJ. 2015

Stephen Kemmis, Robbin McTaggard, Rhondha Nixon. (2014). *Doing critical participatoryaction research springer.*

Sudjana, Nana. (2012). *Menyusun karya tulis ilmiah berbasis penelitian tindakan.* Bekasi, Binamitra-publising.

Sukardi. (2011). *Metodologi penelitian pendidikan kompetensi dan praktiknya*, Jakarta. Bumi Aksara.

Tangkudung, James. (2012). *Kepelatihan olahraga, pembinaan prestasi olahraga Edisi II*. Jakarta: Cerdas Jaya.

----------------------------.(2016). *Metode penelitian.* Jakarta: Lensa Media Pustaka.

Widiastuti. (2015). *Tes dan pengukuran olahraga.* Jakarta: PT. Raja Grafindo Persada.

Grammatical Interference of Sundanese Language into Indonesian Language

Lutfi Syauki Faznur
Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: lutfisyauki@umj.ac.id

Abstract: This proposal described the interference of Indonesian language grammatical form towards the use of Sundanese language. The use of Sundanese language and Bahasa alternately can allow the interference. The interference mostly happened in casual variety and official variety also in teaching learning process in the school. The method that is being used for this research is descriptive analytic qualitative. The findings that has been created in this research there is a grammatical interference from Sundanese language into Indonesian language at Phonology, Morphology and syntax level. At the level of phonology there's a vocoid sounds and contoids. At the level of morphology, it happens in affixation field and reduplication. As for the syntax level there's an interference between the phrase and sentence.

Keywords: grammatical interference, Sundanese language, Indonesian language

Introduction

The languages are always experience in change and development. Because the language acting dynamically. The change and development of the languages can be happened by the social and culture changes. Language has its own charateristics which will not be slipped out.

Background of the research

The Indonesian citizen is a bilingual citizen. It has been told bilingual because the majority of Indonesian citizen mastering two or more languages at the same time. The first received language is mother language or local language which known by the people since the person were born and that language used in their family environment that lives in that area. Second language is Indonesian language which is being taught at schools and used in daily life because it is a national language. Third language is foreign language which is also being taught at schools.

Teaching language allow for language contact that influence each other. Muljana stated that "Between Indonesian language and local language happened with social contact and active culture. Soul of Indonesian language and soul of local language has been met. Both of the language which is being correlated are start to paying attention and finally affecting each other." (Muljana in Badudu, 1983: 13).

Interference happens because of deviation in using language which is allowing another language system inside. Whereas according to Hartman and Stonk (1998: 160) the interference happens as the consequence of the habit of speaking the mother tongue or a dialect into a language or second dialect. Besides the happening of language contact, a factor that causing interference is the lack of vocabulary in a language in every communication process. speaker's bilingualism and the fade of loyalty toward language's receiver is another factor that makes the interference happened.

Sundanese language is a language which closest to Indonesian language because Sundanese language is the second largest mother tongue speakers after the Javanese language. Sundanese language is almost being spoken in every West Java Province. That existence is what makes Indonesian language and Sundanese language often being influence of significant interference. Furthermore, a lot of Sundanese citizen still not fluently enough to use Indonesian language as in educational world or institutions. So unconsciously it will use Sundanese language as the first language when communicating in order to eager for delivering the message.

Research Methodology

This research was designed with qualitative method. This research was built on the basis of data in the field that has been developed based on aim of the research. Primary data in the form of language with the natural indicators. Which mean the data that has been gathered come from the real situations and as it is, that is the dialogue between the citizen in daily life. Type of the data in this research is using quantitative method. Which mean the data cannot be measure or assesed by number directly (Bungin, 2003: 64).

Related by the subject, this subject reviewed the interference or impact of Sundanese language into the Indonesian language grammatically. The subject including phonology pattern, morphology, syntax and semantics.

Findings and Discussion

Acquisition and Conversation

This discussion will be focused on the interference findings grammatically that is including phonological intereference (vocoid and contoids), morphology (affixation and reduplication), syntax (pharase and sentences). This grammatical interference is a devotion form of the language structure in applying another languages. This study will show a Sundanese language form and also show how the Sundanese language get interferenced into the structure of Indonesin language.

Phonetical Interference

Phonetical interference is an interference that happened in language sounds level. It means the interference of this phonology are related by the pronunciation and the sound of language. There are several phoneme of Sundanese language that have similarity equivalent in Indonesian language, but the form and distribution are different.

1. Vocoid Sounds

There are fives of vocoid sounds or vocal voices in Indonesian language, i.e : [a], [i], [u], [e], [o]. While there are seven vocoid sounds of Sundanese language, i.e : [a], [i], [e], [é], [eu], [o].
    a. [eu] Sounds
    [eu] sounds is a medium vocoid, middle low, not round, and semi-open. Pronouncing [eu] sounds with lifting the front part of the tongue one third from the lowest space to a highest space. The mouth shape is not round, and semi-open oral cavity. For example: [hareup], [bereum]. Phoneme in Indonesian language [depan], [merah].
    b. [é] Sounds
    [é] sounds is rear vocoid, middle low, round, semi-open. Pronouncing this sounds with lifting the rear part of the tongue one third from the lowest space to the highest space. The mouth shape is round, semi-open oral cavity. For example: [Engké]. The same form in indonesian language i.e [tempé].

2. Contoid Sounds

Contoid sound basically can be seperated into various form i.e stop contoid, africative, fricative, nasal, lateral, vibrate and semivocoid. However, this research just giving africative kontoid.
    a. [ny] Sounds
    [ny] sounds is africative contoid, lamino alveolar noiseless and not aspiring. Pronouncing this sounds with inhibiting some air currents. Some air currents are inhibit by sticking the base of the tongue into the hard ceiling and the obstacle released suddenly. When pronouncing its spirant. The sounds membrane not vibrating and not aspiring. Example: [nyarios], [nyandak]. The same form in indonesian language i.e [nyapu], [nyanyi].
    b. [ng] Sounds
    [ng] sounds is africative contoid, lamino alveolar noiseless and not aspiring. Pronouncing this sounds with inhibiting some air currents. Some air currents are inhibit by sticking the base of the tongue into the soft ceiling and the obstacle released not suddenly.When pronouncing its spirant. The sounds membrane not vibrating and not aspiring. Example: [ngalamun], [ngendong]. The same form in indonesian language i.e [ngupil], [nginep].

Morphology Interference

Morphology interference is inference that happened in word formation level of primary language the Sundanese language into the secondary word formula Indonesian language.

1. Study of Affixation

Affixation is the process of word formation with adding the affix into a basic words. Affix has various form, the content below just mentioned several form of affix, i.e prefix, infix, suffix, and simulfix.
    a. Preffix (nga-) in word (ngajual) is the combination of prefix (nga-) and basic form (jual). Another example is: (ngaemam), (ngadupak). This morpheme used for constructing the Indonesian language (me-) + the basic form (memakan), (menjual).
    b. Infix (-ar-) in word (caroba) is the combination of infix (-ar-) and basic form (coba). Another example is: (jarempol), (caciring). This morpheme used for constructing the Indonesian language (-er-) + the basic form (gerigi)
    c. Suffix (-an) in word (cobaan) is the combination of suffix (-an) and basic form (coba). Another example is: (acukan), (antosan). This morpheme used for constructing the Indonesian language (-an) + the basic form (cucian), (makanan).
    d. Simulfix (nga-an) in word (ngajual) is the combination of simulfix (nga-an) and basic form (nyandak). Another example is: (ngajienan), (ngahuapan). This morpheme used for constructing the Indonesian language (me-an) + the basic form (memasukan).

2. Study of Reduplication

Reduplication is the morphemic process or morphology form that repeating the basic form. The repeatings can be formed as the word intact, partial rephrase, change sound rephrase, and word repition.

a. The word intact is the repeatable word that repeating the same basic word. Example: (imah-imah), (tangkal-tangkal). This morpheme is used in constucting the Indonesian language (rumah-rumah), (pohon-pohon).

b. Partial repharase is the repeatable word that repeating the first basic word. Example: (gugulingan), (kukudaan). This morpheme is used in constucting the Indonesian language (tetangga), (lelaki).

c. The change sound rephrase is the repeatable word that repeated in sound change, either in vocal sound or consonant. Example: (punta penta), (sura seri). This morpheme is used in constucting the Indonesian language (gerak-gerik), (corat-coret).

d. The word repition is the repeatable word that repeating the word also giving an affix. Example: (kahejo-hejoan). This morpheme is used in constucting the Indonesian language (berlari-larian)

Syntaxis Interference

Syntaxis interference is the interference that happened in structure sentences level of language. That means the interference of syntaxis that correlated with the language structure started with phrase form, clause, and sentence which formed (S-P-O-K-Pel). There are several form of Sundanese language that have equivalent meaning in Indonesian language, but also the form, function, and different distribution.

1. Study of Phrase

Phrase is the grammatical particle that combined with two word or more which non predicative and within the function of syntaxis level. Phrase don't have a new meaning but can built a grammatical meaning. There are several form of Sundanese language phrase that already beinginterferenced into the Indonesian language.

a. Using the phrase (besar banget)
In the sentence "Adik duduk di kursi yang besar banget". The used of word (banget) are interferenced by Sundanese language (pisan). The word (besar banget) are interference from the sundanese language phrase (besar pisan). The right phrase in Indonesian language it should be (sangat besar). So, the right sentences is "Adik duduk di kursi yang sangat besar".

b. Using the phrase (bakar ikan)
In the sentence "Hari minggu anak-anak makan bakar ikan". The sentence from the phrase (bakar ikan) are interferenced by Sundanese language (beuleum lauk). The right phrase in Indonesian language it should be (ikan bakar). So, the right sentences is "Hari minggu anak-anak makan ikan bakar".

c. Using the phrase (di antaranya)
In the sentence "Ibu pergi ke pasar membeli banyak buah-buahan, ada jeruk, pisang, mangga, apel dan manggis". The sentence from the word (ada) are interferenced by Sundanese language (aya). So, the right sentences is "Ibu pergi ke pasar membeli banyak buah-buahan, di antaranya jeruk, pisang, mangga, apel dan manggis".

2. Study of Sentence

The sentence is a part of language which consist of words, phrase, and clause that stand alone and have a completed meaning. There are a word forms that can be affecting the effectiveness and the integrity of sentence.

a. The used of word in beginning of the sentence (yang)
In the sentence "Yang aku inginkan yaitu kebahagiaan dan kesehatan". Word in the sentence (yang) in the beginning of a sentence. That the subject is being interferenced from the Sundanese language (anu). The right sentence is "Aku inginkan yaitu kebahagiaan dan kesehatan"

b. The used of word (haturkan) in the sentence
In the sentence "Atas perhatian Bapak dan Ibu kami haturkan terima kasih". Word in the sentence (haturkan) predicate in a sentence. That the subject is being interferenced from the Sundanese language, the right sentence is "Atas perhatian Bapak/Ibu kami ucapkan terima kasih"

Conclusion

The interference of Sundanese language construction into Indonesian language in grammatical parts above can be concluded that the interference can be happened in phonological and morphological aspects. In phonological aspects there are middle vocoid sounds [eu], and rear vocoid sounds [é]. Then, in contoid aspect there are contoid sounds [ny] and contoid [ng]. Furthermore , for the interference in morphological aspect is appearing from the Affixation such as, prefix, infix, suffix, and simulfix. In morphological aspect it happened to the reduplication aspect such as word intact, partial rephrase, change sound rephrase, and word repitition. As for the syntaxis aspect there are an interference in which phrase and sentence form. From the exposure of this study can be concluded that the interference in Sundanese language and Indonesian language mostly happened in phonology, morphology and syntaxis aspects. This subject occur in Sundanese language speech either in speaking process society or teaching learning process.

References

Bungin, Burhan.(2003). *Penelitian kualitatif.* Jakarta: Kencana.
Chaer, Abdul & Leone Agustina. (1995). *Sosiolinguistik perkenalan awal.* Jakarta: Rineka Cipta.
Chaer, Abdul. (2009). *Fonologi bahasa Indonesia.* Jakarta: Rineka Cipta.
Nababan, P.W.J. (1991). *Sosiolinguistik: Suatu pengantar.* Jakarta: Gramedia Pustaka Utama.
Ramlan, M. (1981). *Ilmu bahasa Indonesia.* Yogyakarta: CV Karyono.
Ramlan, M. (2009). *Morfologi: Suatu tinjauan deskriptif.* Yogyakarta: CV Karyono.
Spolsky, Bernard. (2003). *Sosiolinguistics.* New York: Oxford University Press.
Verhaar, J.W.M. 2001. *Asas-asas Linguistik Umum.* Yogyakarta: UGM.

Game Model of Cardiorespiratory Endurance of Junior High School Students

Muhammad Aspar[1], Galang Pakarti Mahardika[2], Muhammad Ishaq Gery[3]
[1,2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: masparrivai@gmail.com[1], galangpm200@gmail.com[2], ishaqgery09@gmail.com[3]

Abstract: The aim of this research and development is to produce a cardiorespiratory endurance game model for middle school-aged children. The method uses Research & Development (R & D) from Borg and Gall. The stages in this research and development are: The subjects in this research and development are students of South Tangerang Middle School consisting of 25 limited testing students (small group trials); 60 main trial students (large group trials), and 30 students tested the effectiveness of the model. From the initial test, the average cardiorespiratory endurance of middle school age children was 1.70, then after being given treatment in the form of cardiorespiratory endurance models of middle school age children, the average cardiorespiratory endurance of middle school age children was 2.26 with the results of t count = 14,727, df = 29 and p-value = 0.00 <0.05 which means significant. So the durability model of cardiorespiratory middle school-age children is effective in increasing the endurance of cardiorespiratory middle school age children. Based on the results of the development it can be concluded that: (1) With the cardiorespiratory endurance model of junior high school age children can be developed and applied in physical education learning in schools (2) With the cardiorespiratory endurance model of middle school children who has been developed, evidence of an increase is obtained.

Keywords: game cardloespiratory, endurance

Introduction

Physical education is an educational process that utilizes physical and systematically planned activities aimed at increasing individuals organically, neuromuscular, perceptual, cognitive, social and emotional. As part of the education system, the process of physical education has strategic functions and roles, especially in directing students to develop all the individual capacities as mentioned above.

Background of the research

In the process of learning physical education, a teacher must, of course, pay attention to the age characteristics of each level of education, because the design of learning physical education refers to the ability of skills according to the theory of phases of child development. Teachers are indeed required to be creative in teaching physical education at school, but students must also have good endurance so that the learning process can be achieved, especially in physical education subjects.

Endurance is an element of the most important motor component in all branches of sports, especially sports whose dominant energy is aerobics. Endurance in sports is known as muscle endurance and cardiac/cardiorespiratory endurance. Cardiorespiratory endurance or endurance of the heart and lungs is the ability of the heart (circulatory system) and lungs (breathing) to function optimally in carrying out daily activities for a long time without experiencing significant fatigue. This endurance is very important to support muscle performance, namely by taking oxygen through breathing and releasing it to the active muscle, while the endurance of the muscles (Widiastuti, 2014: 14) is the ability of the muscles to contract continuously at the level of maximum sub intensity.

The goal of endurance learning is to improve cardiac and cardiorespiratory endurance and muscle endurance. That is, an athlete and student are encouraged to run and move for a long time without experiencing significant fatigue. Endurance ability can be developed through running activities and aerobic activities.

In order to maintain muscle endurance and cardiorespiratory endurance in particular, many methods and models of exercise can be used. There are several methods that can be developed to increase aerobic endurance, one of which is circuit training. The effectiveness of a training model depends on the accuracy of the volume, intensity, and density given during training, besides that the place and conditions in which the exercise is applied will greatly affect the results.

Research methodology

Model design in the development research of endurance games for middle school age uses a model from Borg & Gall which has the following steps:
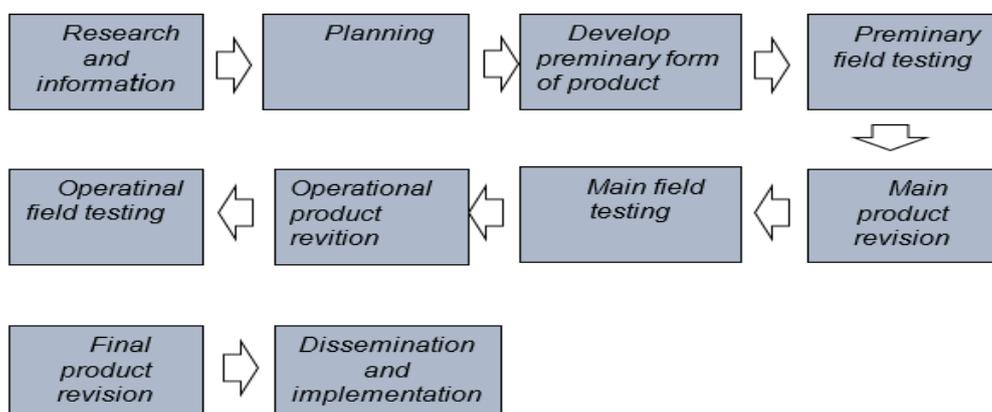
Figure 1. Steps to Use
Research and Development Method (R & D)
Source. Walter R. Borg and Meredith D. Gall, Educational Research: An Introduction 4th Edition. (New York: Longman Inc., 1983) p, 775.

In this research and development, it is certainly expected to produce a product that can be used in physical education subjects especially cardiorespiratory endurance models for middle school age children with new model designs or add from existing and more effective and fun circuit training models so other learning resources in the teaching and learning process.

Findings and Discussion

The results of the development of a cardiorespiratory endurance game model of middle school-age children were written in the form of a text that can be presented in the form of variations in cardiorespiratory endurance game models of middle school-aged children.

First Stage Results/Small Group Trial.

In a small group trial used to try out the existing models, the models listed in the small group were 15 junior high school age cardiorespiratory endurance game models with a total of 25 students. Based on the small group trial evaluation conducted by the researcher, it can be concluded as follows: a) Basically all cardiorespiratory endurance game models of junior high school age children can be done, but what is of concern to researchers is that students must remain active and happy in PE activities. b) Good cooperation in the game becomes the key for students to remain enthusiastic and cheerful in learning. c) Availability of facilities and infrastructure.

Second Test Results/Large Group Trials

After the development of a cardiorespiratory endurance game model product for middle school-aged children, it was trialed on a small scale and has been revised, so the next step is to conduct large group trials. Based on the results of limited trials (small group trials) that have been evaluated by experts, the researchers then conducted an initial product revision and obtained 15 junior high school cardiorespiratory endurance game models to be used in large group trials.

The next step after the model underwent a phase II revision from the expert, it was continued by testing the product to a large group by using the research subjects as many as 60 junior high school students. Obtained results that all cardiorespiratory endurance game models for middle school age children can be applied because they can be done easily, safely, attractively and benefit students.

Model Effectiveness Test

After going through a small group trial and revision of the second phase of the product development development of a cardiorespiratory endurance game model of junior high school age children, followed by field trials and revisions to the third stage of product development development cardiorespiratory endurance game for junior high school age children the average effectiveness of the product, carried out the implementation process by collecting effectiveness test data using the T-test with SPSS 16 applications. Product trial is carried out by 30 students.

Table 1. Paired Samples Statistics Cardloespiratory Endurance

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	1.70	30	.175	.032
	Posttest	2.26	30	.137	.025

The results of the cardiorespiratory endurance game of middle school age children between the pretest and posttest will be described in the Paired Sample Test T with SPSS 16 below.

Table 2. Paired Samples Test Cardloespiratory Endurance

		Paired Differences						
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pretest – Posttest	.562	.209	.038	.640	.483	14.727	29	.000

In the significance test of differences with SPSS 16, the mean = 0.562 t-count = 14.727, df = 29 and p-value = 0.00 <0.05, which means there is a significant difference in the cardiorespiratory endurance of junior high school children before and after the treatment model cardiorespiratory endurance game for middle school age children.

The following is a comparison diagram of the average results of the cardiorespiratory endurance test level of middle school age children before giving treatment and after giving treatment with cardiorespiratory endurance models of middle school age children with bar charts in the following picture:
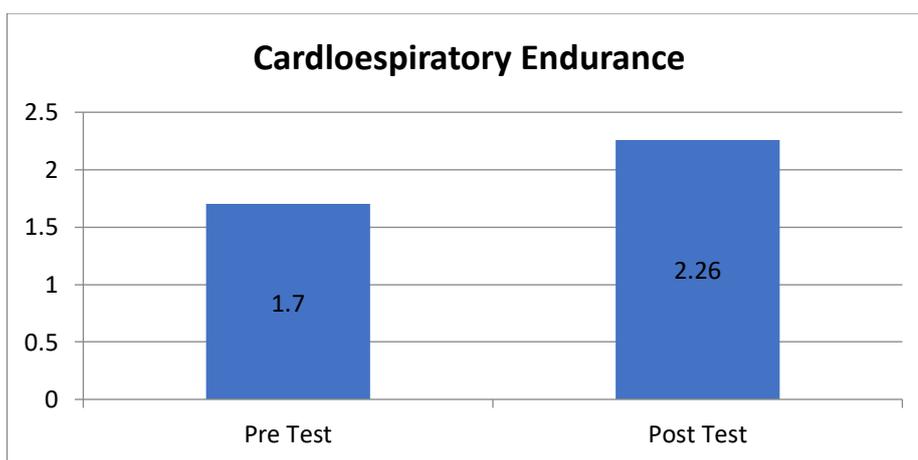
Figure 2. Cardiorespiratory endurance bar diagram of junior high school age children (Model Effectiveness Test)

In this research, it has been maximally pursued according to the ability of the author, but in the research. there are still some limitations that must be recognized and put forward as material for consideration in generalizing the results of the research achieved. The limitations include the following: 1) In this model it is necessary to adjust the game to students. 2) The use of equipment must continue to take care of comfort and safety so that athletes can be more maximal in carrying out cardiorespiratory endurance game models for middle school-aged children. 3) Product testing is only limited to 3 Bogor Regency Middle Schools. 4) Due to limited time and funds, when treatment is given it is not dormant, so it will affect the sample outside of the treatment schedule, which allows various social contacts to occur in the neighborhood where it affects their appearance in training and when data collection is done, which ultimately also influence the data collected.

The existence of psychological factors that are thought to influence the results of research that cannot be controlled includes interest, confidence, and other psychological factors.

References

Borg. W. R & Gall, M. D, (1983). *Educational research: An introduction.* New York: Longman.

Eliseo Andreu-Cabrer. (2009). *Traditional children's games in the Mediterranean: Analogie.,* Journal of Human Sport & Exercise, Vol . IV (3): 201-210

Nurhidayat & Pepen Supendi SP.(2007). *Fun game,* Jakarta: Penebar Plus.

Phaswana et al, (2015). Body composition and cardiorespiratory endurance profiles of students at the Centre for Biokinetics, Recreation and Sport Science, University of Venda, South Africa.,*African Journal for Physical, Health Education, Recreation and Dance (AJPHERD), Vol. 1 (2)*: 401-413..

Widiastuti, (2011).*Tes dan pengukuran olahraga.* Jakarta: Bumi Timur Jaya.

Comics as a Medium of Learning Literature in Under-developed Regions

Wika Soviana Devi
Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: wikasoviana@ymail.com

Abstract: The comic became one of the many pictorial media gave the message. Language learning and literature in comics into a medium that can represent two aspects of it. The application of instructional media in comics of areas left behind became the alternative that can be used to fill the lack of availability of the learning media. The purpose of this study is to give an overview of descriptive comic that the media can be used as a medium of instruction in the areas of limited means and lagging infrastructure. The methods used in this research is descriptive method of exposing in the comic as a media description that can be used in language learning and literature in regions lagging behind.

Keywords: comics, learning media, under-developed areas

Introduction

Indonesia language learning to the learners needs an interesting learning media, so that teaching and learning does not make the learners are tired. The purpose of the media learning to help students improve understanding, presenting interesting data, eases data interpretation, and condense information. Learning media form an interesting one is a visual and audiovisual-based media. One of the media-based visual language learning related to Indonesia is comic.

The comic is a form of art which does not move the image arranged in such a way so as to form the interlacing stories. Among the students of comics became one of the media that endeared by students. This is because the presentation of the comic not only wrote but accompanied by pictures. Through comics expected to foster thought-provoking imaginative child. Because the children liked to read books with pictures or photos compared with the book as a novel. There is a saying from China who said that a picture speaks more than a thousand words.

The interest of students reading comics can be utilized in the learning process. Comics can facilitate teachers communicate with students became happy to learn. The comic featured not only as a medium for read only but can give messages and cultivate the imagination of children especially in the field of language and literature of Indonesia. According to Sudjana and Rivai in Neneng (2017:3) suggests that the educational value of the comic has no doubt. Usage with illustrations, a lightweight storyline, with the character of a realistic draw all learners from a variety of age levels. Comics can be used by teachers to generate interest, develop syllables, as well as the skill of reading to learners. Therefore, it is very timely comics developed into a medium of instruction.

Comic media is media that is simple, clear, and easily understood by students. In addition, the comic has the value of recreative and educative value against that. This makes the comics become a medium that is easily introduced at the local level. Although, in the category of regions lagging behind, media comics can be entered and used in accordance with the nature of comics that are simple, easy to carry. It is becoming more value on media use comics as one of media education in the field of language and literature.

One of the problems in the field of learning on the village left in Indonesia is the lack of availability of supporting infrastructure and facilit. This limitation would not be a reason for the lack of learning media can be used. Learning in the form of print media to be one of the easiest alternative applied learning in the regions lagging behind. This is because the medium of comics is one form of print media that are simple and easy to carry.

Background of the research

The word medium in the world of education is referred to as the media of instruction. According to Ahmad (2014:4) says that the media learning is a means of communication in the process of teaching and learning in the form of hardware and software to achieve the process and results of instructional effectively and efficiently, as well as the destination intruksional can be easily reached. Furthermore, according to Hamalik in Azhar (2011:15) suggests that the use of the learning media in the process of teaching and learning can evoke desire and interest in the new, demotivating and evoking stimuli and learning activities, and even bring psychological influences towards students. Then, according to Ibrahim in the Azhar (2011:16) describes the importance of the media because the media learning brings learning and membangkitkankan sense of happy and excited for the pupils and renew their spirit and help solidify the knowledge in the minds of students as well as revive the lessons.

The comic is derived from the French "comique" which is the adjective funny or laughable. *Comique* comes were getting developed, a theme that was made increasingly extends so that it appears the themes that are fantasy or imaginary world. The growing popularity of comics extends this attracted the attention of many experts so as to appear to approve of comics as a medium of communication. According to Daryanto (2010:126) comics can be defined as a form of cartoon characters and applying a revealing story in the order closely related to images and is designed to provide entertainment to the readers.

In the world of educational comics educational media is referred to as instructlonal, the comic has a simple, clear, easy, and personalized. According to Ahmad (2014:78) the comic is a cartoon that express a character and portrays a story in close order, associated with the images and is designed to provide entertainment to the readers. The comic is a form of pictorial news, consisting of various situations, serialized, and sometimes humorous nature.

In addition, according to Sudjana&Rivai in Neneng (2017:3) argued that the educational value of the comic has no doubt. Usage with illustrations, a lightweight storyline, with the character of a realistic draw all learners from a variety of age levels. Comics can be used by teachers to generate interest, develop syllables, as well as the skill of reading to learners.

According to Waluyanto in Ambaryani (2017:2) of comics as a medium of learning is a tool that serves to convey the message of learning. In the context of this study point to a process of communication between the students and the learning resources (comics). Then, according to Heru (2005:7) the comic is a form of visual communication media have the power to convey information in a popular and easy to understand. This is possible because the comic combines the power of images and writings that are strung together in a plot of the image to make the information more easily absorbed. The text makes it more understandable and Groove makes it easier to remember.

Research Methodology

The method of this research is qualitative research using descriptive method. According to Sukmadinata (2009:53-60), qualitative research is research that is used to describe and analyze the phenomena, events, social activities, attitudes, beliefs, perceptions, and people individually and group. Sukmadinata (2009:18), stating that the descriptive research aims at defining a situation or phenomenon in what it is. Based on the description above it can be concluded that this type of research using qualitative research because its data analysis in the form of the written word or spoken and consider the opinions of others that can be called by the speaker.

Findings and Discussion

The data in this study were analyzed based on the selection in the category and function of comics in learning literature at school. Selected comics as a medium of learning literature in the area of lag characteristics of media based on comics that are simple and easy to use and easily arranged as well as have many endeared by students. In regard to learning English language and literature at the school, comics can be used as a medium to convey the contents of introduction literature and analysis of the sentence of the language.

Discussing comics as medium of instruction in introductory literature at school will also learn the literature itself. One example in the comics there are storylines that played by his characters. Each character has a character, in learning literature included in the deliberations of the characterizations.

Literary in the medium of comics include:

1. Comics have story themes. In one of the main elements of a work of literature is the theme.
2. Comics have a storyline. Each of the sheets contain comic series story that begins and ends.
3. Comic has a figure and every character has characters that carry the trait. This character is one of the major elements in a literary work namely the characters and characterizations.
4. Comics have the settings or setting that made the story migrated from one leg to the other.

Comic media language in charge:
1. Use conversation to reveal what individually decorated experienced by the protagonist of the story.
2. The conversation in comic must have a relationship with each other with other conversation that causes an event called interlacing occurs.
3. The use of certain terms in give a vocabulary in the field of language diction.

Application of the medium of comics on the left:
1. Comic be reading material that has been known for a long time and have been familiar in the students.
2. Media comics in the form of books allow comics to be carried anywhere without boundaries.
3. simple comic story in making comics easily understood by students.
4. Presentation illustrated a comic book making comics into a medium that appeals to students.

From the explanation above, it can be seen that comic media that is well known among students and the comic media characteristics that are simple allows the media to be used in any area even in the remote region category.

Conclusion

Learning language and literature at school should be applied maximum through sustainable innovation on leaning media. Schools at disadvantaged areas need to be supported especially those related to leanring media which they use. It is because these areas have very limited facilities. Comics could become ne of the choices as alternative media to be used in teaching language and literature in these kinds of areas.

References

Rohani, Ahmad. (2014). *Media instruksional edukatif*. Jakarta: Rineka Cipta.

Arsyad, Azhar. (2011). *Media pembelajaran*. Jakarta: Rajawali Press.

Ambaryani, Airlangga & Septian, G. (2017). Pengembangan media komik untuk efektivitas meningkatkan hasil belajar kognitif materi perubahan lingkungan fisik. *Jurnal Pendidikan, Vol. 3 (1*), 9-28.

Waluyanto, Heru Dwi. (2005). Komik sebagai media komunikasi visual pembelajaran. *Jurnal Pendidikan, Vol. 7 (1),* 45-55.

Sukmadinata, N. S. (2009). *Metode penelitian pendidikan*. Bandung: Remaja Rosdakarya

The Development Model of Curriculum Content of Civics Education (1975-2013) in Indonesia 21st Century

Gunawan Santoso[1], Pratiwi Kartika Sari[2]
[1,2] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: mgunawansantoso@gmail.com[1], tiwikartika01@umj.ac.id[2]

Abstract: The High School PKn Curriculum Model from 1975-2013 is to create students who have the Pancasila spirit in words and actions that are good and intelligent in their daily lives. The high school Civics curriculum model used is Pancasila, 1945 Constitution of the Republic of Indonesia, politics, law, values, morals, local wisdom and cultural diversity. The development of high school PKn in the ideal future for Indonesia is: (1) PKn which has clear scientific roots, namely politics, law, and morals, so that it is scientific. (2) PKn which is free from hegemony, indoctrination, and pragmatic interests of the regime in power. (3) PKn who adopt universal values, which are used by democratic countries. (4) PKn which cannot be separated from the frame of Pancasila philosophy. (5) Civics which are characterized by national identity, Indonesian culture, Bhineka Tunggal Ika, NKRI. (6) PKn that is guided by the politics of the state and nation in the constitution. (7) proportional PKn that develops civic knowledge, civic skills, and civic dispotition. (8) PKn which produces religious citizens, which is a differentiator from those developed by developed countries in the West. (9) Civics that empower citizens, not PKn which only form critical powerless compliance. (10) PKn which leads to civil society.

Keywords: civic education1, curriculum content model 2, high school 3

Introduction

Indonesia's education curriculum has developed since the period before 1947 until the 2006 curriculum, even the emergence of a new curriculum that will replace the old curriculum, namely the 2013 curriculum (Santoso, Al Muchtar, & Abdulkarim, 2015). According to the Minister of Education and Culture or the Minister of Education and Culture Muhammad Nuh (Kompas, 5/5/2012). "There is no lasting curriculum. The curriculum changes because of changing times, not because the curriculum is now bad or wrong. It's true in his day. But times change and we must change ".

The analysis is that the curriculum change process has no other purpose than to improve the quality of the learning process and the design of learning in schools so that students / students in Indonesia become quality resources and have succeeded in increasing their time (Santoso et al., 2015).

This research is philosophically Citizenship subjects Citizenship Education and is a learning tool to create students who have Pancasila mentality in words, actions and behavior in everyday life. PKn is the best material original from Indonesia not copied from other countries, including Pancasila, the 1945 Constitution, the Republic of Indonesia, national unity, and Red and White. Civics curriculum from 1975-2013 Citizenship ultimately aims to make citizens say, act, and behave, based on Pancasila or the spirit of everyday life that starts from school education to becoming a mature high school and becomes the pride of the nation to bless ourselves, family, school, country and nation with a good moral spirit / character who can advance and compete in the national and international era. The findings of this study also have implications for the development of the theory of scientific development and Citizenship Education in terms of the future of the Indonesian high school curriculum.

Background of the research

Historically, the state as a political unit has often preceded and provided the necessary institutional conditions for creating the 'nation', in the sense of a well-defined group of people who think of themselves as 'belonging' or as 'members' of the nation (Glover, 1997: 143). The creation of the nation is in such cases a politically designed process of 'creating Italians' or of 'turning peasants into Frenchmen' (Weber, 1976). In all such cases, the project of nation building is a conscious and sometimes violent political and educational process, whereby minority nations are created out of processes designed to eliminate or destroy them through assimilation. (Mcdonough & Cormier, 2013). In education, The development of desirable values has always been a central concern of education. Many educational scholars have recognized the school's role in value education and in moral development (Dewey, 1934; Goodman and Lesnick; 2001; Nucci, 2001; Wynne, 1988). (Duman, 2014).

Curriculum changes from time to time, both in Indonesia and in other countries, are due to the needs of the community which are constantly evolving every year and the demands of the times tend to change. The development of the curriculum is considered a determinant of the future of the nation's children. Therefore, a good curriculum will be expected to be implemented in Indonesia so that it will produce a bright future for the nation which has implications for the progress of the nation and state.

One of them was the idea of evaluating the curriculum quickly after Deputy President of Indonesia Boediono published the idea of education reform through the article "Educational Key to Development" Kompas, August 27, 2012 (Kompas Book, 2013: XIV). The article seems to be a description of the pillars of national development (pro

growth, pro poor, pro job, and pro environment) proclaimed by President Susilo Bambang Yudhoyono in an introductory speech in the 2013 RAPBN. What draws his ideas is to carry out the national development paradigm, the government wants to evaluate (again) national education curriculum, especially from elementary to high school. The reason, according to the Minister of Education and Culture Muhammad Nuh, is "many problems in society are closely related to education", evaluation is intended to make learning more effective. For this reason, the government formed a curriculum evaluation team and asked various professions and expertise to conduct evaluations independently (Kompas Book, 2013: XIII). (Santoso, 2013).

The fact is that Indonesia has a high school level Civics Curriculum (SMA) from 1975-2013 to create students who have the Pancasila spirit in words and actions that are good and smart in their daily lives (Santoso et al., 2015). There are many competing traditions ranging from the functional (Tyler, 1949), the descriptive-analytical (Marsh and Morris, 1991) to the critical (Apple, 1979)~ some studies offer insights from an instructional perspective, others locate curriculum analysis with analysis of the development of the educational system while yet others use a political-economy/sociological perspective to ask questions about the privileging of certain types of knowledge within the curriculum, access to certain types of curriculum for certain groups of students, etc. (Gopinathan, 2002).

The education shoud be expensive because the education is very important for every people or every citizen in Indonesia. Some-times if the education too cheap we considered that the education that the education is lower. The important of education for: The increase intelectual so that the people become smart. Indonesian people that education didn 't do with the best, because Indonesian curriculum still be changed. The education should be expensive, should be used media for example computer, internet, many books and so on. I agree with the education should be cheap so that the Indonesian people can study very well (Lengkanawati, 2004).

Curriculum 2013 is the latest curriculum released by the Ministry of Education and Culture of the Government of the Republic of Indonesia. The implementation of Kurikulum 2013 has been very controversial.(Michie, 2017). The connection between education, culture and religion is very strong in these Indonesian curriculum documents. The function of education is to develop students to become good citizens. According to Law 20 of 2003, students "become religious and pious humans to the one and only great God, of noble character, healthy, knowledgeable, skilful, creative, independent, and become democratic and responsible citizens" (Kemendikbud, 2012, p. 3). This statement is repeated in the curriculum documents and various commentaries (e.g., Nuh, 2013; Prihantoro, 2015). The intent is that people should also influence education: "Education is rooted in the people's culture" (Kemendikbud, 2012, p. 3) (Michie, 2017).

Curriculum integration originates from the notion that classroom curricula should be connected and relevant for real life (Beane, 1995; Czerniak et al., 1999). As far back as the 1970s, Gibbons (1979) pointed out that improving curricula, for example in the sense that separate, subject-oriented curricula are changed into more integrated curricula, would be highly beneficial for students. (Yulianti, 2015).

Different definitions of curriculum have been proposed, for example by Tyler (1949), Wheeler (1967), Eisner (1979), Skilbeck (1984), and Print (1993). For the purposes of this paper, the term curriculum means the statements of competencies to be acquired by learners in their own learning environment and all the planned learning opportunities offered to learners and the experiences learners encounter when the curriculum is implemented. (Madya, 2007).

So this increase must be through the Common Core State Standards (CCSS) integrated framework of the 21st century prepared by The Partnership for 21st Century Skills (P21). P21 (2006) advocated integrating academic core knowledge, critical thinking, and social skills in teaching and learning to help students in the multi-dimensional abilities that are required in the 21st century. These skills can help students succeed in their future careers by supporting 21st century learning systems to improve outcomes. Integrating the CCSS with P21 can help complement the 3Rs (core academic content mastery) and 4Cs (critical thinking, communication, collaboration, and creativity) (Partnership for 21st Century Skills, 2006) (Alismail & Mcguire, 2015). In our Indonesian context, they should develop their spiritual intelligence, emotional intelligence, IQ and their kinesthetic intelligence to be the desired total persons. This will indeed be advantageous for them since they have their places when, as mandated by the 2003 Education Act, they learn to record their talents, interest, abilities in their own environment. No one will feel harmonized in the learning process, so that everyone will have the opportunity to be himself / herself. This is an important point for the development of strong personality or identity. (Madya, 2007). Potential targets include teachers' proficiency in analyzing student thinking about the science (van Es & Sherin, 2008), their facility in using discourse strati- cies, and their ability to translate pedagogical strategies from curriculum materials (Davis & Krajcik, 2005) (Moon , Passmore, Reiser, & Michaels, 2014).

So curriculum change for Citizenship Education is very important to be changed immediately in the world of education because it is the basis in the world of education towards citizens who have a sense of nationalism, a sense of nationalism and a sense of smart and good citizen in the future as the Republic of Indonesia's educational ideals. The National Education System Law Number 20 of 2003 Article 37 states that "Citizenship Education must be contained in the curriculum for Primary and Secondary Education and Higher Education". Citizenship education at various levels of education must be improved and developed to equip students with basic knowledge and abilities regarding the realization of citizens who can be relied on by the nation and state.

Research Methodology

This research uses the qualitative approach to descriptive analysis methods and in case study drafts. Qualitative research has a purpose for understanding the phenomena holistically, and describing it in the words and sentences in special contexts by using some methods (Moloeng, 2009: 6). (Maryono, 2015). In this study, a qualitative research method was employed. Prior to the interview, each participant gave informed consent confirming their willingness to be involved in the study. Each interview lasted for approximately 45 minutes. The interviews were transcribed, coded and analyzed. (Yulianti, 2015).

The research methodology is a technique to obtain data needed in a study. Data sources are categorized into three groups. First, the source of printed material (literature), includes books, journals, papers and literature the results of research on Citizenship Education. Second, the data source is in the form of an analysis document which includes the results of state documents on the high school civic education curriculum from 1975-2013.

Data collection and information techniques used are qualitative data collection techniques that include documentation studies, and literature studies. Meanwhile the data analysis process used by researchers is data reduction, data display, verification and conclusion (Miles and Huberman, 1992: 16-18). (Sugiyono, 2012: 337), he said that activities in qualitative data analysis are done interactively and continuously until reaching the oversaturated culmination. The analysis activities include data reduction, data display, and conclusion drawing or verification. The validity is based on trusted rank, shifted degree, dependence degree, and the certainty. Test credibility is done by taking extension observation, improving the application, and triangulation (Sugiyono, 2012: 368). The extension observation is done to check the data. The researcher makes deeper research to take the trusted data. In getting the trusted data, the observation is done accurately and systematically. And then, the triangulation is used by some resources, some ways, and some times. Therefore, there are some triangulations, such as: resources triangulation, triangulation of the technique for taking the data, and the time triangulation. The triangulation is used to increase the data validity too (Maryono, 2015).

Findings and Discussion

1. Philosophical High School Citizenship Education in Indonesia

    Based on the results of the research, the Indonesian PKn philosophical high school in ontological, epistemological, and axiological studies namely;

    The ontology of High School Civics as curricular is to form individuals who are moral, have statesmanship, are noble, intelligent, participatory, and responsible according to the contents of the Pancasila. Epistemological High School Civics as a process of forming intelligent souls born and inwardly understand various substances of knowledge of meaning and meaning about values, morals, Pancasila, 1945 Constitution, Bhineka Tunggal Ika, Unitary State of the Republic of Indonesia, and red and white flags. All of this will form a broad knowledge of Indonesia and describe the powerful cognitive, affective, and psychomotor. The axiology of High School Civics as proof in everyday life with statesman attitude, heroism, nationalism, which produces a happy ending that is good with as much as possible is beneficial for self, family, school, nation and state of Indonesia.

    Then it can be clarified by the researchers of all, philosophical PKn high school level is an individual human formation program that is moral, statesmanlike, noble, intelligent, participatory, and responsible according to the contents of the Pancasila, by giving knowledge about meaning and meaning to values , moral, Pancasila, 1945 Constitution of 1945, Bhineka Tunggal Ika, Unitary State of the Republic of Indonesia, and red and white flags, by producing output of acts of statesmanship, heroism, nationalism, which succeed in happy ending which is good with many beneficial gifts for themselves, families , school, nation and state of Indonesia.

2. The development of the Civics Education curriculum in 1975-2013 that fulfills the demands of learning needs of students to face the challenges of life in the future

    The stipulation of Citizenship Education in the 1975 curriculum with the name "Pancasila Moral Education" (PMP) as the name of the field of study for Citizenship Education whose purpose is to form Pancasila citizens who are faithful and devoted to the Almighty God. The 1973 GBHN mandated curricula at all levels of education ranging from kindergarten to tertiary education, both public and private, must contain Pancasila Moral Education, and sufficient elements to continue the spirit and values of 1945 to the younger generation. With the stipulation of MPR Decree No. II / MPR / 1978 concerning Guidelines for Living and Practicing Pancasila (P4), the material in the field of study of Pancasila Moral Education is complemented or even dominated by P4 material and materials. Pancasila Moral Education (PMP) in the 1975 curriculum. This change of name occurred because the New Order wanted to make corrections to the Old Order, which was to implement Pancasila purely and consequently. Therefore the Pancasila morality must be taught intensively through formal education, until the PMP becomes its ingredients. The material is civics, national history, events after independent Indonesia, the 1945 Constitution, each Pancasila principle, the message of the importance of development (such as the five-year development plan and GBHN) for the Indonesian nation, specific state doctrine, discussing moral issues and so on, vision and mission oriented to value inculcation with the contents of the values of Pancasila and the 1945 Constitution.

In the Civics curriculum in 1984, Pancasila Moral Education (PMP) which aims to strengthen morals and enhance the character of students so that he is able to face and respond to all kinds of changes in living conditions in the future. PMP by the Department of P and K (1982) stated that the nature of the PMP is nothing but the implementation of P-4 through formal education channels. This continues until the enactment of the 1984 Curriculum and 1994 Curriculum. Its vision and mission is oriented towards value inculcation with the content of Pancasila values and the 1945 Constitution (value inculcation is improvised from unavoidable indoctrination). The P4 material in the study of citizenship education in PMP subjects is further strengthened in the PMP Curriculum 1984 Subject. The description of the subject matter as PMP material is described in the order of the Pancasila precepts, as explained in P4 on the interpretation of the practice of Pancasila. Although affective aspects become a focus in PMP Curriculum 1984, the material discussed more contains aspects of knowledge (cognitive) when reviewing topics such as human rights, principles and meanings of justice, the 1945 Constitution, state institutions, judicial bodies, Indonesian independence , international cooperation, and studies of Pancasila itself.

Then the 1994 curriculum, "Pancasila Moral Education" (PMP) has changed its name to "Pancasila and Citizenship Education" (PPKn). Pancasila and Citizenship Education is also intended as an effort to equip students with basic manners, knowledge, and abilities with regard to relations between citizens, between citizens and the state, as well as state defense preliminary education (PPBN) to become citizens who can be relied on by the nation and country, in accordance with Law No. 2 of 1982 concerning Defense and Security, and Circular of the Minister of Defense and Security SE / 001 / M / III / 88 (Udin S. Winataputra, 2012: 6). Pancasila and Citizenship (PPKn) whose contents still instill Pancasila and Citizenship values, but no longer emphasize Pancasila values which are outlined in P-4 Points again, because they assume that Pancasila is not only a simulation tool but must be carried out as well as possible in the life of the community, nation and state. Furthermore, the scope of the 1994 curriculum is (1). Values, morals and norms and behaviors that are expected to materialize in the life of the community, nation and state as referred to in the Guidelines for Living and Practicing the Pancasila. (2). The life of political, economic, social, cultural, defense and security ideologies and the development of science and technology in the Republic of Indonesia unitary unitary unit based on Pancasila and the 1945 Constitution. In the PKn 1996 subject, the curriculum was supplemented only by adding the material and not changing the name of the lesson. Then in line with the political changes from the New Order to the Reform Order, actually when the 1994 PPKn curriculum was applied, content adjustments were made. There are a number of contents of the 1994 Curriculum which were added and reduced, adjusted to the spirit and nuances of reform. Around 1999 the Pancasila and Citizenship Education curriculum (PPKn) was born with Supplements. A number of grains and the value of ideas related to character are accommodated in the 1994 PPKn Curriculum with Supplements. So, in 1999, during the reign of B. J. Habibie, the term IPTEK and IMTAK was born, followed by the term of the curriculum, the content of which was to integrate religious values into learning. However, the Pancasila values in the P-4 actually have nothing wrong, they should be maintained because of that, the spirit of Pancasila which must be PKn review and deepen as the identity of the PPKn lessons.

The 2004 curriculum, at first these subjects were combined into one, because the contents of Citizenship Education came from the Pancasila itself. Then it is broken down into its own subjects because Citizenship Education is considered important to be taught to students. This is because in Citizenship Education the wider citizenship material is taught and the source is not only directly from Pancasila. So, changing the name of PPKn changed to PKn. The Citizenship Education function in the Competency Based Curriculum (KBK) with the Citizenship / Kn 2004 name is: "To form citizens who are intelligent, skilled, and of good character, and loyal to the nation and state of Indonesia based on Pancasila and the 1945 Constitution". The scientific material on Citizenship Education subjects in the 2004 curriculum includes the dimensions of knowledge, skills (skills), and values (values). In line with the main idea of Citizenship Education subjects who want to form ideal citizens, namely citizens who have faith and devotion to God Almighty, knowledge, skills, and values in accordance with the concepts and principles of citizenship. In turn, these good citizens are expected to be able to help realize a democratic constitutional society. While the scope of Citizenship subjects are grouped into components of the subject matter and sub-components of the subject matter of the lesson, namely: 1. Unity of nation and state; 2. Values and norms (religion, decency, politeness and law); 3. Human Rights; 4. The necessities of life of citizens; 5. Power and politics; 6. Democratic society; 7. Pancasila and state constitution; 8. Globalization; but this subject matter carries the mission of values and moral education.

Then the Civics Curriculum in 2006, developed a body of knowledge known to have a systemic paradigm in which there are three domains of citizenship education, namely the academic domain, the curricular domain, and the cultural social domain. These three domains have structural and functional linkages which are bound by the civic virtue and civic culture concept which includes civic knowledge, civic disposition, civic skill, civic confidence, civic commitment and civic competence (Winataputra, 2012: 9). Subjects that focus on the formation of citizens who understand and are able to exercise their rights and obligations to become intelligent, skilled, and characteristic Indonesian citizens who are mandated by Pancasila and the 1945 Constitution of the Republic of Indonesia. rational and creative in developing the life of democracy in relation to the life of the nation and in the framework of relating to other nations. To support this objective, 8 PKn studies were published, namely the Unity and Unity of the nation; Norms, laws and regulations; Human rights; Citizen needs; State Constitution; Strength and Politics; Pancasila; and Globalization.

Furthermore, the 2013 curriculum, Draft from Puskurbuk, Ministry of National Education in 2012, Civics 2006 will be changed to the subject of Pancasila and Citizenship Education abbreviated as PPKn. This nomenclature is similar and can even be said to be the same as the 1994 curriculum (Winarno, 2013: 3). The curriculum substance, standard competence, basic competence, and PPKn indicators were organized nationally by

strengthening Pancasila values and morals; the values and norms of the 1945 Constitution of the Republic of Indonesia; the value and spirit of Unity in Diversity; and the insight and commitment of the Unitary State of the Republic of Indonesia. While the scope of the PPKn material includes: 1. Pancasila, as the basis of the state, ideology, and national outlook on life, 2. The 1945 Constitution as a written basic law which constitutes the constitutional foundation of the life of the community, nation, and state, final agreement form the State of the Republic of Indonesia, 4. Unity in Diversity, as a manifestation of the unity philosophy behind the diversity of life in the community, nation, and state.

Table 1. A summary of the analysis of the comparison of the development of Civics curriculum content in High School levels from 1975-2013 in Indonesia

No.	Analysis aspects	curriculum 1975	curriculum P4 1979	curriculum 1984	curriculum 1994	curriculum Supplement 1999	curriculum 2004	curriculum 2006	curriculum 2013
1	2	3	4	5	6	7	8	9	10
1.	PKn Name	PMP	PMP+P4	PMP	PPKn	PPKn	Kn	PKn	PPKn
2.	PKn Goals	Pancasilais citizens	Pancasilais citizens	Pancasilais citizens	Pancasilais citizens	Citizens who believe and fear	Citizens who have character	Citizens who are critically democratic	Citizens who are loyal and obedient to the Pancasila and the 1945 Constitution of the Republic of Indonesia
3.	Number of high school PKn hours	2	2	2	2	2	2	2	2
4.	Model PKn	Active students	Active students	CBSA/ active student learning methods	Skills	Skills	Experience	Solve the solution	*Thematic Contektual learning*
5.	Scope	*civics, national history, events after independent Indonesia, the 1945 Constitution, each Pancasila principle, the message of the importance of development (such as the five-year development plan and GBHN) for the Indonesian nation, specific state doctrine, discussing moral issues and so on, value inculcation with the contents of the values of Pancasila and the 1945 Constitution*	MPR Decree No. II / MPR / 1978 concerning Guidelines for Understanding and Practicing the Pancasila (P4)	human rights, principles and meanings of justice, the 1945 Constitution, state institutions, judicial bodies, Indonesian independence, international cooperation, and studies of Pancasila itself.	(1). Values, morals and norms and behaviors that are expected to materialize in the life of the community, nation and state as referred to in the Guidelines for Living and Practicing the Pancasila. (2). The life of political, economic, social, cultural, defense and security ideologies and the development of science and technology in the unity of the Republic of Indonesia which is based on Pancasila and the 1945 Constitution.	1999 during the reign of B. J. Habibie was born the term science and technology and IMTAK which followed the curriculum of the first curriculum, the contents of which were integrating religious values into learning.	1. Unity of nation and state; 2. Values and norms (religion, decency, politeness and law); 3. Human Rights; 4. The necessities of life of citizens; 5. Power and politics; 6. Democratic society; 7. Pancasila and state constitution; 8. Globalization; but this subject matter carries the mission of values and moral education.	National unity and unity; Norms, laws and regulations; Human rights; Citizen needs; State Constitution; Strength and Politics; Pancasila; and Globalization.	1. Pancasila, as the basis of the state, ideology, and national outlook on life, 2. The 1945 Constitution as a written basic law which constitutes the constitutional basis of community, national and state life, 3. The Unitary State of the Republic of Indonesia, as a final agreement in the form of the Republic of Indonesia 4. Unity in Diversity, as a manifestation of a unified philosophy behind diversity of life

| 6. | Strengths and weaknesses | forming Pancasilais who are faithful and devoted to God Almighty, but praxis in a different life because they only use the memorization system. | new content guideline, understanding, appreciation, and practice of Pancasila (P-4) or eka prasetya pancakarsa | the new content of guideline, understanding, appreciation, and practice of Pancasila (P-4) or Eka Prasetya Pancakarsa, with 36 points of Pancasila value as its contents, while the development of Civic Virtue and Civic Culture are not used as identity. PMP makes a heavy burden on PKn. | PPkn material carries the concepts of Pancasila and UUD 1945 values along with the dynamics of the embodiment in the lives of Indonesian people while in fact the 1994 curriculum reap many judgments from the community as a curriculum that is too material, overlapping, too much memorization, centralistic, and less reflective decentralized. | guidance, understanding, appreciation, and practice of Pancasila (P-4) are omitted | Broader Citizenship material and its sources are not only directly from Pancasila while the reality in the field shows that there are symptoms of Citizenship Education which are considered to have lost their academic characteristics because there are not sufficient scientific theories. | PKn seems more dominant in constitutional content so that the content of Pancasila values and morals lacks proportional accentuation, and methodologically, the predominance of cognitive learning tendencies, so that the dimensions of affective and psychomotor have not been optimally developed | PPKn lessons as a whole part of subject groups that have a mission to strengthen nationality and drive character education but learning is still fiber in legal and political knowledge, while morals are ruled out / less deepened |

(Source: processed by researchers from various PKn curriculum sources from 1975-2013 puskur; Ministry of Education and Culture)

137

3. Challenges of PKn Material in the Future

Citizenship education is a form of galvanizing individuals to become citizens of a nation that has a character that is in accordance with its national vision. While participating in the process of developing PKn curriculum in Indonesia, it can be stated that the challenges of Civics material in the future are as follows;

First, it is difficult not to be accepted, that the field of Citizenship Education is a study that is most vulnerable to external conditions, demands changes and factors that continue to be dynamic around it. Compared to other fields of study, PKn often changes.

Second, vulnerability to change may indicate that Civics as a field of study that has not been scientifically solid. It can also indicate that PKn is always full of interests. PKn material ideologically is not "neutral" from the vision and mission of the nation concerned.

Third, the PKn scientific community (lecturers, teachers, students, educators, researchers, and experts) need to be continuously prepared, involved, participating and contributing to any changes in Civics. PKn will only grow firmly if indeed the supporting communities are always actively working and jointly developing PKn science.

Fourth, a continuous process, dynamic and changing nature, especially in the realm of study substance, makes it possible that the description of the material presented will lead to a variety of explanations, diversity of concepts, which at the end can create confusion for perpetrators or practitioners of civic education. Experience in the 2006 Civics curriculum also shows this. Books of material circulating even though the main contents are the same but the descriptions given are different.

Fifth, the change in Civics Education into PPKn with the emphasis as education on the values and norms of Pancasila and the 1945 Constitution makes the content of material scientifically not too important. There is an opinion that content is not too important, which is important moral message. Reflecting on the experience of PPKn 1994, everyone can become a PPKn teacher. Will all teachers also become teachers of the 2013 PPKn?

Sixth, a quick reading of the basic competencies of each class shows that there is almost no difference in terms of content / learning material except in terms of operational verbs. This can cause difficulties in developing scientific teaching materials. The development of scientific and pedagogical teaching materials will greatly depend on the academic insight of the author.

Seventh, in the end the development of PKn from time to time will always challenge the PKn academic community to get involved, discuss, give criticism and other scientific activities for the development of the PKn field itself.

4. PKn Future Material Model

According to Djoro Djatum in the TV program Sang Guru on Bloomberg TV Indonesia, it was explained that in 2020-2035 it was a golden opportunity for the Indonesian people to take off from adversity, and if in that year the Indonesian people were unable to do it or did it too late there will be another opportunity for the Indonesian people. Therefore, it is necessary to realize character education immediately to reduce the disease / deterioration of the Indonesian people, including in the case of high corruption, plagiarism, drugs, fights between students who provide a bad image of the Indonesian nation in the eyes of the world. To make it happen, a number of approaches, models and learning methods need to be developed which can teach character education without imposing it on conventional character education. In my opinion, the right approach, model and method include Contextual Teaching and Learning, Problem Based Learning, Project Based Learning, Inquiry, Discovery, Experiment, and so on (http://rimatrian.blogspot.com).

Citizenship Education is defined as the contribution of education to the development of characteristics that characterize a citizen. This set of characteristics becomes citizens, which then becomes the starting point of citizenship education. This means that citizenship education is intended to achieve the formation of national character desired or expected by the nation concerned. The character of citizens will also determine the concept or paradigm of citizenship education that is carried out.

Thus the character of Indonesian citizens who want to be formed is influenced by the basic interests of the life of the nation and state but also able to adapt to the development of the era as well. This is because citizens not only live in a national environment but also live with other nations in international relations. Thus, the character of global citizens and for the future today is important for the change in the concept of citizenship education.

The reason for this change is based on the times and community changes so that Civics as a reference for character education can be felt and seen in various daily lives, namely:

a. The development of PKn material has now begun to spread to other subjects, both of which are PKn interdisciplinary, multi-disciplinary, even cross disciplinary.

b. PKn scientific distance will continue to grow because of the influence and encouragement of the progress of the development of people's mindsets and habits, both at the regional, national and international levels.

c. There are many leading and modern PKn reference sources that make the development of PKn expertise more important

d. The many professors and doctors who made themselves prominent educators with the latest propositions and the sharing of science with PKn experts abroad made PKn scientific development more complex and comprehensive.

e. The number of problems in PKn scholarship and more and more solutions and alternatives to form learning that are more focused on pleasant learning and not boring with learning in classroom learning in PKn subjects.

For this reason, in the development of Civics in the ideal future for Indonesia are as follows: (1) PKn which has clear scientific roots, namely politics, law, and morals, so that it is scientific. (2) PKn which is free from hegemony, indoctrination, and pragmatic interests of the regime in power. (3) PKn who adopt universal values, which are used by democratic countries. (4) PKn which cannot be separated from the frame of Pancasila philosophy. (5) Civics which are characterized by national identity, Indonesian culture, Bhineka Tunggal Ika, NKRI. (6) PKn that is guided by the politics of the state and nation in the constitution. (7) proportional PKn that develops civic knowledge, civic skills, and civic dispotition. (8) PKn which produces religious citizens, which is a differentiator from those developed by developed countries in the West. (9) Civics that empower citizens, not PKn which only form critical powerless compliance. (10) PKn which leads to civil society.

Citizenship education is a subject that is based on politics, law, values, morals and other sciences. Thus this education should be relatively free from the influence of power. In the United States, Britain and Australia, for example, the scientific discipline of civic education is civics and law. The disciplines of economics, sociology, anthropology, political science and political philosophy are the main components of civic education. Therefore, according to its essence, civic education is an interdisciplinary, multi-disciplinary and cross disciplinary subject.

To shorten it, from that matter the Indonesian civic education is set to make smart and good citizens where good citizens are the size of the country's constitution. In the discourse of citizenship, smart and good citizens are a meeting point between the civic confidence, civic competence and civic commitment. Civic confidence is the slice of civic knowledge and civic dispositions, civic competence is a slice of the civic knowledge and civic skill and civic commitment which is a slice of civic dispositions and civic skills. Citizens who have civic knowledge, civic dispositions and civic skills are citizens who have confidence, competence and commitment, hereinafter referred to as smart and good citizens. As long as the citizens' attitudes and behavior are not contradictory and obey the constitution, they are categorized as good citizens, while human / good people are basically the same in all countries, because they are determined by their conscience. Being a good citizen is not necessarily a "good" human being. We may hear that there are members of the DPR or state officials who pay taxes, report their personal wealth, fulfill summons, and comply with traffic regulations. However, it also behaves immorally, eg committing adultery, being angry, and so on. He is a good citizen but not necessarily as a human being he has a "good" character.

So substantially the development of material in the Civics curriculum was strengthened and deepened by 50% in the moral value content of Pancasila as the basis of the PKn philosophical philosophy, while 30% came from legal content and 20% originated from political content as a complement to perfection. This target of Civics is to improve the character / morals of the nation's children as the next generation in the next 22 years.

Briefly in its implementation, if political values are put forward, it will become fraud and destruction of democracy. If the legal aspects are prioritized, justice will be easily mocked, the core of this politics and law is getting smarter in politics. it will be even more cunning in seeking legal disability gaps. However, if the moral is put forward, what happens is that the morals are more intelligent, less attitudes and immoral, corrupt, and legal brokers. Civics curriculum that is developed in the future is expected to have a strong basic Pancasila moral value and complementary legal and political resources shortened because PKn's future years are desirable to target human beings with superior character and morals. Then Civics must have practical subjects in various fields in society, schools, nations and countries if if the Civics were applied in psychomotor-based subjects then democracy and law-abiding adulthood and citizenship would eventually develop and shape the Pancasila spirit.

Furthermore, the scientific order developed according to Indonesian PKN-style is: "Pancasila, Opening of the 1945 Constitution, 1945 Constitution, NKRI, Bhineka Tunggal Ika, Merah putih, and the meaningfulness of the struggle for the Youth Oath." Based on these 7 sources PKn must be developed and reinforced by learning models based on the personality of the Indonesian people.

All of this will shape the moral character of knowledge and the introduction of the nation and state of Indonesia, where citizens will be proud to have a nation and country with diverse cultural customs and beliefs. If we hold strong moral sciences, the customs and beliefs that exist in our country will definitely form a solid union with the spirit of unity in one form of the Republic of Indonesia. So, it seems clear that the criculum of Indonesia must be formed immediately. If PKn experts want to explore and make a curriculum model that makes them proud to love obedient and obedient and want to build up to advance the country and nation of Indonesia towards the independence of the nation with a virtuous moral basis, the design of this curriculum program can be used as a reference.

5. So the collaboration of future curriculum programs can be formed and can be calculated on several material sources which can be shortened as follows:

   a. Moral:
      1) Moral values in the Guidelines for Living and Practicing the Pancasila (P4)
      2) The history of the philosophy, concepts, principles and norms of the Pancasila as the basis of the state, ideology, and outlook on the nation
      3) Opening of the 1945 Constitution, and the meaning of moral significance of the Opening of the 1945 Constitution for Indonesian citizens
      4) Translation of Pancasila Values and the 1945 Constitution
   b. Law:
      1) Norms, laws and regulations
      2) Human rights
      3) Principle and meaning of justice
      4) Pancasila and state constitution
      5) The 1945 Constitution as a written basic law which constitutes the constitutional basis of life in the community, nation and state
   c. Political:
      1) The meaning, essence and purpose of red and white, the struggle of regional heroes, the proclamators of independence, and the openness of the government in equitable distribution of Indonesian welfare.
      2) Civics
      3) Power and politics
   d. Morals collaborate with law
      1) Compliance manners and introduction to culture, customs, and beliefs in religious communities throughout Indonesia.
      2) Fill the youth oath, the meaning of youth oath, the new generation of the nation, and the collaboration of youth oaths first and now.
      3) Values and norms (religion, decency, politeness and law)
      4) Unity in Diversity, as a manifestation of the unity philosophy behind the diversity of life
   e. Morals collaborate with Politics
      1) Globalization
      2) The meaning of nationalism, patriotism, and the meaning of national heroes and the 21st century until now collaborated with world heroes.
      3) Democratic society / civil society
   f. Law collaborates with politics
      1) State institutions, judicial bodies and international cooperation
      2) The Unitary State of the Republic of Indonesia, as a final agreement in the form of the State of the Republic of Indonesia
   g. Moral, law and politics collaborate
      1) The life of political, economic, social, cultural, defense and security ideology and the development of science and technology in the unity of the unitary state of the Republic of Indonesia
      2) Values, morals and norms and behaviors that are expected to materialize in the life of society, nation and state, Unity of nation and state,
      3) Indonesian nationality and development history

Conclusion

The first on Ontological High School Civics as curricular is to form individuals who have good moral, statesmanship, noble, intelligent, participatory, and responsible according to the contents of the Pancasila. Epistemologically the High School Civics as an intelligent process of soul formation is born and the mind understands various substances of knowledge of the meaning and meaning of values, morals, Pancasila, the 1945 Constitution, Unity in Diversity, the Unitary State of the Republic of Indonesia, and red and white flags. All of this will form a broad knowledge of Indonesia and describe the powerful cognitive, affective, and psychomotor. Then axiologically the High School Civics as proof in everyday life with statesmanship, heroism, nationalism, which results in a good happy ending with as much as giving benefit to themselves, family, school, nation and state of Indonesia (human). Then it can be clarified by the researchers of all, philosophical PKn high school level is an individual human formation program that is moral, statesmanlike, noble, intelligent, participatory, and responsible according to the contents of the Pancasila, by giving knowledge about meaning and meaning to values , morality, Pancasila, the 1945 Constitution, Bhinneka Tunggal Ika, the Unitary State of the Republic of Indonesia, and the red and white flag, by producing output of acts of statesmanship, heroism, nationalism, which succeeded.

The two PKn powers in the 1975-1994 curriculum were on moral values as character formation, then in the 2004 curriculum Civics lay in political power, while the strength of the PKn curriculum in 2006 was in the legal field, but in the 2013 curriculum there were combinations of these three forces that is carried out from moral, political, and legal values, but the main strength in this curriculum is still seen in fiber in political and legal substance, the moral element as a less detailed discussion. Then another value comes from Pancasila, the 1945 Constitution, Bhineka tunggal Ika and the Unitary State of the Republic of Indonesia. Nations that have a vision, of course, need citizens of the nation who also have insight, awareness and behavior that supports the nation's vision. Citizenship education is a form of galvanizing individuals to become citizens of a nation that has a character that is in accordance with its national vision.

The third in the development of Civics in the ideal future for Indonesia is as follows: (1) PKn which has clear scientific roots, namely politics, law, and morals, so that it is scientific. (2) PKn which is free from hegemony, indoctrination, and pragmatic interests of the regime in power. (3) PKn who adopt universal values, which are used by democratic countries. (4) PKn which cannot be separated from the frame of Pancasila philosophy. (5) Civics which are characterized by national identity, Indonesian culture, Bhineka Tunggal Ika, NKRI. (6) PKn that is guided by the politics of the state and nation in the constitution. (7) proportional PKn that develops civic knowledge, civic skills, and civic dispotition. (8) PKn which produces religious citizens, which is a differentiator from those developed by developed countries in the West. (9) Civics that empower citizens, not PKn which only form critical powerless compliance. (10) PKn which leads to civil society.

References

International journal reference

Alismail, H. A., & Mcguire, P. (2015). 21st century standards and curriculum : current research and practice. *Journal of Education and Practice, 6(6),* 150–155.

Duman, G. (2014). Evaluation of Turkish preschool curriculum objectives in terms of values education. *Procedia - Social and Behavioral Sciences,* 152(Peer-review under responsibility of the Organizing Committee of the ERPA Congress 2014. doi: 10.1016/j.sbspro.2014.09.353), 978–983. https://doi.org/10.1016/j.sbspro.2014.09.353

Gopinathan, S. (2002). *Remaking the singapore curriculum : trends , issues , prospects*. Education, Nanyang Technological University, Singapore Gopis(fyn le. Edu. Sg, 1(November), 15–16.

Lengkanawati, N. S. (2004). EFL teachers competence in the context of English curriculum 2004 : Implications for EFL teacher education. Indonesia *University of Education Journal, 1(1991*), 42–52.

Madya, S. (2007). Searching for an appropriate efl curriculum design for the indonesian. *TEFLIN Journal, 18(200*), 196–221.

Maryono. (2015). The implementation of character education policy at Junior High Schools and Islamic Junior High Schools In Pacitan. *International Journal of Education and Research, 3(5),* 267–274.

Mcdonough, K., & Cormier, A.-A. (2013). Beyond patriotic education: Locating the place of nationalism in the public school curriculum. Education, Citizenship and Social Justice Http://esj.sagepub.com/, 12(Education, *Citizenship and Social Justice), 8(2)* 135–150. https://doi.org/10.1177/1746197913483657

Michie, M. (2017). Comparing the Indonesian Kurikulum 2013 with the Australian Curriculum : Focusing on science for junior secondary schools Perbandingan Kurikulum 2013 Indonesia dengan Australian Curriculum : Dengan fokus pada Ilmu Pengetahuan Alam (IPA) pada tingkat Sek. *The International Education Journal: Comparative Perspectives Vol. 16, No. 2,* 2017, Pp. 83-96 https://openjournals.library.sydney.edu.au/index.php/IEJ, 16(2), 83–96.

Moon, J., Passmore, C., Reiser, B. J., & Michaels, S. (2014). of Curriculum Implementation. *Journal of Teacher Education Http://jte.sagepub.com/ Beyond, 65(2)*, 172–176. https://doi.org/10.1177/0022487113511497

Santoso, G. (2013). Analisis swot kurikulum pendidikan kewarganegaraan jenjang SMA tahun 1975 – 2013.

Santoso, G., Al Muchtar, S., & Abdulkarim, A. (2015). Analysis SWOT civic education curriculum for senior high school year 1975-2013. *Civicus: Jurnal Pendidikan Kewarganegaraan, 19(1),* 86–109.

Yulianti, K. (2015). The new curriculum implementation in Indonesia : A study in two Primary Schools. *International Journal about Parents in Education 2015, Vol. 9 (1*), 157-168, 9(1), 157–168.

Official Reference to the Indonesian State Law

Departemen Pendidikan dan Kebudayaan. (1975). Kurikulum sekolah menengah atas 1975a: Buku I ketentuan-ketentuan pokok. Jakarta: Balai Pustaka.

Departemen Pendidikan dan Kebudayaan. (1975). Kurikulum sekolah menengah atas 1975b: Buku II B bidang studi pendidikan moral Pancasila. Jakarta: BalaiPustaka.

Departemen Pendidikan dan Kebudayaan. (1975). Kurikulum sekolah menengah atas 1975c: Buku III pedoman evaluasi. Jakarta: Balai Pustaka.

Departemen Pendidikan dan Kebudayaan. (1985). Mengemban masa depan: Kumpulan sambutan Prof. Dr.Nugroho Notosusanto, buku kedua. Jakarta: Depdikbud.

Departemen Pendidikan dan Kebudayaan. (1993). Kurikulum 1994 pendidikan dasar dan pendidikan menengah. Jakarta: Balai Pustaka.

Departemen Pendidikan dan Kebudayaan. (1999). GBPP PPKn suplemen 1999. Jakarta: Depdikbud.

Pusat Kurikulum Balitbang Depdiknas. (2003e). Kurikulum 2004: Naskah akademik. Jakarta: Pusat Kurikulum Balitbang Depdiknas.

Pusat Kurikulum Balitbang Depdiknas. (2007). Kajian Kebijakan Kurikulum PKn: Naskah akademik. Jakarta: Pusat Kurikulum Balitbang Depdiknas.

Pusat Kurikulum Balitbang Depdiknas. (2010). Sejarah_kurikulum tahun 1975-2004: Naskah akademik. Jakarta: Pusat Kurikulum Balitbang Depdiknas.

Undang-Undang Republik Indonesia Nomor 2 Tahun 1989 tentang Sistem Pendidikan Nasional.

Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 tentang Sistem Pendidikan Nasional.

Ketetapan MPR Nomor IV/MPR/1973 tentang Garis-garis Besar Haluan Negara. Ketetapan   MPR   Nomor   II/MPR/1978   tentang   Pedoman Penghayatan   dan Pengamalan Pancasila (P4).

Ketetapan MPR Nomor IV/MPR/1978 tentang Garis-garis Besar Haluan Negara. Ketetapan MPR Nomor II/MPR/1983, tentang Garis-garis Besar Haluan Negara.

Ketetapan MPR Nomor II/MPR/1988, tentang Garis-garis Besar Haluan Negara. Ketetapan MPR Nomor II /MPR/1993, tentang Garis-garis Besar Haluan Negara

Language Variations of Online Motorbike Taxi Driver

Ratna Dewi Kartikasari
Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: g4lih_58@yahoo.com

Abstract: This research was conducted with the aim of knowing the variety of languages used by online motorbike taxi drivers which are currently being found in various regions, especially in Jakarta and surrounding areas. The language variations used in this study are slang and jargon. Slang language variations are used in secret and are limited to motorbike taxi drivers, but variations in jargon language even though they are not known by others but are common words in daily use so that over time other people also know what these words mean. Based on the results of the study, some words have become common jargon that does not only exist in the professional motorbike taxi business community. However, these jargon words also exist among young people who are fond of two-wheeled vehicles or motorbikes. Like the word *dikorek* ('scraped'), *dipoles* ('polished') and *dioplos* ('mixed') are words of jargon variation that are common among young motorbike lovers or in the mechanic profession in the motorbike workshop in the Jakarta and surrounding areas. The dominance of young people in the profession of motorbike taxi drivers, making the use of slang and jargon variations very thick. The author believes that new slang and jargon variations will emerge when new generations of motorbike taxi drivers emerge, especially around the University of Muhammadiyah Jakarta.

Keywords: language variations, slang, jargon, online motorbike driver.

Introduction

Language as a communication tool allows differences in its use. This difference can be seen in terms of variety and diversity of languages. This is because humans as speakers of language are social creatures that interact with each other. Fishman in Chaer and Agustina (2010: 3) suggests that sociolinguistics is the study of the characteristics of language variations, functions of language variation, and language use because these three elements interact in and change each other in one speech society, the social identity of speakers, the social environment in which speech events occur and the degree of variation and variety of linguistics.

Background of the research

Speakers in their interactions not only interact with a homogeneous society but do not rule out the possibility of them interacting with heterogeneous communities. The social environment where speech events often occur is in the family, in a household, at school, in the library, in lectures, in the office, in places of worship, in vehicles, even on the roadside. Just like in one of the online mtorbike bases around University of Muhammadiyah Jakarta (UMJ), where motorbike taxi drivers often interact with their passengers. Therefore, based on the place of the interaction event, so that it can influence the choice of code and style of speech.

Hartman and Stork (1972) in Chaer and Agustina (2010: 62) distinguish variations based on criteria (a) the geography and social background of the speaker, (b) the medium used, and (c) the subject matter. Whereas Halliday in Chaer and Agustina (2010: 63) distinguishes language variations based on (a) users called dialects, and (b) usage called registers

Based on the division of language variations above, it can be seen that variations in language are distinguished by speakers and their use. Based on the speaker can be seen who uses the language, where the speaker lives, how the social position of the speaker in the community, what sex the speaker is, and when the language is used. While based on its use it can be seen for what language is used, in what fields the language is used, what paths and tools, and how the situation is formalized in the language

From the distribution of language variations above, the author tries to discuss variations in language based on work, professions that cause social variations in society, especially the use of slang and jargon variations on motorbike taxi drivers at the base of the UMJ located in the area of the Faculty of Education, in front of the UMJ park.

Language Variations

Slang

Slang are social language variations that are specific and confidential. This variation is used by certain groups that are very limited, and should not be known by outside groups. In its use, the vocabulary used in this slang

variety often changes. This variation of slang is temporal; and is more commonly used by young people, although it does not rule out the use of parents.

Slang vocabulary can be a shortening of words, the use of the word nature is given a new meaning or a completely new and changing vocabulary. Besides that, slang can also be a reversal of sound, the vocabulary commonly used in society is strange, funny, and even different from the real meaning. Furthermore, Alwasilah (1993: 47) states that the use of slang language is to enrich language vocabulary by communicating old words with new meanings. The use of slang with completely new vocabulary is very rare. Slang is a vocabulary, not a grammar or a pronunciation. The slang language by Kridalaksana (1982: 156) is formulated as a variety of informal languages used by teenagers or certain social groups for internal communication so that people outside their groups cannot understand. Slang in the form of a completely new and changing vocabulary

Jargon

Jargon is a social variation that is used limitedly by certain social groups. The variety of languages used is generally rarely understood by other people or the general public outside the community. Although the language variations cannot be understood by people, this variation of the jargon language is not confidential. As in the community of motorbike riders or motorbike gangs, there are phrases and terms used in their communication such as: set, shouted, scraped, sorted, polished, etc.

Research Methodology

This study uses a Sociolinguistic approach and is a field research. The Sociolinguistic approach is methodologically focused on communication developed using qualitative data. The speech that became the data of this research was realized in the slang variations and jargon of online motorbike taxi drivers around the University of Muhammadiyah Jakarta

The observation method in this study used two advanced techniques, namely the technique of skillful listening and skillful listening-free techniques. In the technique of referring to competent involvement, researchers participated in listening and were involved in the conversation. Whereas in proficient involved free techniques, researchers are not involved or do not participate in a speech event, but only listen to the speech of a speech event. In this study, researchers only used listening techniques without being involved with conversation but researchers tried to find out what was said by speakers.

Findings and Discussion

Online motorbike taxi drivers are usually called by ojek drivers. Ojek drivers are the names or calls commonly used by people to people who work in the field of transportation services, especially two-wheeled vehicles or motorbikes. There are also those who are referred to as umbrella motorbike taxi drivers, namely people who offer umbrella loan services when it rains. But here the author will not discuss motorbike taxi drivers but motorbike taxi drivers.

The language variations of the motorbike taxi drivers to be discussed by the author are the language variations of online motorbike taxi drivers who usually hang out at the online motorbike taxi station around the UMJ which is located in the area of the Faculty of Education, next to the Faculty of Islamic Religion, in front of UMJ park. So this online motorbike taxi station is a strategic place for online motorbike taxi drivers and allows working as a motorbike taxi driver is a job that is quite productive because it is close to the University of Muhammadiyah Jakarta and residents housing among the universities.

The motorbike taxi drivers around UMJ, located in the Faculty of Education, Faculty of Islamic Studies, and the front of the UMJ park are dominated by young people or high school graduates, students who work side-by-side as motorbike taxi drivers. Generally they are native citizens of Jakarta who have been in Jakarta for generations. There are also motorbike taxi drivers who are adults but usually they havebigger brothers or still have kinship with young motorbike taxi drivers

Slang of Online Motorbike Taxi Drivers

Almost all motorbike taxi drivers at the ojek base around the University of Muhammadiyah Jakarta use a variety of slang languages to communicate with fellow motorbike taxi drivers. Such communication occurs both while waiting for passengers to arrive and when there are passengers. The variety of slang languages is used limitedly by motorbike taxi drivers solely limited to the material of chat or talk on the base. Some variations of slang that the author can find are as follows:

Table 1. variations of slang

Slang	Indonesian Translations	Usage in dialogue
Apes	Ban motor yang bocor atau kempes	A: kenapa luh? B: apes gua tadi di Ciputat
Sial	Kena razia polisi	A: sial gua tadi di Gintung
Depan	Jalan menuju arah Ciputat	A: narik ke mana luh? B: ke depan gua
Belakang	Jalan menuju arah Pondok Cabe	A: narikke mana tadi? B: ke belakang doang.
Nenek-nenek	Penumpang ibu-ibu yang cerewet	A: habis narik siapa luh? B: biasa, nenek-nenek...
Bohay	Penumpang perempuan yang cantik dan seksi	A: wiihh... sewa bohay nih!
Bening	Penumpang cantik	A: wiihh… tadi gua dapet yang bening

Jargon of Online Motorbike Taxi Drivers

In the use of variations in language, motorbike taxi drivers in their interactions with motorbike taxi drivers also use variations in jargon language. Some variations of the jargon language that the writer found in the conversation of the motorbike taxi drivers were as follows:

Table 2. variations of the jargon language

Jargon	Indonesian Translations
Sewa	Penumpang
Narik	Mengojek
Tarik	Mengantarkan penumpang
Mandi	Mencuci motor
Nyebokin	Membersihkan motor dengan kain lap basah
Nyarap	Sarapan pagi makan bubur ayam
Cuy	Teman
Setetes	Satu liter bensin
Setangki	Satu 144angka penuh bensin
Lage	Sebutan untuk kendaraan Motor Honda Astrea (Grand, Legenda, dan sejenisnya)
Dikorek	(Oversize) menambah kapasitas mesin motor
Trondol	Memodifikasi bodi motor
Dipoles	Membersihakn motor dengan cairan pembersih hingga mengkilap
Simas	Sebutan untuk kendaraan Motor Suzuki Smash
Oplos	Menukar salah satu (spare part) suku cadang kendaraan motor dengan motor lain
Nyayur	Telah mendapatkan pendapatan yang banyak atau telah mendapatkan penumpang berkali-kali
Merih	Tidak mendapatkan penumpang sama sekali
Sewa mahal	Penumpang yang jarak tujuannya jauh dan membayar lebih
OPIK (Orderan PIKtif)	Orderan yang dilakukan hanya untuk iseng-iseng kepada tukang ojek
Gacor	Banyak orderan
Anyep	Sepinya orderan
Ojol	Sebutan untuk Ojek Online
Opang	Sebutan untuk ojek pangkalan

Conclusion

Slang and jargon are two different language variations. However, when the use of these two variations of language is almost not seen the difference in daily use in the professional motorbike taxi drivers. Slang language variations are used in secret and are limited to motorbike taxi drivers, but variations in the language of jargon even though it is not known by others but become common words in daily use so that over time other people also know the meaning of these words.

From the words of the slang and jargon variations that the author describes above, some words have become general jargon that are not only available to the professional motorbike taxi drivers. However, these jargon words also exist among young people who are fond of two-wheeled vehicles or motorbikes. Like the word scraped, polished, mixed are words of jargon variation that are common among young motorbike lovers or in the mechanic profession in the motorbike workshop in the Jakarta and surrounding areas.

The dominance of young people in the profession of motorbike taxi drivers, making the use of slang and jargon variations very thick. However, the variation of this language did not last long when a new generation of ojek drivers emerged and old motorbike drivers had changed professions or worked in other professions. The author believes that new slang and jargon variations will emerge when a new generation of online motorbike taxi drivers emerge around the University of Muhammadiyah Jakarta which is located in the area of the Faculty of Education, the Faculty of Islamic Religion, and in front of the UMJ park.

References

Alwasilah, A. Chaedar. (1993). SosiologiBahasa. Jakarta: Gramedia.

Chaer, Abdul dan Agustina, Leoni. (2010). *Sosiolinguistik: Perkenalan Awal*. Jakarta: Rineka Cipta.

Kridalaksana, Harimurti. (1982). *Kamus Linguistik*. Jakarta: Gramedia.

Learning Model of Shooting on Football for the Age of High School

Muhammad Ishaq Gery[1], Muhammad Aspar[2], Doby Putro Parlindungan[3]
[1,2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: ishaqgery09@gmail.com[1], masparrivai@gmail.commasparrivai@gmail.com[2], dobyparlindungan@gmail.com[3]

Abstract: The purpose of this study was to produce a soccer shooting learning model in high school age. Research & Development (R & D) research methods from Borg and Gall. The subjects in this study were East Jakarta high school students consisting of 32 small group trial students, 78 main trial students and 32 model effectiveness tests. Test the effectiveness of the model using a football shooting test to determine the level of shooting ability for high school age before giving treatment in the form of a shooting learning model designed and to determine the level of football shooting ability after the shooting model treatment designed, from the initial test conducted obtained by students Shooting football level of 188, then after being given a treatment in the form of a football shooting model, the ability level of students was obtained at 340. So this football shooting learning model was effective in increasing football shooting learning for high school age. Based on the results of the development it can be concluded that: (1) This learning model can be applied in high school age (2) With this learning model, evidence of an increase by testing pretest and posttest results data has a significant difference between before and after the given treatment model.

Keywords: development, model, shooting football

Introduction

There are various techniques used such as dribble, passing, control, shooting, and heading. One of the goals of football games is each team tries to control the ball and try to put the ball into the opponent's goal as much as possible and try to stop the opponent's attack to protect or maintain the goal so as not to enter the ball. From this explanation, it can be seen that the purpose of playing football is to score or score. To score a goal requires a basic technique called shooting. Shooting is basically one technique that plays an important role in soccer. the aim of shooting is to put the ball into the opponent's goal with the aim of getting points or goals. Joseph A. Luxbacher (2012: 01), argues that "In a global society separated by physical and ideological differences, football's fame is not bound by age, gender, religion, culture, or ethnic boundaries. Movement of players who are smooth and controlled express their individuality in team play. Speed, strength, stamina, skills, and knowledge about tactics are all important aspects of appearance. " According to Muhajir (2007: 22), Football is a game that is carried out by kicking, which has the goal to put the ball into the opponent by maintaining the goal so as not to concede the ball. According to Sodikin and Achmad (2010: 02) that soccer is a game performed by two teams/teams. Each team consists of 11 players. Soccer games require compact teamwork. In addition, variations and combinations of basic techniques are also needed in this game.

Background of the research

In a Football formation, there are various positions of players, including attackers (strikers) or forwards, midfielders (midfielder) or midfielders, defenders (defenders), and goalkeepers (goalkeepers). Then from various types of attackers consisting of right attackers and left attackers, the midfield consists of right midfield midfielders, left midfielders and central midfielders. Besides attacking players and midfield players there are also defenders. Each player has a different function, namely the attacker or front player functions as an attacker, therefore a forward is required to be able to score goals against opponents. Then the midfielder or midfielder serves as a ball feeder or the midfielder can also be tasked with helping the attacker to put the ball into the air. In addition, there is also a defender or defender who serves to maintain the defense of the goal from the attacks of the opponents. But in addition to serving as a defender, a defender or more often called a defender can also be tasked with assisting the attack.

To achieve achievements in the world of sports, especially football, learning is needed. Learning is a process that is repeated and has a progressive aim to increase maximum achievement. In the learning process, if a coach is lacking in developing creativity, players lack interest in following the learning process, especially for players who have experienced trauma injuries. For that, a sports teacher must be able to carry out the task and adopt a new learning model that can help the problem of players and achieve learning goals, especially in shooting material. This is what is sometimes difficult to be realized by sports teachers. Weaknesses in learning methods often occur in the development of monotonous models that often make players experience boredom in following the learning process.

According to Scheunemann (2013: 56) so that shooting is strong and accurate, the things that can be done are (1) Learning is a lot of repetitions (2) make sure the shooting technique is correct. The best way to develop shooting techniques is to practice shooting kicks repeatedly using the right techniques. The Instep drive is used to kick immovable balls. Basically, the instep drive shot is kicking the ball that is still on the ground. The instep drive was the ball that was shot while still touching the ground. The form of learning is done especially when shooting ability

learning is rarely given by Physical Education teachers and even if it is given it should only use a simple learning model with little variation and also rarely use tools such as cones, leaders, small goalkeepers. then the implementation of shooting learning methods is not carried out effectively and complexly, it is rare for players either individually or in teams to be given special learning from forms of shooting learning and variations, and infield findings in shooting learning the trainer still uses the rotation method after the player shoots the player changes position to feeder so when a player makes a mistake the player is not given another chance to improve because the player must be a feeder. so when in official games or matches the productivity of goals that are produced is very minimal, rarely gets a victory, and the ability of individuals and teams never increases, it shows that the goal of the game of football has not been achieved optimally The method that is done by repetition should be by doing repetitive movements on one occasion. So when a player makes a mistake the player can immediately correct the next opportunity and the purpose of the variation or learning model can be effective and the goal of a physical teacher can be achieved.

Based on the description that has been described, researchers are interested in the design of a product in the form of a shooting learning model through research entitled: "Learning Model of Shooting Skills in Soccer Games for High School Ages". The ultimate goal of this development research is to produce learning model book products that can benefit trainers to facilitate trainers in applying learning material. So that it can be used to improve athletes who are trained.

Research Methodology

Research Sites and Subjects:

The research was carried out in East Jakarta High School. The research subjects are 4 Schools in SMA in East Jakarta. The time needed in research and development research with reference to research and development research from Borg and Gall takes more than 3 months with details as follows: (1) Research and information collecting (2) Planning (3) Development of the preliminary form of product (4) Preliminary field testing (5) Main product revision (6) Main field test. (7) Operational product revision. (8) Operational field testing (9) Final products (10) Dissemination and implementation.

It can be explained that the research steps used in this study are: 1) The first time that is determined is a problem or potential that is the basis of the development of the model. 2) Information collection is then carried out as a basis for thinking to conceptualize, 3) Making a learning model (product design), the design form is a shooting learning model. 4) Design validation, carried out by the experts concerned, 5) Revision, from the results of expert testing (design validation), 6) Product testing, carried out by practicing football shooting learning models, 7) Revision of product trial results, 8) Usage trials or larger group test, 78 students, 9) second product revision, expert revision to get perfect results 10) model can be produced.

Findings and Discussion

Test of effectiveness

To find out the effectiveness of the product in the form of Shooting skills in football learning model which was tested on 32 research subjects from 4 East Jakarta High Schools whether effective or not, then there is data that must be collected, namely about football shooting data. This data collection was carried out after a large group test/field trial 2. Collecting the effectiveness of test data. The following data are presented briefly with the T Paired Sample Test with SPSS:

Table 1. Paired Sample Test

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Pretest – Postest	2.19	1.203	.213	-2.621	1.754	10.285	31	.000

In the significance test of differences with SPSS 16, the results of t-count = 10.285, df = 31 and p-value = 0.00 <0.05, which means there are significant differences in soccer shooting before and after the shooting model treatment. The following is a comparison of the results of the level of soccer shooting tests before giving treatment and after administering treatment with shooting models with bar charts in the following picture:
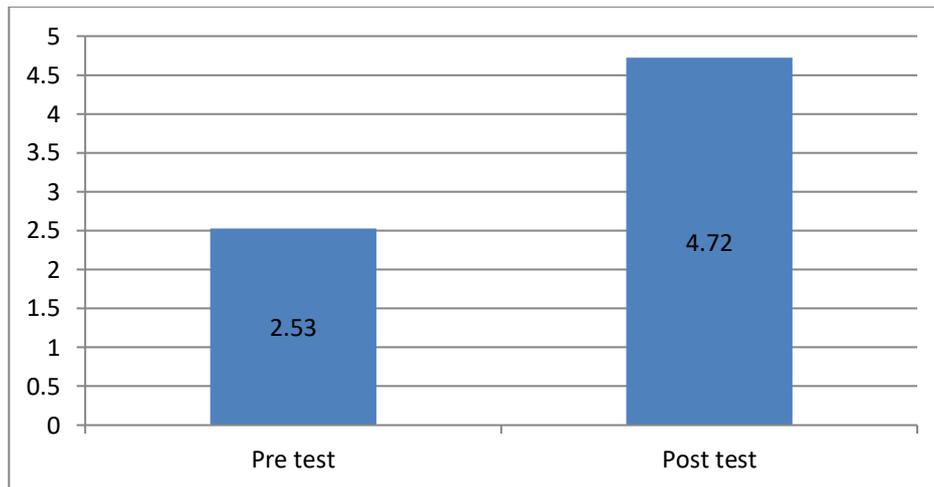
Figure 1. Bar diagram (Model Effectiveness Test)

Product Enhancements

Data from the small group trial results, field trials, which have been described, have obtained results that the shooting skills learning model product in the football game developed in this study is considered effective and meets the requirements to be applied to the age of athletes who participate in amateur leagues. Based on data collected from football experts, as well as data during small group trials and field trials of soccer extracurricular participants, there are several parts of the product that need to be revised. This is done to further optimize the benefits of developing shooting learning models in soccer sports.

The following will describe the matters relating to revision phase 1, revision stage 2, revision stage 3, supporting and inhibiting factors, as well as the strengths and weaknesses of the product in the development of shooting learning models in soccer sports.

Phase I revision

This phase I revision is done after getting advice and input from football experts. The data obtained is used as a reference for making further revisions, namely at the small group trial stage. Based on the results of the validation process of the three football experts, the results of the development of shooting learning models in soccer games have been able to meet the standards and are very feasible to use. But to further refine the product design guidelines for shooting learning models in sports soccer games there are some suggestions and inputs used for product development revisions, namely: (1) implementation must be more clear and detailed, (2) learning starts from a simpler, (3) the distance used in learning both between players and learning support tools must be clear, (4) adjust the learning support facilities and tools used.

Phase II Revision

This phase II revision was carried out after going through a small trial process and getting advice and input from extracurricular participants who took part in small group trials. The data obtained at the time of the small group trial was used as the basis for conducting the revision of phase II on the development of shooting learning models in soccer games. Based on the results of a small group trial it is known that the product development of the shooting learning model in this football game is feasible to use and the indicators contained in this product have met the standards. To further improve the product of this development there are several suggestions and inputs for revising, namely: (1) improving the distance between players, (2) improving the level of intensity of learning, (3) giving the duration of learning in each learning model.

Phase III revision

After going through the field trial process and getting advice and input, a third revision or final revision of this development product was carried out. The reference for revising the final stage of this product is data obtained during field trials or large group trials on the development of shooting learning models in soccer games. Based on the results of field trials, it turns out that the product development of the shooting learning model in this football game does not need to be revised, all indicators have met the standards and are feasible to use.

Conclusion

Based on the data obtained, from the results of field trials and discussion of research results, it can be concluded that:
1. Produce the final product in the form of a shooting practice model on soccer games. which consists of 27 training models.
2. With the Shooting soccer skill training model for the age of provincial athletes, players can practice effectively and efficiently.

References

Borg. W. R & Gall, M. D, (2007). *Educational research: An introduction.* New York : Longman

Darmadi, Hamid. (2011). *Metodologi penelitian pendidikan.* Bandung: Alfabeta,

Dick Walter, Lou Carey, & James O. Carey. (2009). *The systematic design of Instruction,* Ohio: Pearson New Jersey Columbus

Luxbacher, Joseph A (2008).. *Sepak bola.* Jakarta: Raja Grafindo.

Maksum, Ali. *(*2012). *Metode penelitian dalam olahraga.* Surabaya: Unesa Univerity Press,

Mielke, Danny. (2007). *Soccer fundamentals dasar-dasar sepak bola*. Bandung: Pakar Raya Pustaka.

Pribadi, Benny A.(2010). *Model desain sistem pembelajaran,* Jakarta: Dian Rakyat,

Schuenemann, Timo S (2012).. *Kurikulum & pedoman dasar sepakbola Indonesia* Jakarta.

Sugiyono. (2008). *Metode penelitian, pendekatan kuantitatif, kualitatif dan R&D.* Bandung: Alfabeta.

Sukadiyanto, (2012). *Pengantar teori dan metodologi melatih fisik.* Bandung; Lubuk Agung,

Tangkudung, James. (2006). *Kepembelajaran olahraga "Pembinaan Prestasi Olahraga".* Jakarta: Cerdas Jaya,

Engaging Learners with the Internet of Things (IoT): Gen Z's Perspectives

Lidiyatul Izzah[1], Muhamad Sofian Hadi[2], Nor Farahwahidah Ab Rahman[3]
[1,2] Universitas Muhammadiyah Jakarta
[3] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia

E-mail: lidiyatul.izzah@umj.ac.id[1], m_sofianhadi@yahoo.com[2], nfwahidah@utm.my[3]

Abstract: In the coming years, technology will affect the learning experience from numerous points of view. Internet of Things (IoT) continues to confirm its essential position in the context of Information and Communication Technologies and the development of society. With the support of IoT, institutions can upgrade learning outcomes by providing increasingly well-to-do learning encounters, improved operational effectiveness, and by gaining real-time, actionable insight into student performance. The purpose of this study is examines how learners' perspective certain the effectiveness of IoT in higher education as aiding the learning process. The study was conducted in a qualitative descriptive analysis by using a self-structured questionnaire by Likert-type scale to figure out the data statistically. In addition, the study conducted its survey in Universitas Muhammadiyah Jakarta, South Tangerang, Indonesia. Ninety four (n=94) learners of English Study Program at a higher level have been chosen as the subject. Based on the research finding, it indicates that the advancement of IoT has influenced users particularly Gen z, to adjust effectively in technological literacy. With updated IoT connected devices, IoT presently seems to be one of the primary enablers to create quality competency-based education or even become the most vital proponent.

Keywords: Internet of Things; Technology in Education, Generation Z.

Introduction

It is unquestionable that technology has changed the educational worldview from ordinary to computerized models; explicitly through the use of information technology (IT). Education has quickly adjusted and changed our point of view on how we learn. The inescapability, immediacy, and interactivity of connected devices - like PCs, cell phones, and personal digital assistants (PDAs) - has attracted learners' attention regarding gather, transform, and update data - at whatever point they need to. The rapid growth of technology likewise permits the college, in controlling higher quality data administrations (for instance e-campus) to their network communities, both in out of the institution. The advancement can't certainly be disregarded, as per 4.0 Industrial Revolution (Shahroom & Hussin, 2018) which heightened the usage of cyber technology, including Internet of Things or IoT (Pai, Vikhyath, Shivani, Sanket, & Shruti, 2017).

As reported by Machina Research (2016), the prosperity of IoT in the world is extremely rising. In its research prediction, the total number of IoT connections will grow from six billion in 2015 to 27 billion in 2025. This addition is of course largely influenced by Generation Z which continues to increase in number. Conforming to global research conducted by DELL EMC Indonesia (Dell Technologies, 2019) with the study "Gen Z: The Future Has Arrived", 99 percent of them believe that technology literacy is an important factor to compete in the workforce. Besides, Gen Z Indonesia has a high level of confidence in their tech skills compared to their counterparts in Southeast Asia and globally (Indonesia: 69%, SEA: 62%, global: 52%). This survey was conducted on 723 Indonesian secondary and tertiary learners with an age range of 16-23 years. Along with Indonesia, a similar survey was also conducted globally involving 12,000 learners from 17 countries.

Since the 'Internet of Things (IoT)' term was presented in 1999, many authors have endeavored to name this device system in varied terms. Its terms were including Internet of Everything (IoE), Internet of Anything, Internet of People, and Internet of Signs (Oriwoh & Conrad, 2015). The IoT functions, as stated in Cornel (2015) are gathering data using internet sensory, and then transmitting them for progressively comprehended and significant to the user necessities. In similar with Corner, Cisco (2011) likewise argued that this physical layer - which brings together gadgets, people, processes and data- is to build increasingly relevant network connection so information turns out from one point to another 'quickly, reliably, and securely'. Related to teaching English in higher education, the primary reason for using IoT is to improve learner learning and teaching. Through an interactive English online feature, learners can convert text into the spoken voice of output. Notwithstanding with the online features, the use of IoT empowers learners to build specific knowledge that relevant to the actual context (Gómez, Huete, Hoyos, Perez, & Grigori, 2013) in the real world of virtual reality (Cisco, 2019).

The use of the Internet of Things in classrooms has the potential to remove barriers to one's education, such as location, language, and economic status. Implementing smart educational strategies helps learners with a variety of backgrounds and learning skills faster and more interesting. As classified by Sani (2019), the IoT progressively give a significant impact on classroom access control, such as (1) Smart Classroom Management, (2) Smart Classroom Attendance System, and 3) Real-Time Feedback on Lecture Quality.

(1) Smart Classroom Management. The term classroom management refers to the method used by educators uses in operating their smart devices to control their classrooms (Gul et al., 2017). Smart devices enable the educator to

evaluate their practical learning process and provide contemporary and sophisticated methods for better classroom management ((Sani, 2019). Related to its usage, Gul et al (2017) classifies several smart devices commonly used in the learning process: (a) Interactive Whiteboards, (b) Figurets and Mobile devices, (c) 3D Printers, (d) e-Books, (e) Learner ID Cards, (f) Temperature Sensors, (g) Wireless door locks, (h) Attendance Tracking Systems, (i) Security Cameras and Video, (j) Smart HVAC systems, (k) Electric Lighting and Maintenance

(2) Smart Classroom Attendance System. Taking a manual class attendance is a time-consuming task. However, with the help of Smart Classroom Roll Caller System (SCRCS), it would greatly help to track teachers' time on the office more accurately and easily(Gul et al., 2017). As explained by Chang (2011), SCRCS is an aid that "installed at every classrooms of university and read the learner's ID card accumulatively to present the total number of the actual attendance on the LED display of SCRCS at the beginning of every class and let them all ID cards be visible on the multiple slots of SCRCS to avoid the learner agent's activities".

(3) Real-Time Feedback on Lecture Quality. Providing real-time and automatic feedback on the quality based lecture plays a vital role in improving the lecture quality (Gligoric, Uzelac, & Krco, 2012). A study conducted by Chew (2015), proposes that the institution should use digital devices that allows learners to monitor lecture reactions through real-time feedback.

Based on the explanation above, it indicates that the advancement of IoT has influenced users particularly Gen z, to adjust effectively in technological literacy. With updated IoT connected devices, IoT presently seems to be one of the primary enablers to create quality competency-based education or even become the most vital proponent. This study, therefore, was conducted with the objectives to identify Gen-Z learners' experiences for use of various IoT connected devices, their perspective about the effectiveness of IoT-assisted learning in aiding the learning process. In addition, It is expected that research findings will help policy makers, curriculum planners, language educators and language learners in relevant ways.

Research Methodology

The study was conducted in a qualitative descriptive analysis by using a self-structured questionnaire. As explained by Denzin & Lincoln (2008), "qualitative research involves the studied use and collection of a variety of empirical materials - case study, personal experience introspective, life story, interview, observational, historical, interactional, and visual texts - that describe routine and problematic moments and meanings in individuals' lives. Accordingly, qualitative researchers deploy a wide range of interconnected methods, hoping always to get a better fix on the subject matter at hand" (p.4-5). To analyze the perspective of the respondents, therefore, qualitative analysis has higher potential to reach the objectives of the study.

The Likert-type scale is used to figure out the data statistically. The objective of the *Likert scale is* to measure the extent of subjects' experience and agreement with each item. This ordinal of Likert scales are adapted from Kirkwood & Price (2016). In addition, the study conducted its survey in Universitas Muhammadiyah Jakarta, South Tangerang, Indonesia. Ninety four (n=94) learners of English Study Program at a higher level have been chosen as the subject.

Findings and Discussion

Along with the objectives of this study, namely to identify Gen-Z learners' preference for use of various IoT connected devices, it was essential to see the extent to which they use eResources as the learning aid. In addition, it was also needed to find what resources are made available for learners on the campuses. Figure 1 presents learners' experiences with various resources and services.

Figure 1. Gen-Z learners Experience on IoT-Enabled Learning Environment

Figure 1 shows that nearly 34-44% of learners have chosen to be neutral whereas up to 35% of learners have less experience in the use of statistical database plagiarism detection, and citation/reference management software. Only 23% of learners claim that they are inexperienced with a learning management system (e.g. Moodle, Edmodo, Schoology, etc.). Nearly 40% of learners are well acquainted with the email services. However, there are more chances that learners did not understand many terminologies and therefore the accuracy of data about this question cannot be verified. Besides, to know their pretension about the use of IoT-assisted learning in aiding the learning process, Learners then were asked to rate the statement "I want to use technology in my studies because…". Figure 2 presents learners' pretension toward the use of IoT.

Figure 2. Gen-Z learners pretension toward the use of IoT- enabled learning environment

Figure 2 shows that about 84-98% demonstrate positive perspective about learning through IoT. Related to learners' subject learning and IT knowledge, up to 90% of learners got positive significance on the use of IoT. They assumed that IoT help them (1)to get better results in the subjects, (2) to understand the subject material more deeply, (3) to explore many topics may not have seen before, and (4) to improve IT/information management skills in general. 'Collaboration with others easily, both on and outside of the colleges, therefore, is not experienced as learning mode, hence 16% of learners seem to be neutral. Related to the pretension, a series of items also asked to know the perspective level of learners towards the use of IoT enabled learning. Data gathered from these 12 items is collated and presented in figure below.

Figure 3. Gen-Z Learners' perspective of the use of IoT- enabled learning environment

Figure 3 shows that 47-48% above learners are yet not sure how effective of (1) designing and building Web pages as part of course, (2) keeping blog as part of course requirements, and (3) using microblogging, such as

Twitter, to share information about class-related activities; whereas using multimedia shows, audio/video, as part of course requirements are useful for most of the learners 47%. In similar, 47% of learners also give positive perspectives on the use instant messaging/chat - for instance Skype, Messenger, Hangout, etc - on the Web to communicate/collaborate with other learners, teachers, and administrative in the course. About 45% of average learners have a positive perspective on the use of Web or mobile phone to access university-based services (e.g. enrolment, paying fees). In similar with learners' perspective on the use of IoT, the perspective of learners regarding their agreement of the IoT- enabled learning environment.
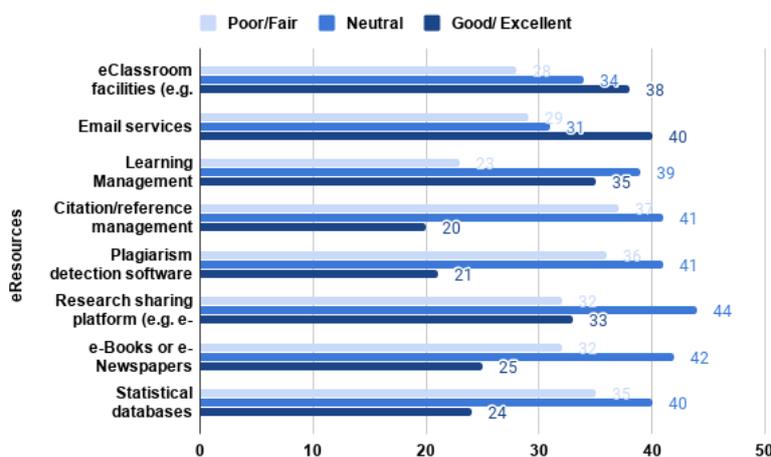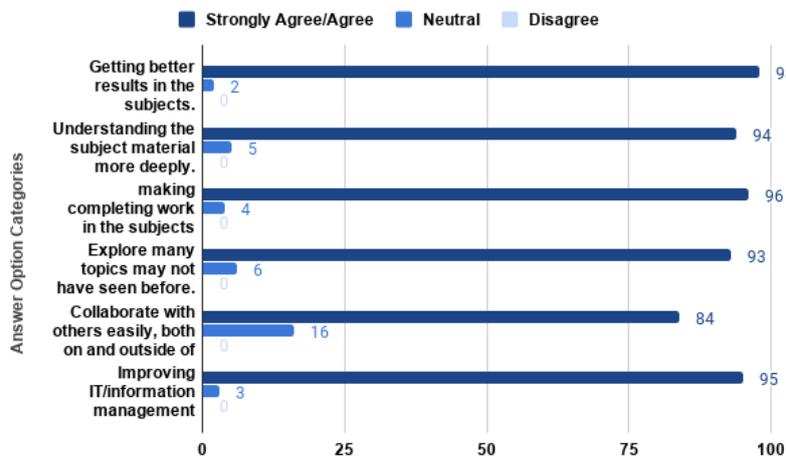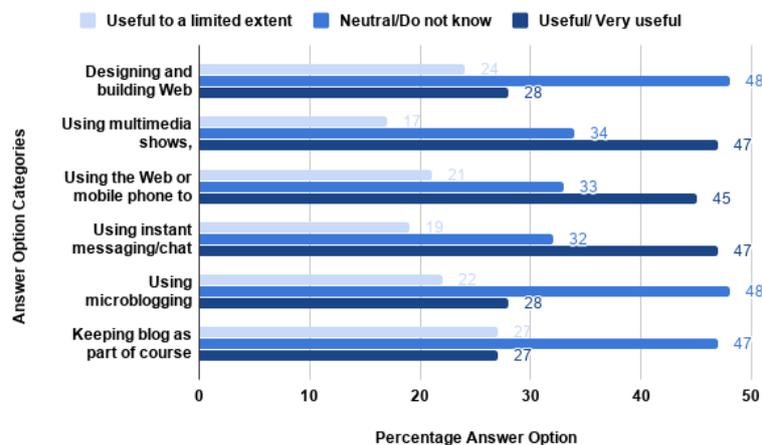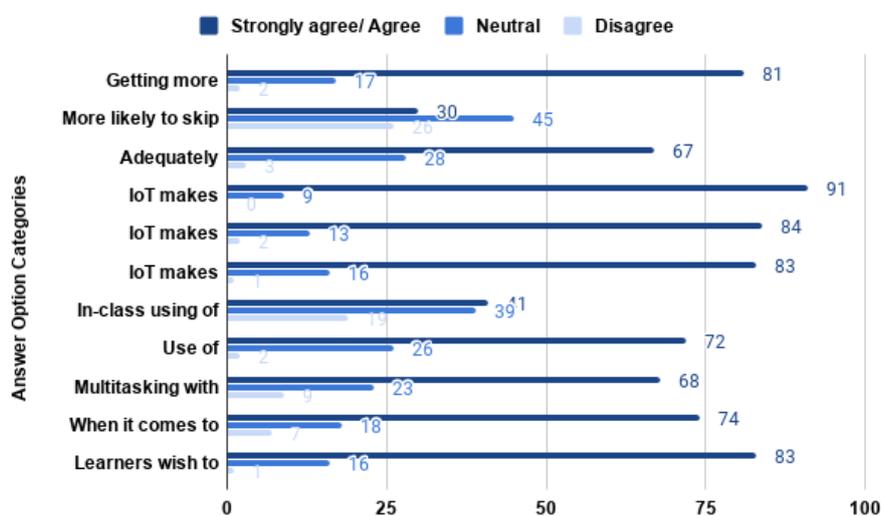

Figure 4. Gen-Z Learners' agreement on the use of IoT- enabled learning environment

(Source: Kirkwood, A., & Price, L. (2016). *Technology-Enabled Learning Implementation Handbook*. Retrieved from http://oasis.col.org/handle/11599/2363)

Figure 4 shows that about 83-91% of learners are sure about the benefits of using IoT and feeling connected to other learners, teachers, and about what's going on at the college/university, whereas 41-68% of learners fell that in-class using of mobile devices is distracting and prevents learners from concentrating on or doing the work that is most important. Regarding the use of IoT connected devices, 72% of learners agree to use of figurets/laptops in class improves learners' engagement with the content and class. When it comes to social media (e.g. Facebook, Twitter, LinkedIn), 74% of learners like to keep their academic life and social life separate. In sum, 83% of learners wish that teacher in the university would use and integrate more technology in their teaching and learning. In addition to its consequence, 81% of learners agree to actively involve in courses that use technology, whereas 67% of learners agree to adequately prepare to use the technology needed in the courses.

Conclusion

As described in the previous findings and discussion, it can be concluded that the learners have positive perspective towards the use of IoT as a part of information and communication technology in higher education. The perspective is supported by the percentage of the items of the questionnaire answered by the students. Based on Gen-Z learners' pretension toward the use of IoT- enabled learning environment, it indicates that about 84-98% demonstrate positive perspective about learning through IoT. Related to learners' subject learning and IT knowledge, up to 90% of learners got positive significance on the use of IoT. They assumed that IoT help them (1)to get better results in the subjects, (2) to understand the subject material more deeply, (3) to explore many topics may not have seen before, and (4) to improve IT/information management skills in general.

In addition, students consider using IoT connected device (instant messaging/chat - for instance Skype, Messenger, Hangout, etc) to communicate/collaborate with other learners, teachers, and administrative in the course. In sum, 83% of learners wish that teacher in the university would use and integrate more technology in their teaching and learning. In addition to its consequence, 81% of learners agree to actively involve in courses that use technology, whereas 67% of learners agree to adequately prepare to use the technology needed in the courses.

Based on the explanation above, it indicates that the advancement of IoT has influenced users particularly Gen z, to adjust effectively in technological literacy. With updated IoT connected devices, IoT presently seems to be one of the primary enablers to create quality competency-based education or even become the most vital proponent.

References

Chang, C. H. (2011). Smart Classroom Roll Caller System with IOT Architecture. *2011 Second International Conference on Innovations in Bio-Inspired Computing and Applications*, 356–360. https://doi.org/10.1109/IBICA.2011.94

Chew, C. B. (2015). Sensors-Enabled Smart Attendance Systems Using NFC and RFID Technologies. *International Journal of New Computer Architectures and Their Applications*, *5*(1), 19–28. https://doi.org/10.17781/P001645

Cisco. (2011). *The Internet of Things How the Next Evolution of the Internet Is Changing Everything*. Retrieved from https://www.cisco.com/c/dam/en_us/about/ac79/docs/innov/IoT_IBSG_0411FINAL.pdf

Cisco. (2019). *Cisco public Cisco Visual Networking Index: Global Mobile Data Traffic The Cisco® Visual Networking Index (VNI) Global Mobile Data*. Retrieved from https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white-paper-c11-738429.pdf

Cornel, C.-E. (2015). The Role of Internet of Things for a Continuous Improvement in Education. *Hyperion Economic Journal Year III*, *3*(2), 24–31. Retrieved from http://www.idc.com

Dell Technologies. (2019). *Gen Z: The future has arrived Executive Summary*. Retrieved from https://www.emc.com/collateral/presentation/gen-z-the-future-has-arrived-executive-summary.pdf

Denzin, N. K., & Lincoln, Y. S. (2008). *The landscape of Qualitative Research*. California: Sage Publications.

Gligoric, N., Uzelac, A., & Krco, S. (2012). Smart Classroom: Real-time feedback on lecture quality. *2012 IEEE International Conference on Pervasive Computing and Communications Workshops*, 391–394. https://doi.org/10.1109/PerComW.2012.6197517

Gómez, J., Huete, J. F., Hoyos, O., Perez, L., & Grigori, D. (2013). Interaction System Based on Internet of Things as Support for Education. *Procedia Computer Science*, *21*, 132–139. https://doi.org/10.1016/j.procs.2013.09.019

Gul, S., Asif, M., Ahmad, S., Yasir, M., Majid, M., Sheraz, M., & Malik, A. (2017). A Survey on Role of Internet of Things in Education. In *IJCSNS International Journal of Computer Science and Network Security* (Vol. 17). Retrieved from http://www.gartner.com/newsroom/id/3165317

Kirkwood, A., & Price, L. (2016). *Technology-Enabled Learning Implementation Handbook*. Retrieved from http://oasis.col.org/handle/11599/2363

Machina Research. (2016). *IoT Global Forecast and Analysis, 2015-2025*. Retrieved from https://www.gartner.com/doc/3659018/iot-global-forecast-analysis-

Oriwoh, E., & Conrad, M. (2015). 'Things' in the Internet of Things: Towards a Definition. *International Journal of Internet of Things*, *4*(1), 1–5. https://doi.org/10.5923/j.ijit.20150401.01

Pai, S. S., Vikhyath, Shivani, Sanket, & Shruti. (2017). IOT Application in Education. *International Journal for Advance Research and Development*, *2*(6), 20–24. https://doi.org/10.org/xx.xxx/ijariit-v2i6-1148

Sani, R. M. (2019). Adopting Internet of Things for Higher Education. In *Redesigning higher education initiatives for industry 4.0*. Information Science Reference

Shahroom, A. A., & Hussin, N. (2018). Industrial Revolution 4.0 and Education. *International Journal of Academic Research in Business and Social Sciences*, *8*(9), 314–319. https://doi.org/10.6007/IJARBSS/v8-i9/4593

The Implementation Of Nationalism Values at State Elementary School 04 Punti Tapau, Entikong, West Kalimantan, Indonesia

Dirgantara Wicaksono[1], Agus Suradika[2], Muhammad Ihdhar Adli[3]
[1,2,3] Universitas Muhammadiyah Jakarta, Jakarta, Indonesia

E-mail: dirgantarawicaksono@gmail.com[1], suradika62@gmail.com[2], ihdharadli40@gmail.com[3]

Abstract: This study aimed to determine the implementation of the values of nationalism to students as well as obstacles in implementing the values of nationalism both in the process of teaching and learning activities and outside learning activities. This study used a qualitative approach with descriptive methods. The informants of this study were the Principal, third grade teachers, fifth grade teachers, representatives of third and fifth grade elementary school students. Data collection techniques used in this study were interviews, observation and documentation. The results of the study show that State elementary school 04 Punti Tapau has implemented the values of nationalism both in learning activities and outside learning. Like, teachers and students always sing Indonesian songs before carrying out learning activities, doing morning gymnastics with song Garuda Birds and Pancasila our homes, and teachers also always slip the values of nationalism in learning activities. Whereas the actualization of nationalism values outside of learning such as the holding of scout activities and Monday ceremonies, As for the obstacles to the application of nationalism values in State elementary school 04 punti tapau in learning activities include competency and curriculum barriers while outside learning includes obstacles in the family environment.

Keywords: implementation, value, nationalism

Introduction

Education is a form of long-term investment, besides that education is also a human effort in freeing themselves from ignorance and backwardness. So that efforts to improve quality in education are very necessary to improve the quality of society. A good and quality society will be able to help a nation become advanced and prosperous.Schools have a great influence on planting character values to students. Of course in the process if the school is wrong in carrying out the planting of character values, this will definitely cause adverse effects for students. Whereas if the school succeeds in instilling character values well, of course it will have an impact on the character and personality of the students, one of which is the value of nationalism.

But in the present era, the generation of the nation has fewer characteristics and values of nationalism, this is evidenced by the fact that at least the children memorized the Indonesian national anthem. While most children prefer pop or dangdut songs that are often present on the screen. Children tend to dislike Indonesian culture because they consider Indonesian culture to be ancient or traditional culture, on the other hand children today prefer foreign cultures that enter this nation. so that Indonesian culture slowly disappears and consequently our culture is claimed by other countries such as reog Ponorogo art, Angklung music and even Batik. Keep in mind that nationalism arises at certain times such as at the time of the championship (ASEAN GAMES). Indonesian children's nationalism was rushing - but after the championship was over, the attitude of Indonesian child Nationalism was finished.

Background of the research

The education of children living around the Entikong area is very paradoxical with the sparkling of education in big cities. When students in urban schools are absorbed in luxurious classrooms, education in the entikong area is only able to provide facilities far from enough. When students in urban schools are spoiled by the ease of access and educational facilities, students in the entikong border area are still struggling with obsolete books that are not worth reading. Not many know or care about the fate of children's education in the border region of Entikong. Many of the children who live in the border regions are unfortunate because they cannot get quality education. In some hamlets in the small border area, children must walk 1-2 hours up to 6 km by crossing the forest and down the hill to get education at school every day. Not to mention the waiting for up to 1-2 hours must wait in front of the classroom door until their teacher arrives at the school, not even the subject matter that they expect to disappear because the teacher does not enter teaching.

The blurred portrait of education in the Entikong border area is not new. The foremost home page of the country seems to be a fence in safeguarding the sovereignty of the nation as well as a storehouse of backwardness in national development, including the education sector. Educational inequality with neighboring Malaysia is a major factor causing school-age children to prefer to study in the neighboring country. Availability of adequate education facilities, qualified teachers for free education costs, many schools are equipped with dormitories, including uniforms and supporting books to guarantee employment for Indonesian children who excel. This is a magnet for those who hope to have a much better and more decent life. What is of further concern is that many

students who live around the small border area travel far enough to go to the Malaysian government school. So, students on Monday should hold a flag ceremony by raising red and white and singing Great Indonesian songs, but they must surrender to respect for the Malaysian flag and proclaim the Malaysian national anthem.Based on this background, the researcher raised the title: "Implementation of nationalism values in public elementary school 04 Punti Tapau Entikong - West Kalimantan".

According to Winarno (2010: 3) Value is an abstract matter, meaning that values cannot be captured through the senses. Values also contain hopes for something that is desired such as the value of justice and or simplicity. Living people expect to get justice. Prosperity is everyone's desire. So, values are normative, a necessity that demands are manifested in behavior.While according to Rukiyati et al (2008: 58) the value in essence is the nature or quality inherent in an object. So something will contain value if there are qualities or qualities to it. For example a motorbike is good, that person is good. Motorbikes and people are objects in which there are qualities that are good and good. In the view of Notonegoro in Sajarkawi (2006: 31) there are three values that need to be considered and become the grip of Indonesian society, namely: a) Material value is everything that is useful for the elements of human life. b) Vital value is something that is useful for humans to be able to carry out activities or daily activities. c) Spiritual value is anything that is useful to the spiritual person.From the above opinion it can be concluded that value is a matter that is of an abstract nature that cannot be captured through the senses and is the nature or quality inherent in an object. So basically the value cannot be misled or felt by the human senses.

According to Sunarso et al (2008: 36) nationalism is a national attitude to maintain national independence and self-esteem and at the same time respect other nations. The term nationalism was first used in Germany in the 15th century by students who came from the same area or in the same language. Thus, the use of the term nationalism is a representation of a person's feelings of love (students from outside Germany) towards their nations, language and region of origin.According to Anderson (2008: 13) understand nationalism as an imagined community that is united by a deep friendship in which its members are believed to create a whole and strong unity. According to Anderson, remembering that the members of the nation mostly had never met each other, but at the same time in their minds they lived a shadow that they were in a group together. Because it mainly lives in the shadow (in the positive sense) of humans who also live and are dynamic, nationalism here is understood as something alive, which continues to dynamically experience the tidal process, up and down.

Based on the description above, nationalism in its history is used for several things, among others. In order to represent a feeling of love for the homeland, race, language or culture that is the same, then in this case nationalism is the same as patriotism. It is also a representation of a desire for political independence, national safety and prestige. As a form of willingness to be part of a blurred, sometimes even supernatural social organism called the nation. As a dogma that teaches that individuals only live for nations and nations for the sake of the nation itself. As a doctrine stating that the nation itself must be dominant or highest among other nations and must act aggressively.

Research Methodology

The research was carried out at State Elementary School 04 Punti Tapau Entikong in Dusun Punti Tapau Village, Entikong District, Sanggau District, West Kalimantan Province. The approach used is qualitative with descriptive method. Informants in this study were principals, sports teachers, fifth grade teachers of State Elementary School 04 Punti Tapau. Data collection techniques used are: observation, interviews and documentation. Data analysis techniques include: data reduction, data display and conclusion drawing.

Findings and Discussion

1. Implementation of the values of Nationalism through habituation to singing the National Anthem.

From the results of the research that the researchers have done, the researchers found that the actualization carried out by the school through habituation; singing national anthem like Indonesian Raya songs every morning before starting learning. When the researcher conducts a structured interview where the researcher has prepared several questions that will be asked to the subject of the researcher. Students answered that they felt motivated and excited when singing Indonesian Raya songs before conducting learning activities because of their awareness that Indonesia was their homeland, and wanted to be a better student. As long as students do learning in school Children feel happy because they have many friends and many lessons in doing things because of rules, norms and moral teachings that apply, hearts that sincerely accept learning that students must be smart and diligent students.

Based on the results of interviews with researchers with 4th grade students, it can be seen that students have memorized Indonesian Raya songs. Then the national anthem memorized for example, Satu Nusa Satu Bangsa, from Sabang to Merauke, Berkibarlah Flag, Silence of silence, Bagimu Negri, Indonesia Pusaka, August 17, Ibu Kartini. Students also know the basis of the State of Indonesia, namely Pancasila, the symbol of the eagle.All activities that students do are well programmed by the school. Not only that the self awareness that students feel is also reflected in the learning process that makes students want to get good grades and diplomas that students will later use to register better jobs. Grade 4 teachers argue that "instilling the value of nationalism has a huge influence on students. Since childhood, it needs to be instilled in students so that students have tolerance and help each other. "

The principal said "The value of nationalism is very important for future generations, especially for elementary school children from the basic education that underlies further education. So the value of nationalism is to maintain

the continuity of the Indonesian nation and state. So it's very important to instill it early. "After reducing the data of E. Zubaedi's theory that discusses the process of planting characters in exemplary, habitual, or civilizing in the environment of students in the school environment. Thus, the values of Nationalism can be understood and instilled in students.

2. Actualization of the Value of Nationalism through Activities Outside of Learning

In the Actualization of Nationalism values in more optimal learning, various supporting activities are also carried out. The supporting activities are carried out outside of learning. Motivation originating from outside ourselves is very influencing motivation to learn that comes from within, so that learning motivation obtained from outside the student more than the student gets the motivation to learn by himself. Environmental factors, teachers, friends, family and even adequate school facilities become factors of student learning motivation obtained from outside students.The method used in motivating students in carrying out the actualization of the value of Nationalism is the planting of values and exemplary. Based on the observational data conducted by researchers, one of the strategies used by schools to carry out education on the value of nationalism was through habituation. The programmed habits outside learning activities are carried out through extracurricular activities.

Teachers who teach in schools always provide endless motivation to study truly, because teachers perceive students as special students who must be treated specifically, especially in terms of motivating not only in learning but also motivating in transforming themselves into better people. Teachers play an important role and are very trying to develop students' enthusiasm. Almost every day the teacher gives motivation to students, both individually and in groups.Based on the explanation above, it can be concluded that one of the extracurricular activities at State elementary school 04 Punti Tapau has supported the educational efforts of the value of nationalism. The extracurricular activities that support the activities of nationalism are scouts. In order to conduct nationalism education in students, there are several values given in scout extracurricular activities. The values of nationalism given in scout extracurricular activities are responsibility, deliberation, discipline, respecting other people's opinions, mutual cooperation, cooperation and tolerance. Besides that the facilities at State elementary school 04 Punti Tapau are quite complete, starting from the classrooms in general with tables, chairs, and blackboards, offices, libraries, computer rooms, volleyball courts, futsal courts, and parks that make State elementary school 04 Punti Tapau.

Discussion

After describing the data, the researchers found that the influence of schools was very important, especially teachers who had to create a school environment to be the best schools, especially in the implementation of the value of nationalism so that students are able, understand, accustomed to discipline, tolerance and collaboration with friends

Implementation of nationalism values in students in each student interviewed not only originated within themselves, but implementationof nationalism values of State elementary school 04 Punti Tapau students were also obtained from outside themselves and the environment of Public elementary school 04 punti tapau, planting the value of nationalism from education officers such as teachers , and the principal becomes an encouragement for themselves to be enthusiastic in learning and transforming themselves into someone better. Motivation given in Actualization of nasinalism values by education officers is usually in the form of speech or habituation, which is carried out continuously every day both individually and as a whole. Each teacher has his own way of providing motivation in learning, there is a teacher who provides motivation so that students have the spirit of learning with the whole and there are individual eyes. Besides that the teacher also has its own way of giving rewards, there are teachers who describe rewards with a greeting, snacks, and even money. Supporting facilities and infrastructure such as comfortable learning space, adequate school field, library with complete books, become one of the factors of students' enthusiasm for learning.

Unlike the initial guess of the researcher that the students of State elementary school 04 Punti Tapau had a lack of enthusiasm in learning and were more in love with the state of Tetanga, Malaysia, but vice versa than expected. The lack of enthusiasm of students in the learning process because it is too far from the home school, but the teachers at State elementary school 04 Punti Tapau are well aware of the importance of actualizing the value of nationalism in the border area and the teacher must be able to educate children whether something is good or bad for them because border blood is an area prone to conflict and smuggling of illicit goods such as drugs. Students of State elementary school 04 Punti Tapau are very enthusiastic in learning even though they have difficulty concentrating. Students' enthusiasm is not spared from the enthusiasm of the teachers and principals in providing motivation every day and without stopping, learning that is in accordance with their fashion that makes it easier for them to receive learning materials, and infrastructure and student school needs that continue to be met.

Conclusion

State elementary school 04 Punti Tapau has implemented the values of nationalism in learning activities. The application of the values of nationalism in the learning activities carried out by the school community includes singing Indonesian songs, performing gymnastics with songs of the garuda and pancasila of our homes, tucking the character of nationalism values into the subjects taught. State elementary school 04 Punti Tapau also implements nationalism values, which include, Monday ceremonies, ceremonies of holidays, scout activities, getting used to using traditional clothes during Kartini days, and getting students to shake hands with the teacher before entering the class.

There are two barriers to the application of nationalism values at State elementary school 04 Punti Tapau in learning activities, namely competence barriers which are not yet maximized by teachers in making lesson plans that integrate with the values of nationalism and the lack of variety of teachers in using learning media. The obstacles to the application of nationalist values of State elementary school 04 Punti Tapau are outside the learning activities, namely the constraints on the Family Environment. This can be seen from the number of parents who do not give examples of good characters while at home, of course this will hamper State elementary school 04 Punti Tapau in implementing the values of nationalism.

References

Ahmadi & Supriyono. (2003). *Teori belajar dan pembelajaran*. Bandung: Remaja Rosdakarya.

Anwar, Suroyo. (2009). *Pemahaman individu, observasi, checklist, interview, kuesioner, dan sosiometri*. Yogyakarta: Pustaka Pelajar.

Arikunto, Suharsimi. (2006). *Prosedur suatu pendekatan praktik*. Jakarta: PT. Rineka Cipta.

Suryobroto. (2002). *Proses belajar mengajar di sekolah*. Jakarta: PT. Rineka Cipta.

Dimyati &Mujiono. (2006). *Belajar dan pembelajaran*. Jakarta: PT. Rineka Cipta.

Djamarah & Zain. (2006). *Strategi belajar mengajar*. Jakarta: Rineka Cipta.

Ilahi, Muhammad Takdir. (2012). *Nasionalisme dalam bingkai pluralitas bangsa: Paradigma pembangunan dan bangsa*, Depok: Ar-Ruzz Press.

M. Dalyono. (2009). *PsikologipPendidikan*. Jakarta: PT Rineka Cipta.

Moleong, Lexi J. (2007). *Metode penelitian kualitatif*. Bandung: Remaja Rosdakarya.

Mulyasa, E. (2002).*Manajemen berbasis sekolah*. Bandung : PT. Remaja Rosdakarya.

Permana, Ujang. (2018). Implementasi nilai-nilai nasionalisme pada mahasiswa Akper YPIB Majalengka. *Jurnal Ilmiah Indonesia. Vol 3 (1)*.

Rohman, Arif. (2009). *Politik idiologi pendidikan*. Yogyakarta: Laksbang Media Utama.

Sjarkawi.(2006). *Pembentukan kepribadian melalui peningkatan pertimbangan moral*. Jakarta: Departemen Pendidikan Nasional Direktorat Pendidikan Tinggi Direktorat Ketenagaan.

Sugiyono. (2015). *Metode penelitian pendidikan "Pendekatan kuantitatif, kualitatif, R & D"*. Bandung: Alfabeta.

Widyaningsih, Diva dan M.Farid. (2014). Pengaruh experiential learning terhadap kepercayaan diri dan kerjasama tim remaja. *Jurnal Psikologi Indonesia .Vol. 3 (3)*.

Workplace Preparedness in Automotive Engineering Industries: A Comparative Analysis of TAFE institutes and Community Colleges

Yusri Bin Kamin[1], Muhammad Sukri Bin Saud[2], Mahyuddin bin Arsat[3], Nur Husna bt Abd Wahid[4], Nornazira bt Suhairom[5].

[1,2,3,4,5] Department of Technical & Engineering Education, School of Education, Faculty f Social Sciences and Humanities, Universiti of Teknologi Malaysia, Johor Bahru)

E-mail: p-yusri@utm.my, p-sukri@utm.my,mahyuddin@utm.my,husna@utm.my, p-nazira@utm.my

Abstract: The study is designed as a comparative analysis between Technical and Further Education (TAFE) institutes in Australia and community colleges in Malaysia for workplace preparation of students in automotive engineering industries. Document analysis and interview were utilized in order to collect relevant information for the study. The documentary data sources used in this research include: lecturers' manuals and curriculum documents from both institutions. Based on the findings of the study the following recommendations were made: the training institutions should maintain up-to-date knowledge in automotive practice by monitoring technological changes in the automotive industry. Also a wide-ranging consultative groups should be developed between the automotive   industry, and training providers to give advice and direction for industry collaborations and the provision of automotive training at national level (including curriculum development).

Keywords: *Automotive, Industries, Comparative Analysis, TAFE Institutes, Community Colleges*.

Introduction

Education is the most important component for developing the future economy all over the world. In order to blend industries' demands with the country's labour requirements, education is the main agenda to transform human capital to enhance the knowledge-based economy. In the era of globalisation, partnerships and collaboration among countries may bring diversity of work roles in different venues. For example, in vehicle construction, the automobile manufacturer may be in Germany, the components for pistons may be made in the United States (US), accessories may be produced in China and the electronic parts may be made in Singapore. These types of productions require different skills and knowledge from different countries. Thus, the knowledge-based economy is vital in producing a highly skilled workforce that can be employed for local industries and that is recognised internationally.

The demand for quality workers in the twenty-first century is becoming more challenging and more competitive in the global workplace. Cededfop (2009) states that the performance indicators of competitiveness in the European Union (EU) were linked to the 'formation of knowledge-based societies' (p. 12). The development of knowledge-based societies has created the new idea of workforce tasks. To gain a competitive edge, world-class institutions are required to offer greater-quality courses and curricula to meet the demands of industries. Raghunathan, Rao & Solis (1997) stated that 'in the increasingly changing and competitive world, developed and developing countries are at different stages of the quality movement' (p. 1). The quality movement has been under way for some time in developed countries whereas in developing countries, the quality movement could be facing economic changes, free-trade markets and competitiveness in international markets.

Upgrading technical knowledge and skill levels is crucial for economic development and to sustain the transition of Malaysia's manufacturing sector from one based primarily on assembly to one based on knowledge and high-technology processes (Asian Development Bank, 1999). Malaysia needs to increase its workforce by employing highly skilled workers at the para-professional middle level (Bakar & Hanafi, 2007). The changing nature and demands of the workplace require focus for the future workforce. It is important to ensure that future workers can cope with new technologies. According to the Asian Development Bank (1999), graduates of Malaysian's technical and vocational education (TVE) system do not achieve the standard preferred by industries in terms of work quality and preparation for work.

Therefore, review of TVE systems from other competitive countries will provide a clearer picture in terms of their education, training, skills, investment in human capital, and economic and employment performance (Cedefod, 2009). Rapid changes in technology and markets have created new demands for TVE organisations to provide graduates who are globally competitive. Debates about the most appropriate forms of training to meet these demands are concerned not only with curricula and resources within TVE organisations, but also with the most effective strategies for improving collaboration with industries.

Background of the research

Several issues arise when comparing the TVE systems. These include curriculum development, skilled worker/technician levels, training organisations, new roles emerging related to advanced technologies, new modes of learning and the dynamic nature of TVE and relationships, especially with industry, economic strength and social issues that link to employment. Comparing the TVE system with training in other countries could assist the future

development of TVE. Several comparative studies have been conducted in selected countries, including Scotland and France (Speake, 2007), Germany and Australia (Hellwig, 2006), America and Indonesia (Gray & Paryono, 2004) and Australia and Kenya (Kitainge, 2005), which focus on the TVE system. Hence, reviewing the TVE system in different countries might show the similarities and differences in the globalised context.

Gray & Paryono (2004) investigated international comparative workforce education in the US and Indonesia. The model of comparative workforce education is constructed through observation in the world context of political, social, economic and geographic elements. Gray & Paryono (2004, p. 22) describe the conceptual model approach by considering the elements of refined understanding of the workforce education and development system, enriched description, basis for analysis, basis of design and evaluation. However, Cedefod (2009, p. 12) states that 'competitiveness is a multi-dimension and comparative concept that entails various aspects of performance affecting the living and working conditions of individuals, the performance of firms and social cohesion'. Indeed, the comparative concept goes beyond these limitations and can be applied across disciplines in TVE systems.

Comparative studies of the TVE system conducted in different countries may provide initial insights and direction for this study. Therefore, the overview of TVE systems in developed and developing countries may provide a new paradigm for the future needs of TVE in Malaysia. There may be opportunities for developing countries to learn from the successes and failures of the practices of developed countries. Developing countries will eventually become potential competitors to developed countries and they will also offer a potential market for developed countries. For this reason, it is important to understand the status, similarities and differences of quality practices in developed and developing countries in order to facilitate insights into quality practices in an international context. It on this bases that the study is designed as a comparative study between TAFE institutes in Australia and Community Colleges in Malaysia for workplace preparedness in automotive engineering industries.

Objectives of the study

The main objective of the study is to:
1. Identify the differences in curriculum content of TAFE institutes and community colleges.
2. Identify the differences between TAFE institutes and community colleges with respect to practices in pedagogy.
3. Determine the extent of the institutions context hours between practice and theory
4. Determine the extent to which the institutions promote lifelong learning

Research Questions

1. What are the differences in curriculum content of TAFE institutes and community colleges?
2. What are the differences between TAFE institutes and community colleges with respect to practices in pedagogy?
3. To what extent are the institutions context hours between practice and theory?
4. To what extent are the institutions promoting lifelong learning?

Research Methodology

The purpose of this comparative study is to analyse how TAFE institutes in Australia and community colleges in Malaysia prepare their students for work in automotive industries. The methodology describes the procedure that was utilized in carrying out the study. The instrument used in the collection of data for this study consists of document analysis and semi structured interview. Document analysis play a key role in this research, since a large portion of this study compares the curriculum in Mechanical Engineering (Automotive) in Australia and Malaysia. The researcher reviewed the content of the curriculum programs and fined the differences in both countries. Documentary data sources used in this research include: lecturers' manuals and curriculum documents from both institutions lecturers' planning and curriculum guides provided by both institutions.

Findings and Discussion

The data collected for the study were analysed and presented based on the research questions.

Research Question 1

What are the differences in curriculum content of TAFE institutes and community colleges?

Table1: Differences between the Curriculum Content of TAFE Institutes and Community Colleges

Course Outline	TAFE Institute	Community Colleges
Compulsory Subject	Carry out diagnosis of complex system faults Plan and manage compliance with environmental regulations in the mechanical repair industry Develop and document specifications and procedures	Introduction to service organisation, operation and job function Engine management system and proton diagnosis tool Project English for communication Applied mathematic Titas

Technical Inventory (Minimum of 8 units)	Install LPG fuel systems Repair LPG fuel systems Service LPG fuel systems Diagnose LPG fuel systems Overhaul air conditioning system components Develop and apply electronic systems procedures Promote innovation and change Analyse and evaluate light vehicle steering and suspension system faults Analyse and evaluate electrical and electronic faults in transmission/ drive train systems Analyse and evaluate electrical and electronic faults in braking systems Analyse and evaluate electrical and electronic faults in climate control systems	Graphic communication and CAD 2
Technical Inventory – Mechanical	Analyse and evaluate light vehicle engine and fuel system faults	Engine mechanical system Manual transmission and clutch system Ride and handling
Technical Inventory – Electrical	Analyse and evaluate electrical and electronic faults in engine management systems	Chassis and electrical utomated manual transmission (AMT)
Retail Service and Repair	Develop and apply mechanical system modifications Develop and apply electrical systems procedures Prepare technical reports Develop and document Promote innovation and change Contribute to business improvement Develop and apply gas fuel systems modifications	Spare part and insurance management Service management and customers satisfaction Basic Marketing

The result in Table 1 indicated that TAFE institute and community colleges curriculum differs from their sub-components of the syllabus. Fundamentally, the intention of the curriculum is varied in both countries in terms of the background of the automotive industry. The Malaysia curricula were specifically focused on a single partnership with the local automotive industry, but they were broader in the Australian context. The findings of document analysis revealed that Australian programs are differentiated by five elements: compulsory subject, technical inventory, technical inventory for mechanical, technical inventory for electrical and retail service and repair. This comparison illustrates the comprehensive nature of the diploma automotive programs in Australia. Again, it focuses on functions such as diagnosis, analysis, evaluation, development and application. The consideration of the curriculum in these functions typically links to Bloom taxonomy and is considered commensurate with the para-professional level of the workforce. The trend of the TAFE institute curricula was based on consultation with industry advisory bodies already established in/for the Australia market. It was declared important that the Australian curriculum in automotive programs is developed through links with the industry to ensure that it is dynamic and current in both theory and practical aspects of new technologies and techniques.

In contrast, these types of courses are not available in the community colleges in Malaysia. However, diploma in automotive that provide training and skills opportunities for Light Automotive (Light Vehicle Repair and Service) are available. The course of programs in Malaysia is usually for general automotive purposes. The concept and practice of a generic-broad industry curriculum did not exist in the diploma automotive in Malaysia at the time of the study. The focus was more on the specific automotive industry (Proton) with little or no concern for other technologies available, such as LPG fuel systems and alternative energies. Thus, the course implemented in both countries was quite different in the aspect of automotive technology in general, although the expectations of a technically competent 'automotive technician' could be seen as similar.

Research Question 2

What are the differences between TAFE institutes and community colleges with respect to practices in pedagogy?

Finding Related to the Differences in Pedagogy Practices between TAFE Institutes and Community Colleges?

There are different strategies from both institutions when comparing pedagogical approaches. The curriculum for the diploma in automotive developed by the Curriculum Development Division in the Malaysian Department of Polytechnic and Community College Education declared a clear focus on three domains of learning: cognitive, psychomotor and affective. The strategy that they highlighted to support their courses include lectures, demonstrations, team teaching, discussions, debates, question and answers, video viewings, seminars/presentations, laboratories/workshops, gaming, quizzes, brainstorming, buzz groups, field trips/industrial

visits, role playing, ice breaking, simulations, case studies, project assignments, tutorials, distance learning and one-on-one approaches. The outlines of these instructional strategies are detailed in the trainer manuals developed for the delivery of the curriculum.

In the context of Australia, the strategies include lectures, face-to-face instruction, online systems, self-paced modules, work-based approaches, demonstrations, knowledge tests, interviews, presentations, projects, reports, work observations and work documents. These strategies are also detailed in curriculum documents, particularly in training packages booklets. This range of strategies was affirmed during the interview sessions with the TAFE lecturers. TAFE institutes stressed their focus on student-centred learning over traditional teacher-centred learning approaches.

Research Question 3

To what extent are the institutions context hours between practice and theory?

Table 2. Percentages of context hours between practice and theory

No.	Institution	Theoretical	Practical	Credit	Duration of Study
1	TAFE institutes	30%	70%	35 credits	2 years
2	Community colleges	34%	66%	35 credits	1.5 years

The distribution of the percentages of context hours between theory and practical in both countries is shown in Table 2. The credit hours for both institutions are relatively similar; however, they differ marginally between the training institutions. The diploma program in TAFE was extended to two years, while community colleges take one and a half years to complete a diploma program. The community colleges program was implemented at the industry site for one year and then half a year. The structure of the program at the TAFE institutes was divided into two stages, while community colleges were separated into three semesters. Table 2 indicates no difference in the weighting of context hours between TAFE institutes and community colleges; however, the community colleges ran for a shorter period against a nominal timeline. Overall, the pattern of the study shows that both countries stress practical skills in over three-quarters of the programs. The ratio of 70:30 (practical: theory) is consistent with this distribution and weighting for TVE worldwide. The pattern also illustrates that, in producing the Para-professional-level tradespeople or technicians, the level of knowledge and skills are weighted in favour of practical skills.

Research Question 4

To what extent are the institutions promoting lifelong learning?

Finding Related to the Extent to which the Institutions are Promoting Lifelong Learning

The evidence revealed that both training institutions were promoting lifelong learning education; however, this still requires refinement to improve sustainability and effectiveness of the strategies over time. In this study, automotive training centres at Australian TAFE institutes promoted lifelong learning, with most of the students (local) studying part time and most of them working in the automotive industry. The training centres were providing flexible times and access to programs as well as a suite of training options, including sandwich programs, block release, weekend programs and after-working-hours classes. The percentages of students (by the demographic data) affirmed that Australian students are almost exclusively part-time students, while modes of study in Malaysia were full time. These data confirmed that lifelong learning has been more widely promoted in Australia than in Malaysia as indicated in Table 3.

Table 3. Percentages of student and employment mode in both countries

No	Characteristics	Frequencies/Percentage			
1	Institution	TAFE Institutes Australia	f (%)	Community Colleges Malaysia	f (%)
2	Mode of study	Full time	-	Full time	60(100%)
		Part time	60(100%)	Part time	-
3	Employment mode	Full time	50(83%)	Full time	-
		Part time	10(17%)	Part time	9(15%)
		None	-	None	51 (85%)

Table 3 shows that the pattern of student modes is different between countries. The majority of Australian students were attending TAFE institutes part time, whereas community college students predominantly study as full-time students. The mode of engagement is aligned with employment patterns; Australian participants are predominantly working full time in the automotive industry, and classes are conducted as a block release program between workplaces and TAFE institutes. This aligns closely with the history of apprenticeships and associated training models. There are different approaches in the Malaysian context, where most participants were not employed, with only 15 per cent working part time in the automotive industry and attending after-hours class.

In the context of this study, Malaysia needs to expand the flexibility of lifelong learning strategies to underpin the role of education and training in the development of human capital. While this has been

demonstrated through the implementation of higher education strategies, it has not yet been widely realised in technical and vocational training.

Discussion of Findings

It was found out that in the context of the community colleges, the programmes implemented in Malaysia are based on federal monitoring. It is accepted, and expected, that these programmes will be consistent in content and delivery across the country (curriculum and training mode). The Diploma in Automotive Studies offered by the community colleges was jointly developed by Proton Automotive Industry, the community colleges and the Ministry of Higher Education in Malaysia. This work based learning (WBL) programme ensured that Proton Automotive Industry was directly involved with the programme.

It can be argued that there are similar lines of dependence in the Australian context for the strategic development of the curriculum for the TAFE institutes, notably through monitoring the delivery of national training packages. For instance, in Victoria the State Government monitors the implementation of the programme to ensure training providers are meeting the industry's requirements as well as community needs in general. The Australian curriculum is delivered differently with the TAFE institutes, with different niche approaches to attract people to study at their institute. For example, Kangan Batman TAFE Institute receives funding from the government for the development of a new Automotive Centre of Excellence that focuses on research and development (Kamin, 2012).

However, even though the Malaysian students are not exposed to the broader context they were engaged in effective learning. The course syllabus for WBL assisted students to become capable of applying theory (concepts and methods) into the current practices in the Proton industry environment. This view is similar to those of Boud, Solomon & Symes (2001), Yusof & Razali (2007), and Tajul (2009). The WBL programmes simulate the real working world in both theory and practice as well in context. Hence, there is a direct benefit to the Malaysian economy from this partnership-based approach to learning, as all processes align with, and are focused on, the Malaysian-owned and sponsored automotive industry.

The different curricula in both countries deal directly with the partnerships and collaborations available between the teaching institutions and the automotive industries. The general intent of the curriculum also focuses on students becoming competent within specific industry contexts. The focus of education and training in both countries was on training to meet industry best practice. This includes staying abreast of innovations and emerging technologies to ensure capability development continues in the labour market, in line with the findings of Misko & Robinson (2000), Billet (2001), Dobson (2003) and Pang, Rajamorganan & Simon (2010) in terms of workplace learning.

Despite the basic similarities, there are structural differences between the programmes run by the community colleges in Malaysia and the TAFE institutes in Australia. In Malaysia, the system is set up centrally by the government. However, in Australia, the structure is less centralised because the programmes are based on state TAFE boards, and it is deemed important to lessen federal control to ensure the programmes cater for local needs. The Malaysian training system is built on WBL collaboration with local automotive manufacturers. Government policies have control over the development of the curriculum for the polytechnics, community colleges and other organisations, with the involvement of local automotive industries. This is implemented as a national curriculum used for the WBL programmes between the community colleges and local industry-based automotive manufacturers.

The pedagogical strategies appear similar between the two countries, but community colleges outline various methods that seem unrealistic for education and training para-professional workforces. Obviously, Australian approaches are focused on approaches that are suitable for the tradespeople working in the industry. The selection of teaching methods is important in attaining the desired outcomes. In both contexts, training institutions need to re-focus on the relevance of their approaches to developing human capital at the para-professional level.

Lifelong learning for all within the context of the education system has been proposed in both countries, in line with government policy. However, it seems that Australia provides considerably more opportunities for lifelong learning than the Malaysian education and training system does. Apparently, Malaysian training institutions are less concerned with encouraging lifelong learning. The Malaysian government stresses that lifelong learning must be promoted in order to produce quality human capital in Malaysia; Economic Planning Unit (EPU, 2007). Politicians have made a policy to encourage all Malaysians to undertake training and education to ensure that the people are capable of adapting to the changing economic landscape in Malaysia. The Malaysian institutes do promote lifelong learning, but offer fewer opportunities for working people. The problem here is the structure of the curriculum, which is not appropriate for people working within the industry. The mode of study offered is focused on students pursuing full-time rather than part-time courses. This happens when the classes concerned operate during the day instead of offering flexible times. For example, almost all TAFE students are already employed in the industry and return to their training institute to study new knowledge and advanced technologies. This is similar to Jarvis (1995) who stated that the importance of lifelong education is to assist the individual to adjust to the culture changes in their industry. Current strategies in technology development require students to explore technological changes in order to face the labour market. Lifelong education is the answer to training or retraining for workforces in the industry. This was recognised by Jallade & Mora (2001) and Tight (2002), and their strategies are based on their past experiences and applying self-directed lifelong learning (Ausburn & Brown, 2006). The process is the 'dynamic tension' that embeds the experience and culture of the world of work. This was the practice in the majority of TAFE

institutes and other training providers, which encourage education and training through lifelong learning programmes.

In the Malaysian context, the lessons to be learned from the successful lifelong learning programmes from Western countries will be beneficial to the development of human capital for the country. The strategies should be applied in terms of acknowledging work experience as an option in pursuing education and training. At this stage, Malaysia promotes lifelong education, but needs to be more aggressive in this regard. The Australian TAFE institutes are a good an example of implementing lifelong education. These programmes have been implemented with the full industry support in order to create opportunities to upgrade knowledge and practical skills. These programmes can operate as sandwich programmes, block release, weekend programmes and evening classes.

Conclusion

The demand for quality workers in the twenty-first century is becoming more challenging and more competitive in the global workplace. This study sought to compare the preparation of highly skilled workers. This has been achieved through a comparative study of TAFE in Australia and community colleges in Malaysia. It has been confirmed from Malaysia's industries that local graduates from the community colleges do not fulfil their requirements in terms of knowledge and skill needed in the automotive industries. Previous research shows employers are seeking multi-skilled work-ready graduates with a good attitude to work. These industry expectations are important considerations in how to properly prepare human capital for Malaysia's economic development. However there are substantial gaps in the relationship between institutions and industry on how to best prepare these graduates. Therefore the central question was to identify strategies to improve and develop both the quality and the quantity of technicians in the automotive industry. The Australian model has been investigated as it resides in a successful and thriving developed economy.

References

Asian Development Bank. (1999). *Key Indicators of Developing Asia And Pacific Countries*. Manila: Oxford University Press (China) Ltd.

Ausburn, L. J., & Brown, D. (2006). Learning Strategy Patterns and Instructional Preferences of Career and Technical Education Students. *Journal of Industrial Teacher Education*, 43(4), 6-38.

Bakar, A. R., & Hanafi, I. (2007). Assessing Employability Skills of Technical-Vocational Students in Malaysia. *Journal of Social Sciences*, 3 (4), 202-207.

Billett, S. (2001). *Learning in the Workplace: Strategies for Effective Practice*. Crows Nest, NSW: Allen & Unwin.

Boud, D., Solomon, N. & Symes, C. (2001). New Practices for New Times. In D. Boud & N. Solomon, (Eds). *Work-Based Learning: A New Higher Education*. (pp. 18-33). Buckingham: Open University Press & Society for Research into Higher Education.

Dobson, G. (2003). *NVSC Handbook – A Guide to Writing Competency Based Training Materials.* Melbourne: National Volunteer Skills Centre

Cedefop. (2009). *Modernising Vocational Education and Training.* Fourth Report on Vocational Education and Training Research In Europe: Synthesis Report. Luxembourg: Publications Office of the European Union.

Economic Planning Unit. (2006). *Ninth Malaysian Plan 2006-2010*. Putrajaya: Percetakan Negara.

Gray, K., & Paryono, P. (2004). *A Conceptual Model of Workforce Education and Development System.* USA: Information Age Publishing.

Hellwig, S. (2006). Competency-Based Training: Different Perceptions in Australia and Germany. *Australian Journal of Adult Learning*, 46(1), 51-74.

Jallade, J. P., & Mora, J. G. (2001). Lifelong Learning: International Injunctions and University Practices. *European Journal of Education,* 36(3), 61-377.

Jarvis, P. (1995). *Adult and Continuing Education: Theory and Practice* (2nd Ed.). London: Routledge.

Kamin, Y. B. (2012). TAFE in Australia and Community College in Malaysia Compared: How Students are prepared for the Workplace in Mechanical Engineering (Automotive) *Unpublished PhD Thesis*. Faculty of Education La Trobe University Bundoora, Victoria Australia

Kitainge, K, M. (2005). Balancing the Fores: The Development of Relevant Training that Aligns to the Work Demands in Automotive Retail, Service and Repair Industries In Kenya and Australia. *Unpublished Doctoral Dissertation* .RMIT.

Misko, J., & Robinson, C. (2000).Competency-Based Training in Australia. In A., Arguelles, & A., Gonczi. (Eds). *Competency Based Education and Training: A World Perspective*. (Pp. 61-83). Mexico: Limusa Noreiga.

Pang, C. L, Rajamorganan, N., & Simon, S. (2010, February 1-5). *Background paper for Malaysia: Skills development in the Workplace in Malaysia*. Paper presented in ILO/SKILLS-AP. Japan Regional Technical Workshop and Study Programme on Skills Training in the Workplace Overseas Vocational Training Association, Chiba, Japan. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/meetingdocument/wcms_120569.pdf

Raghunathan, T.S., Rao, S.S., & Solis, L. E. (1997). A Comparative Study of Quality Practices: USA, China and India. *Industrial Management & Data Systems*, 97 (5), 192 – 200.

Speake, L. (2007). *Vocational Education and Training in Scotland And France: A Comparative Study.* Edinburgh: Scottish Executive.

Tajul, A. A. (2009, August 17). *Country Paper: Malaysia - Innovative Practices in TVET Towards Education for Sustainable Development Work-Based Learning Diploma Programmes at Community Colleges In Malaysia*. Paper Presenting At International Experts Meeting on Reorienting TVET Policy towards Education for Sustainable Development Berlin, Germany. (pp. 1-8). Retrieved from http://www.unevoc.unesco.org/up/Malaysia_Country_Paper.pdf

Tight, M. (2002). *Key Concepts in Adult Education and Training* (2nd Ed.). London: Routledge Falmer.

Yusuff, A. Z., & Razali, M. (2007, June). *Diploma in Automotive: A Collaboration between Community College & Proton. A 12 month Work-Based Learning* (WBL) [Presentation slides].

Penubuhan Sekolah Integriti Dalam Sistem Pendidikan di Malaysia

Mohd Zaki Mohamed Som[1], Mahani Mokhtar[2], Dr. Jamilah Ahmad[3], Nornazira Suhairom[4]
[1,2,3,4] Sekolah Pendidikan, Fakulti Sains Sosial dan Kemanusiaan, Universiti Teknologi Malaysia

E-mail: p-mahani@utm.my[2]

Abstrak: Penubuhan sekolah integriti yang bermatlamat untuk memberi peluang pendidikan kepada pesalah juvana bukanlah isu yang asing lagi di Malaysia sejak penubuhan institusi ini pada tahun 1950. Namun begitu, tidak ramai yang mengetahui kewujudan sekolah integriti ini terutamanya dalam kalangan masyarakat kini. Justeru, kertas kerja ini ingin membincangkan mengenai penubuhan sekolah integriti dalam system pendidikan di Malaysia serta pelaksaannya dalam membantu memberikan pendidikan kepada pesalah-pesalah juvana serta meningkatkan tingkah laku mereka dalam membentuk mereka menjadi insan yang berguna setelah dibebaskan kelak.

Kata Kunci: Sekolah integriti, malaysia, sistem pendidikan

Pengenalan

Institusi yang terawal bagi pesalah juvana ialah institusi pemulihan belia, terletak di Penjara Muar Johor pada tahun 1948. Institusi tersebut dinamakan sebagai Sekolah Pemulihan Lanjutan. Kemudian pada tahun 1950, sekolah ini telah berpindah ke Telok Mas Melaka dan sekolah ini dirasmikan oleh Sir Henry Gurney iaitu seorang Pesuruhjaya Tinggi British di Malaya ketika itu pada 19 Julai 1950. Sekolah tersebut diberi nama Sekolah Henry Gurney bersempena nama pesuruhjaya tersebut (Muzium Penjara, 2014). Kerana keperluan dan bermatlamat menampung kehendak pendidikan pada waktu tersebut, Jabatan Penjara Malaysia seterusnya telah membina lima pusat Sekolah Henry Gurney. Sekolah Henry Gurney tersebut ialah Sekolah Henry Gurney Batu Gajah, Perak yang menempatkan juvana wanita di bahagian Semenanjung Malaysia, Sekolah Henry Gurney Kota Kinabalu, Sabah untuk menempatkan juvana wanita dari kawasan Sabah dan Sarawak. Manakala Sekolah Henry Gurney Keningau, Sabah adalah bagi juvana lelaki dari Sabah dan Sarawak. Sekolah Henry Gurney Banda Hilir, Melaka menempatkan juvana khas dan tegar dan sekolah Henry Gurney Dusun Dato' Murad, Melaka pula menempatkan juvana yang terlibat dengan aktiviti kemahiran pertanian (Muzium Penjara, 2014).

Pada waktu kini, tiga buah Sekolah Henry Gurney telah diarahkan tutup kerana sekolah- sekolah ini telah diubah perannannya. Pada Jun 1990, Sekolah Henry Gurney Banda Hilir telah diubahsuai menjadi Penjara Banda Hilir. Manakala pada April 2003, Sekolah Henry Gurney Dusun Dato' Murad ditutup dan seterusnya dijadikan sebagai Penjara Pra Bebas Dusun Dato' Murad. Sekolah Henry Wanita Batu Gajah dan kawasan sekitarnya pula telah menjadi Pusat Pemulihan Akhlak Batu Gajah pada Julai 2007. Para pesalah juvana wanita yang ditempatkan di sekolah ini telah dipindahkan ke Sekolah Henry Gurney Telok Mas yang terletak di negeri Melaka. Namun begitu, pesalah juvana wanita di sini ditempatkan berasingan dengan pesalah juvana lelaki (Muzium Penjara, 2014).

Sekitar tahun 2004, terdapat lapan orang bekas pelajar dari SMKA Ampangan, Negeri sembilan dijatuhi hukuman ke Penjara Kajang. Pihak pengurusan penjara tersebut telah menggunakan beberapa orang banduan yang berkelayakan untuk menjadi guru kepada banduan tersebut. Seterusnya, pihak pengurusan penjara memutuskan bagi mewujudkan sebuah Pusat Kecemerlangan Juvana. Pusat ini menyediakan peluang kepada mereka yang berpotensi melanjutkan pelajaran. Pihak Jabatan Penjara Malaysia telah menempatkan empat orang tenaga pengajar secara kontrak pada tahun 2007 di pusat ini. Dari sinilah, perancangan bagi membina dan mewujudkan institusi pendidikan melalui sistem persekolahan (Jabatan Penjara Malaysia, 2009).

Pada tahun 2008, melalui kerjasama pihak Kementerian Pendidikan Malaysia, pendidikan secara formal melalui sistem persekolahan kepada pesalah juvana dengan mewujudkan sebuah sekolah dinamakan sebagai Sekolah Integriti. Enam buah Sekolah Integriti telah diwujudkan meliputi Zon Utara, Zon Tengah, Zon Selatan, Zon Timur, Zon Sarawak dan juga Zon Sabah. Semua sekolah ini diwujudkan didalam kawasan penjara melalui proses pengubahsuaian rekabentuk infrastruktur bangunan yang telah sedia ada (Jabatan Penjara Malaysia, 2009). Matlamat utama penubuhan adalah bagi membolehkan pesalah juvana meningkatkan dan memperbaiki tingkah laku, menghapus masalah buta huruf melalui program 3M iaitu membaca, mengira dan menulis. Selain itu, penubuhan sekolah ini bagi memberi peluang pesalah juvana ini meneruskan pendidikan melalui sistem persekolahan, menerbitkan rasa minat untuk belajar dalam kalangan pesalah juvana. Selain daripada itu, ianya juga diharapkan dapat meyakinkan diri seseorang pelajar juvana itu bahawa pendidikan mampu memberikan mereka masa hadapan yang lebih cerah (Jabatan Penjara 2009).

Semasa awal penubuhan sistem persekolahan, peluang hanya diberikan kepada pesalah juvana di Sekolah Henry Gurney. Namun, Sekolah Integriti telah diwujudkan pada tahun 2008 yang membolehkan lebih ramai lagi pesalah juvana untuk mendapatkan hak mendapatkan pendidikan. Perjawatan Pegawai Pendidikan yang ditempatkan di Sekolah Integriti adalah setaraf dengan mereka yang bertugas di sekolah aliran perdana lain. Pelaksanaan dan kewujudan Sekolah Integriti adalah selaras dengan saranan pihak UNESCO iaitu 'Pendidikan Untuk Semua'. Diharapkan melalui kewujudan Sekolah Integriti ini dapat melaksanakan fungsinya dengan membuka peluang kepada para pesalah juvana bagi membina semula masa hadapan menjadi lebih baik.

Dasar Pendidikan dan Hala Tuju Sekolah Integriti

Berdasarkan Dasar Pendidikan Kebangsaan, pendidikan kepada para banduan juvana dan banduan muda adalah melalui kerjasama antara pihak Kementerian Pelajaran Malaysia dan Jabatan Penjara Malaysia. Bentuk kerjasama ini menjadikan program pendidikan yang dilaksanakan diletakkan di bawah Program Khas Pendidikan Bagi Banduan Muda Dan Juvana. Melalui dasar menuntut banduan muda dan tahanan juvana perlu belajar di Sekolah Integriti atau Sekolah Henry Gurney (Kementerian Pelajaran Malaysia 2012).

Bagi memastikan perjalanan pendidikan terhadap juvana melalui sistem persekolahan berjalan dengan teratur, beberapa dasar tertentu mengenai pendidikan telah diwujudka oleh pihak jabatan iaitu nama sekolah, umur pelajar, kategori pelajar, gender pelajar, kelas pembelajaran, pengkategorian, aliran pembelajaran, pelajar, pusat peperiksaan serta calon peperiksaan (Jabatan Penjara Malaysia 2009).

Pihak Jabatan Penjara perlu menyediakan segala kemudahan fizikal, infrastruktur, prasarana dan sistem kawalan yang memberi berkesan. Perkara ini bagi memenuhi misi jabatan bagi menyediakan program pemulihan dan intervensi yang berkesan. Terdapat enam hala tuju yang telah disasarkan iaitu penekanan kepada pembentukan disiplin dan akhlak, sekolah satu entiti, tenaga pengajar, penempatan asrama, prasarana yang lengkap dan memperkasaa Sekolah Henry Gurney serta Sekolah Integriti (Jabatan Penjara, 2009).

Sasaran Pelajar di Sekolah Integriti

Sekolah Henry Gurney dan Sekolah Integriti merupakan dua entiti sekolah yang wujud dalam institusi penjara. Sekolah Integriti merupakan sebuah sekolah yang menempatkan pesalah juvana di bawah Akta Langkah-Langkah Pencegahan Khas Dadah 1985 dan juga para juvana yang disabitkan dan ditahan atas kesalahan selain daripada Akta Kanak-Kanak 2000. Manakala, Sekolah Henry Gurney pula menempatkan pesalah juvana yang disabitkan dengan kesalahan oleh pihak Mahkamah Kanak-Kanak dengan melalui Akta Kanak-Kanak 2001 (Jabatan Penjara Malaysia 2009).

Para pelajar yang terlibat dengan program akademik melalui sistem persekolahan merupakan pesalah yang ditempatkan di zon sekolah. Mereka terdiri daripada para pelajar di Sekolah Henry Gurney, para banduan muda yang disabitkan ke penjara dan para tahanan muda yang ditempatkan di Pusat Pemulihan Akhlak. Banduan muda yang telah disabitkan ke penjara serta para tahanan muda dari Pusat Pemulihan Akhlak perlu berpindah ke institusi-institusi penjara yang mempunyai Sekolah Integriti mengikut akta yang berkaitan. Bagi banduan muda reman, mereka juga akan diletakkan ke institusi penjara yang mempunyai Sekolah Integriti. Warganegara asing juga boleh dibenarkan mengikuti sistem persekolahan di Sekolah Integriti jika bersesuaian (Jabatan Penjara Malaysia 2009).

Para pelajar yang ditempatkan di Sekolah Henry Gurney dan Sekolah Integriti adalah mereka yang berumur sekitar 14 hingga 21 tahun. Juvana yang telah mendaftar PT3 dan SPM, iaitu pesalah yang dipenjarakan yang melebihi umur 21 tahun dan berminat untu memasuki Sekolah Integriti perlu mendapat kebenaran daripada pihak Bahagian Pengurusan Banduan bagi membolehkan mereka ditempatkan di blok penempatan juvana dan kelas pembelajaran sehingga mereka tamat peperiksaan dan program yang mereka lalui (Jabatan Penjara Malaysia 2009).

Sekolah Henry Gurney dan Sekolah Integriti hanya membenarkan satu gender sahaja ditempatkan di institusi-institusi tersebut. Ketetapan telah dinyatakan di dalam Peraturan-Peraturan Penjara 2000 melalui Perkara 34(3). Peraturan tersebut menjelaskan para banduan dalam setiap kategori perlulah diasingkan penempatan dan tempat kerjanya jika mampu (Jabatan Penjara Malaysia 2009).

Kaedah Pelaksanaan

Sektor Pendidikan di bawah Seksyen Pemulihan dan Rawatan, Bahagian Pengurusan Banduan adalah bahagian yang bertanggungjawab terhadap pelaksanaan aktiviti pendidikan di penjara. Sektor Pendidikan menempatkan empat orang Pegawai Perkhidmatan Pendidikan. Mereka akan berurusan bersama-sama dengan Bahagian Pendidikan Khas, Kementerian Pendidikan Malaysia (Jabatan Penjara Malaysia 2009).

Di Sekolah Integriti, pihak pentadbiran sekolah akan diuruskan oleh seorang Penyelia sebagai ketua serta dibantu oleh tiga orang Penolong Penyelia yang terdiri daripada Penolong Penyelia Akademik, Penolong Penyelia Kokurikulum serta Penolong Penyelia Hal Ehwal Murid. Perjawatan Penyelia merupakan satu jawatan yang bukan hakiki, walaupun begitu pertukaran Penyelia tidak akan berlaku kecuali jika terdapat sebarang kekosongan jawatan seperti pertukaran. Peranan penyelia adalah untuk mengurus dan mentadbir perjalanan program akademik serta memastikan proses pengajaran dan pembelajaran turut menekankan pembinaan disiplin, pembentukan akhlak dan juga menghasilkan kejayaan dalam bidang pelajaran (Jabatan Penjara Malaysia 2009).

Penempatan Pegawai Perkhidmatan Pendidikan pada setiap sekolah adalah sebanyak sebelas orang yang terdiri lapan orang guru bagi melaksanakan tugas-tugas pengajaran dan pembelajaran. Mereka turut dibantu oleh tiga orang guru khusus dalam bidang kaunseling, pemulihan dan agama (Jabatan Penjara Malaysia 2009). Ketua Sektor Pendidikan serta Penyelia dikehendaki perlu memastikan setiap perjawatan ini lengkap dan

dipenuhi kerana setiap guru mempunyai tugas dalam bidang mereka sendiri. Jika perjawatan itu mempunyai kekosongan, maka proses pengajaran dan pembelajaran menjadi sukar. Sistem persekolahan di penjara hendaklah merancang segala aktiviti dengan teratur bagi mengelakkan proses pembelajaran dan pengajaran tidak terganggu kerana setiap guru mempunyai pengkhususan tertentu yang telah ditetapkan.

Secara amnya, bilangan kelas yang telah diwujudkan adalah terdiri daripada lima buah kelas iaitu Kelas 3M, Kelas Pra PT3, Kelas PT3, Kelas Pra SPM dan juga Kelas SPM. Namun, kelas bagi pelajar STPM pula diwujudkan jika terdapat keperluan dan kemampuan oleh sesebuah Sekolah Integriti. Kesemua Sekolah Integriti masih mewujudkan Kelas 3M kerana terdapat pesalah juvana ini yang masih lagi belum menguasai kemahiran 3M iaitu dari aspek membaca, menulis dan mengira. Kelas Pra SPM dan Kelas SPM diwujudkan di Sekolah Integriti kerana kesedaran mereka tentang kepentingan pelajaran dan memiliki sijil tersebut. Para pelajar yang mahu mengikuti pendidikan dalam bidang kemahiran boleh mengikuti sistem persekolahan hanya pada Kelas 3M sahaja. (Jabatan Penjara Malaysia, 2009).

Dua aliran telah diwujudkan di sekolah penjara iaitu aliran akademik dan juga aliran kemahiran. Bagi aliran kemahiran, merek akan mengikuti pelbagai aktiviti kemahiran bergantung kepada prasarana dan tenaga pengajar yang ada. Manakala bagi alairan akademik, para pelajar akan diajar sama seperti sukatan pelajaran di sekolah aliran perdana dan juga layak untuk mengambil peperiksaan.

Keperluan Pendidikan kepada Pesalah Juvana

Jabatan Penjara Malaysia telah mewujudkan program pemulihan melalui pelaksanaan Program Pembangunan Insan yang dimulakan pada 2004. Kesinambungan program pemulihan juvana melalui pendidikan telah diteruskan dengan kewujudan Sekolah Integeriti dengan kerjasama oleh pihak Kementerian Pendidikan Malaysia pada tahun 2008. Beberapa perkara telah dikenal pasti yang mendorong kewujudan sistem pendidikan melalui program akademik di Sekolah Integriti.

Menurut statistik yang dikeluarkan pada Julai 2016, tahap pendidikan pesalah juvana adalah terdiri daripada 521 orang atau 18.40% yang berada di tahap rsekolah rendah, 1255 orang mewakili 44.33% telah menamatkan sekolah peringkat menengah rendah, 1002 orang yang mewakili 35.39% telah tamat sekolah di peringkat menengah atas dan 53 orang yang mewakili 1.87% melebihi tingkatan lima dari aspek latar belakang pendidikannya. Secara umum, statistic ini menunjukkan seramai 1776 orang yang mewakili 62.73% bersekolah sehingga ke peringkat menengah rendah (Jabatan Penjara Malaysia 2013). Tidak banyak perubahan ketara statistik ini pada tahun 2017 di mana kebanyakan pesalah juvana adalah terdiri daripada mereka yang berada di alam persekolahan menengah. Menerusi paparan statistik ini menunjukkan mereka perlu dibantu dengan diberikan peluang dan galakan untuk bersekolah sama seperti rakan sebaya mereka yang lain.

Seterusnya, berdasarkan Statistik yang dikeluarkan pada Julai 2016 menunjukkan daripada 2831 orang tahanan juvana, sebanyak 161 orang yang mewakili 5.69% berumur 17 tahun dan ke bawah. Manakala 611 orang yag mewakili 21.58% adalah mereka yang berumur sekitar 17 hingga 18 tahun ke bawah. 2059 orang yang mewakili 72.73% pula berumur sekitar 19 hingga 20 tahun. Secara umumnya, terdapat sebanyak 772 orang yang mewakili 27.30% berumur 18 tahun dan ke bawah (Jabatan Penjara Malaysia, 2013). Melalui Dasar Pendidikan Kebangsaan, Pendidikan Menengah diberikan kepadacmurid yang berumur sekitar 12 tahun ke atas sehingga berumur 17 tahun (Kementerian Pelajaran Malaysia 2013). Oleh itu, selayaknya mereka diberikan akses untuk mengikuti sistem persekolahan walaupun berada di dalam penjara.

Perundangan Melibatkan Akta dan Peraturan

Berikut merupakan beberapa akta dan juga peraturan yang melibatkan perundangan mengenai hak pendidikan yang berterusan kepada pelajar juvana:

1)   *Peruntukan Akta Kanak-Kanak 2001*

Melalui Perkara 2 Akta Kanak-Kanak 2001 menjelaskan dan mendefinisikan kanak-kanak sebagai mereka yang beeumur lapan belas tahun dan ke bawah. Melalui Perkara 65 (1) juga menyatakan kementerian yang berkaitan untuk boleh, menyampaikan pemberitahuan, menubuhkan atau menetapkan perjalanan sekolah-sekolah yang telah diluluskan bagi melaksanakan pendidikan, latihan dan penahanan kanak-kanak berdasarkan peruntukan Akta ini (Akta Kanak-Kanak, 2001). Menurut panduan yang terkandung dalam Dasar Pendidikan Kebangsaan menetapkan mereka yang berusia sekitar lingkungan tersebut. Dalam Perkara 5.1.1 menjelaskan pendidikan di peringkat menengah akan menyediakan program pendidikan yang lebih holistik, komprehensif, berkualiti dan juga akan menerapkan nilai-nilai murni kepada murid yang berusia sekitar 12 tahun sehingga 17tahun (Kementerian Pelajaran Malaysia, 2012).

2)   Peruntukan Peraturan Sekolah Henry Gurney

Melalui Perkara 38, Peraturan Sekolah Henry Gurney menjelaskan segala peruntukan perlu dibuat untuk mewujudkan kelas pendidikan yang akan membei kebaikan semua penuntutnya. Dalam Perkara 39 menjelaskan suatu perpustakaan perlu disediakan dalam setiao institusi. Para pelajar tersebut digalakkan mempunyai buku perpustakaan yang tidak lebih daripada tiga buah dalam sesuatu tempoh masa

tertentu. Buku-buku tersebut juga boleh ditukar pinjam dengan rakan-rakan lain di dalam oenjara dan sekolah (Peraturan Sekolah Henry Gurney, 1949).

3) Peruntukan Peraturan-Peraturan Penjara 2000

Menurut Perkara 151 (1) Peraturan-Peraturan Penjara 2000 menjelaskan bahawa setiap penjara, segala program pendidikan perlulah dirancangdan diatur dengan kemudahan yang lengkap serta mengikut syarat-syarat yang telah ditetapkan oleh Ketua Pengarah Penjara. Manakal berdasarkan Perkara 151(2)-pula menjelaskan bahawa perhatian khas perlu diberikan kepada pembangunan pendidikan kepada para banduan yang masih buta huruf. Manakala berdasarkan Perkara 151(3) menjelaskan bahawa setiap banduan yang boleh memperoleh kepentingan dan manfaat daripada kemudahan pendidikan yang telah disediakan hendaklah disarankan untuk melakukan perkara yang demikian (Peraturan-Peraturan Penjara, 2000).

4) Saranan United Nation Standard Minimum (UNSMR)

Berdasarkan Perkara 77(1) oleh pihak UNSMR menggalakkan dan menyokong segala hasrat serta usaha bagi membolehkan setiap banduan mendapat manfaat untuk memperoleh pendidikan terbaik, melanjutkan pelajaran, dan juga peluang untuk mendalami ilmu agama. Pendidikan bagi membasmi masalah buta huruf dalam kalangan banduan muda adalah diwajibkan. Perkara ini juga perlu diberikan perhatian khusus pihak pentadbiran dan mereka yang bertanggungjawab. Dalam Perkara 77(2) pula menjelaskan pendidikan kepada golongan banduan perlulah disepadukan dan diselarakan dengan sistem pendidikan di negara agar apabila mereka dibebaskan, individu terbabit mampu meneruskan pelajaran mereka dan kelangsungan hidup tanpa kesukaran (UNSMR, 1977).

Kesimpulan

Penubuhan sekolah integriti adalah satu usaha bagi memberi peluang kepada semua individu yang terlibat dengan jenayah juvana untuk mendapat peluang pendidikan sepertimana rakan-rakan mereka yang lain. Usaha ini dilihat bagi memberi mereka peluang untuk meneruskan kehidupan mereka sekiranya mereka dibebaskan kelak dan secara tidak langsung dapat membantu mereka untuk diterima kembali di kalangan masyarakat. Justeru, masyarakat haruslah berusaha untuk memberi peluang kepada individu-individu ini untuk memulakan kehidupan yang lebih baik. Untuk memastikan pelaksanaan program ini dapat memberi masa depan cerah kepada pesalah juvana ini, kerajaan juga haruslah memberi perhatian yang lebih sekaligus berusaha meningkatkan kualiti pendidikan yang diberikan kepada individu-individu ini supaya mereka dapat menjalani kehidupan yang lebih baik pada masa hadapan.

Rujukan

Muzium Penjara. 2014. Jabatan Penjara Malaysia, Sejarah Penubuhan Sekolah Henry Gurney. Melaka : Penerbitan Muzium Penjara Malaysia.
Jabatan Penjara Malaysia (2009). Pekeliling Sektor Pendidikan Jabatan Penjara Malaysia; Dasar, Objektif dan Halatuju Pendidikan di Jabatan Penjara Malaysia.
Kementerian Pendidikan Malaysia (2012). Dasar Pendidikan Kebangsaan. Shah Alam: Giga Wises Network.
Jabatan Penjara Malaysia (2014). Pekeliling Sektor Pendidikan Jabatan Penjara Malaysia; Pengurusan Pelajar Sekolah Henry Gurney dan Sekolah Integriti.
Jabatan Penjara Malaysia (2016). Sistem Maklumat Pengurusan Pesalah; Statistik Tahap Pendidikan Penghuni. Kajang. JPM.
Jabatan Penjara Malaysia (2017). Sistem Maklumat Pengurusan Pesalah; Statistik Tahap Pendidikan Penghuni. Kajang. JPM.
Akta Kanak-Kanak 2011 (Akta 611); Pesuruhjaya Penyemak Undang-Undang. Putrajaya, PNMB.
Peraturan Sekolah Henry Gurney. 1949   (L.N. 616 of 1949) : Percetakan Nasional Malaysia Berhad.
Peraturan-Peraturan Penjara, 2000.   Akta Penjara 1995 :Warta Kerajaan Jil 44(18) : Nombor Makluman 2382.
UNSMR (1977). Standard Minimum Rules For the Treatment of Prisoner.

Hubungan Antara Kepimpinan Instruksional Guru Besar Dengan Tahap Kepercayaan dan Komitmen Guru Sekolah Rendah

Rozita Rahmat[1], Lokman Mohd Tahir[2]
[1,2] Sekolah Pendidikan, Fakulti Sains Sosial dan Kemanusiaan, Universiti Teknologi Malaysia

E-mail: rozita.r@graduate.utm.my[1], p-lokman@utm.my[2]

Abstrak: Kajian ini dilaksanakan bagi menentukan tahap kepercayaan guru terhadap kepimpinan instruksional guru besar; menentukan tahap komitmen guru terhadap sekolah; mengenal pasti hubungan antara kepimpinan instruksional guru besar dengan tahap kepercayaan guru; mengenal pasti hubungan antara tahap kepercayaan guru dengan komitmen guru terhadap sekolah dan; mengenal pasti sama ada kepimpinan instruksional guru besar dan tahap kepercayaan guru menjadi penyumbang kepada komitmen guru. Kajian ini bersifat kuantitatif deskriptif dan dilaksanakan secara tinjauan berdasarkan persepsi 350 guru biasa di 15 buah sekolah rendah Batu Pahat, Johor dengan menggunakan borang soal selidik. Skor min tertinggi bagi dimensi tahap kepercayaan guru terhadap kepimpinan instruksional guru besar adalah dimensi kompetensi (Min=77.04; Sisihan Piawai=10.62). Skor min konstruk komitmen adalah agak memuaskan (Min=79.302; Sisihan Piawai=10.732). Analisis korelasi Pearson, r kepimpinan instruksional guru besar dengan tahap kepercayaan guru mempunyai hubungan signifikan yang kuat dan positif (Pearson, r=0.71) manakala tahap kepercayaan guru dengan tahap komitmen guru mempunyai hubungan signifikan yang sederhana dan positif (Pearson, r=0.55). Analisis model regresi pelbagai bagi kepimpinan instruksional guru besar dan komitmen menyumbang 30.6 peratus kepada komitmen guru terhadap sekolah (R²=.306) manakala tahap kepercayaan guru terhadap kepimpinan instruksional guru besar menyumbang 12.9 peratus (R²=0.129). Hasil kajian membuktikan bahawa pengamalan kepimpinan instruksional guru besar yang berkesan menunjukkan hubungan yang positif ke atas tahap kepercayaan guru dan seterusnya meningkatkan komitmen guru terhadap sekolah.

Kata Kunci: kepimpinan instruksional, tahap kepercayaan, komitmen

Pengenalan

Tidak dapat dinafikan bahawa dunia pendidikan sering disajikan dengan pelbagai masalah kepimpinan terutama yang melibatkan kepimpinan guru besar. Permasalahan yang timbul termasuklah kenyataan bahawa guru besar tidak menunjukkan kepimpinan yang berkesan dalam memberangsangkan dan memotivasikan guru bagi meningkatkan kecekapan mereka, tidak dapat menyampaikan idea dan maklumat dari sumber luar kepada guru serta tidak dapat memberi bimbingan kepada guru dari segi perkembangan profesional mereka. Komitmen guru terhadap organisasi sekolah juga sedikit sebanyak telah tergugat disebabkan oleh beberapa faktor seperti kehilangan kepercayaan terhadap kepimpinan guru besar.

Isu kelemahan kepimpinan pengetua dan guru besar dalam memimpin sekolah bukanlah isu baru dalam kajian kepengetuaan. Berdasarkan kajian oleh Fullan (2001); Deal dan Peterson (2000) serta Abdul Shukor (2004) yang dipetik daripada Lokman dan Muzammil (2008) mendedahkan bahawa terdapat beberapa kelemahan dalam kepimpinan pengetua (guru besar) yang berupaya mengendalakan pengurusan sekolah untuk berfungsi dengan berkesan. Antara kelemahan utama adalah stail kepimpinan pengetua (guru besar) yang sentiasa merujuk kepada model birokratik menyebabkan mereka kabur tentang peranan mereka sebagai pemimpin yang perlu menjana komitmen guru terhadap sekolah. Dalam hal ini juga, masih terdapat ramai pengetua (guru besar) yang masih mendokong model pengurusan klasik sebagai model terbaik untuk mengurus sekolah. Akibatnya, mereka lebih cenderung mengamalkan gaya kepimpinan autokratik menerusi peraturan formal, mengabaikan kehendak psikologi guru, terlalu mengutamakan pencapaian akademik dan mengetepikan peranan sebagai pemimpin yang dapat menjana modal insan yang berkualiti untuk tujuan pembangunan pendidikan.

Latar Belakang Kajian

Hussein (1997) berpendapat bahawa kepimpinan pengetua di sekolah merangkumi kepimpinan pengajaran dan kepimpinan pendidikan. Kepimpinan pendidikan memerlukan sentuhan teknologi instruksional bagi menghasilkan pengurusan pengajaran dan pembelajaran yang berkesan ke arah melahirkan murid cemerlang dalam bidang akademik. Pengetua dan guru besar perlu mempunyai kemahiran instruksional yang tinggi supaya dapat memberi bimbingan yang efektif dalam aspek pengajaran kepada guru-guru. Dengan memiliki pengetahuan yang tinggi, mereka lebih dihormati dan seterusnya dapat memperbaiki amalan-amalan pengajaran dan pembelajaran di bilik darjah. Berdasarkan kajian Ariffin Ba'ada (2001) dan Vishalache Balakrishnan (2005) yang dipetik daripada Lokman dan Muzammil (2008) menyatakan bahawa pengetua (guru besar) di Malaysia masih tidak mengamalkan komunikasi dua hala, kurang berinteraksi dengan guru, tidak melaksanakan autonomi guru malah jarang melaksanakan pengurusan pengupayaan. Kenyataan ini melambangkan kelemahan kepimpinan pengetua tersebut seterusnya menjadi punca penurunan tahap komitmen guru terhadap sekolah. Secara keseluruhan, dapatan kajian mereka membuktikan bahawa peranan pengetua atau guru besar di sekolah

kini lebih cenderung sebagai pentadbir dan bukan pemimpin pendidikan profesional seperti yang diinginkan oleh pihak Kementerian Pelajaran Malaysia iaitu mencakupi peranan sebagai pendidik, pembimbing guru serta pemimpin yang dapat menjana kesetiaan guru supaya lebih komited dan produktif (Abdul Shukor, 2004 dalam Lokman dan Muzammil, 2008).

Abdul Ghani, Tang dan Aziah (2007) menyatakan bahawa kajian-kajian terhadap kepercayaan telah dijalankan oleh pengkaji-pengkaji lepas seperti Kramer, Brewer dan Hanna (1996), Lester dan Brower (2003), Laschinger dan Finegan (2005), serta Beslin dan Reddin (1996). Berdasarkan kajian yang dilakukan oleh Kramer et al. (1996) membuktikan bahawa kepercayaan mempunyai kesan yang positif terhadap sikap proaktif, persepsi, tingkah laku dan hasil prestasi mengikut konteks latar belakang organisasi. Manakala kajian oleh Lester dan Browner (2003) mendapati bahawa subordinat yang merasakan diri mereka dipercayai oleh majikan atau pemimpin akan memperolehi kepuasan yang tinggi dalam pekerjaan mereka. Kepercayaan juga membolehkan budaya kerja yang subur berkembang, dan seterusnya membolehkan pihak individu memperkasa potensi individu sepenuhnya. Selain itu, para pengkaji turut mendapati bahawa apabila elemen kepercayaan tinggi terhadap majikan atau pemimpin menyebabkan seseorang itu mempunyai sikap yang lebih positif, aras kerjasama serta bentuk-bentuk tingkah laku di tempat kerja yang lain meningkat dan tahap prestasi kerja yang bertambah baik kualitinya (Abdul Ghani et al., 2007).

Menurut Mohd Sahandri Gani (2008), beberapa kajian empirikal telah menunjukkan bahawa komitmen kerja guru banyak dipengaruhi oleh polisi pentadbir sekolah dan suasana tempat kerja (Baron & Greenberg, 1990). Menurut beliau lagi, berdasarkan kajian Miskel, (1977) dan Abd. Main, (1993), sokongan pihak pentadbir dapat meningkatkan prestasi kerja serta komitmen kerja dan kepuasan kerja yang tinggi. Guru yang dibebani dengan tugas yang terlalu banyak dan tidak berbentuk akademik juga akan menghilangkan komitmen mereka dalam kerja-kerja berbentuk profesional (Ball & Goodson, 1985). Manakala menurut Day (2000), komitmen guru mungkin boleh ditingkatkan atau merosot disebabkan faktor-faktor seperti kelakuan pelajar, kerjasama dan sokongan pentadbir, komitmen ibu bapa dan juga polisi negara (Mohd Sahandri Gani, 2008). Berdasarkan kajian Lokman dan Muzammil (2008), tahap komitmen guru adalah pada tahap yang tinggi walaupun tahap kepercayaan guru terhadap pengetua mencatatkan rekod yang sederhana. Menurut Lokman dan Muzammil lagi, dapatan ini membuktikan bahawa pengetua dianggap sebagai individu yang berkelayakan untuk mentadbir sekolah. Melalui dapatan kajian ini juga mampu membuktikan bahawa kepemimpinan pengetua adalah pengaruh utama bagi pembentukan tahap kepercayaan guru terhadap pengetua dan juga tahap komitmen guru terhadap sekolah. Dapatan kajian oleh Zulkafli (2008) juga menunjukkan bahawa terdapat hubungan yang signifikan antara penglibatan guru dalam membuat keputusan dengan sokongan organisasi dan komitmen terhadap organisasi tetapi tidak mempunyai hubungan yang signifikan dengan keinginan guru untuk berpindah. Selain itu, keputusan kajian beliau juga mendapati bahawa sokongan organisasi menjadi moderator terhadap hubungan antara penglibatan guru dalam membuat keputusan dengan komitmen terhadap organisasi.

Kajian ini dijalankan berdasarkan lima objektif kajian yang telah dibina oleh pengkaji dan seterusnya menjawab lima persoalan kajian. Antara objektif kajian ialah, menentukan tahap kepercayaan guru terhadap kepimpinan instruksional guru besar; menentukan tahap komitmen guru terhadap sekolah; mengenal pasti hubungan antara kepimpinan instruksional guru besar dengan tahap kepercayaan guru; mengenal pasti hubungan antara tahap kepercayaan guru terhadap kepemimpinan instruksional guru besar dengan komitmen guru terhadap sekolah dan; mengenal pasti sama ada kepimpinan instruksional guru besar dan tahap kepercayaan guru menjadi penyumbang kepada komitmen guru. Manakala persoalan kajian yang dikemukakan dalam kajian ini ialah, Apakah tahap kepercayaan guru terhadap kepemimpinan instruksional guru besar?; Apakah tahap komitmen guru terhadap sekolah?; Adakah terdapat hubungan yang signifikan antara kepemimpinan instruksional guru besar dengan tahap kepercayaan guru?; Adakah terdapat hubungan yang signifikan antara tahap kepercayaan guru terhadap kepemimpinan instruksional guru besar dengan komitmen guru terhadap sekolah?; Adakah kepemimpinan instruksional guru besar dan tahap kepercayaan guru menjadi penyumbang yang signifikan kepada komitmen guru terhadap sekolah?

Metodologi Kajian

Reka bentuk kajian ini bersifat kuantitatif deskriptif. Kajian deskriptif digunakan dan dilaksanakan secara tinjauan bagi mendapatkan data kuantitatif iaitu dengan menggunakan borang soal selidik. ia bertujuan untuk meneroka persepsi guru terhadap gaya kepimpinan instruksional guru besar serta mengenal pasti hubungan antara tahap kepercayaan dan komitmen guru di 15 buah sekolah rendah kebangsaan di sekitar daerah Batu Pahat, Johor melibatkan populasi guru biasa. Populasi guru biasa ini adalah terdiri daripada 3909 orang guru yang mengajar di sekolah rendah sekitar daerah Batu Pahat (Pejabat Pelajaran Daerah Batu Pahat, 2010). Daripada populasi tersebut, seramai 350 orang guru biasa dari 15 buah sekolah rendah di sekitar daerah Batu Pahat telah dipilih secara rawak sebagai sampel kajian atau responden. Reka bentuk kajian ini juga menggunakan analisis statistik inferensi iaitu korelasi Pearson, r. Fokus kajian ini adalah menentukan kekuatan hubungan serta menggunakan ujian analisis regresi pelbagai untuk menentukan sejauhmana kepimpinan instruksional guru besar dan tahap kepercayaan guru menjadi penyumbang kepada komitmen guru.

Dalam kajian ini, pengkaji menggunakan Model Kepimpinan Instruksional yang telah dibina oleh Hallinger dan Murphy (1985) dan seterusnya menggunakan instrumen 'Principal Instructional Management Rating Scale' yang dihasilkan oleh Hallinger (2000) tetapi telah diubahsuai oleh pengkaji agar bersesuaian dengan objektif kajian. Menurut Murphy dan Hallinger (1987), terdapat sebelas perlakuan kepimpinan instruksional yang harus dipamerkan oleh pengetua atau guru besar dalam sekolah. Antaranya ialah pengetua atau guru besar perlu merangka dan

merealisasikan matlamat yang dirancang secara bersama dengan warga sekolah, menetapkan matlamat tahunan sekolah secara fokus serta memastikan matlamat sekolah yang dirangka itu adalah berdasarkan tanggungjawab dan kebolehan kakitangan yang melaksanakannya. Menurut Hallinger (2000), sebelas ciri-ciri kepemimpinan instruksional dikelompokkan kepada tiga dimensi utama iaitu, menjelaskan dan mendefinisikan matlamat sekolah (merangka matlamat serta menyampaikan dan menyebarkan matlamat sekolah); mengurus program pengajaran atau instruksional (penyeliaan dan penilaian instruksional, menyelaras kurikulum serta memantau kemajuan murid); dan mewujudkan atau menggalakkan iklim pembelajaran positif (mengawal waktu pengajaran dan pembelajaran, membudayakan perkembangan profesional dan staf, mengekalkan ketampakan, menyediakan insentif kepada guru, menekankan kecemerlangan akademik serta menyediakan insentif kepada murid).

Pengkaji juga telah menerapkan konsep kepercayaan dalam organisasi berdasarkan kepada penyelidikan oleh Hoy dan Tschannen-Moran (1999) yang menyelidik tentang kepercayaan di sekolah. Skala Kepercayaan (*Trust-Scale - Trust in Principal*) telah dibina oleh Tschannen dan Hoy pada tahun 1998 dan diperkemaskan semula oleh Tschannen-Moran pada tahun 2004. Instrumen yang dibina hanyalah untuk mengukur kepercayaan dalam konteks sekolah dan ditumpukan hanya kepada kepercayaan kepada guru besar di sekolah rendah. Berdasarkan kajian oleh Lokman dan Muzammil (2008), model kepercayaan Tschannen-Moran mengandungi lima dimensi yang merupakan komponen utama untuk menilai dan mengukur kepercayaan dalam sebuah organisasi. Antaranya ialah dimensi baik hati (*benevolence*) iaitu mempunyai keyakinan bahawa pentadbir dapat bertindak tanduk sesuai dengan kemahuan dan akan melindungi guru, tidak melukakan hati atau perasaan guru serta menjaga kebajikan guru; dimensi bergantungan (*reliability*) di mana guru bergantung kepada pengetua atau guru besar untuk melindungi; dimensi kompetensi atau kecekapan *(competence)* iaitu kepercayaan bahawa pengetua atau guru besar melakukan pekerjaan seperti yang dikehendaki mengikut standard atau piawai yang ditetapkan; dimensi kejujuran (*honesty)* iaitu perwatakan, integriti dan ketulenan tingkah laku pemimpin yang menjadi asas kepada kepercayaan oleh guru; dimensi keterbukaan (*openness*) iaitu menerangkan bagaimana pemimpin bersikap terbuka dan dapat berkongsi maklumat dengan guru.

Bagi kajian ini juga, pengkaji telah menggunakan model dan teori komitmen yang telah diasaskan oleh Mowday (1982). Menurut Mowday, terdapat tiga dimensi dalam komitmen. Antaranya ialah komitmen afektif *(affective)*, yang berkaitan dengan adanya keinginan untuk terikat pada organisasi di mana individu menetap dalam organisasi kerana keinginan sendiri; komitmen berterusan *(continuance)*, iaitu komitmen yang berdasarkan keperluan yang rasional dan terbentuk atas dasar untung rugi yang perlu dipertimbangkan atas apa yang harus dikorbankan oleh individu apabila menetap di sesebuah organisasi; komitmen normatif (*normative)* iaitu komitmen yang berdasarkan pada norma yang ada dalam diri staf, rasa keyakinan diri seseorang individu akan tanggungjawabnya terhadap organisasi serta merasa harus terus berada di sesebuah organisasi atas dasar kesetiaan.

Dapatan dan Perbincangan

Jadual 1. Analisis Skor Min Berdasarkan Dimensi Tahap Kepercayaan Guru Terhadap Kepimpinan Instruksional Guru Besar

Dimensi Kepercayaan	Jumlah Item	Skor Min	Sisihan Piawai
Kompetensi	3	77.036	10.616
Keterbukaan	2	75.857	11.401
Kebergantungan	2	74.476	12.238
Kejujuran	2	76.357	12.079
Baik Hati	2	74.321	12.517
Jumlah	11	75.507	9.857

Berdasarkan Jadual 1, skor min tertinggi bagi konstruk tahap kepercayaan guru terhadap kepimpinan instruksional guru besar adalah dimensi kompetensi, manakala terendah adalah dimensi baik hati. Ini menunjukkan bahawa guru lebih menaruh kepercayaan yang tinggi terhadap kompetensi guru besar dalam melaksanakan peranannya sebagai pemimpin instruksional di sekolah. Sebaliknya, guru-guru kurang menaruh kepercayaan terhadap guru besar pada dimensi baik hati. Namun begitu, secara keseluruhannya, hasil dapatan yang diperolehi menerusi analisis skor min menunjukkan bahawa guru-guru menaruh kepercayaan terhadap kesemua dimensi kepercayaan guru terhadap kepimpinan instruksional guru besar yang dikemukakan dalam kajian ini memandangkan skor min yang diperolehi bagi setiap dimensi tidak menunjukkan jarak perbezaan yang terlalu jauh antara satu sama lain. Ringkasnya, dapatan ini menunjukkan bahawa tahap kepercayaan guru terhadap kepimpinan instruksional guru besar adalah agak memuaskan dengan skor min keseluruhan sebanyak 75.507 (Sisihan Piawai = 9.857).

Jadual 2. Analisis Skor Min Mengikut Konstruk Komitmen

Konstruk Komitmen	Jumlah Item	Min	Sisihan Piawai
Afektif	3	78.914	11.429
Berterusan	5	77.714	14.611
Norma	5	80.643	10.994
Jumlah	**13**	**79.302**	**10.732**

Jadual 2 menunjukkan bahawa guru-guru memiliki tahap komitmen pada semua dimensi yang dikemukakan dalam kajian ini memandangkan skor min yang diperolehi bagi setiap dimensi tidak menunjukkan jarak perbezaan yang terlalu jauh antara satu sama lain. Ringkasnya, dapatan ini menunjukkan bahawa tahap komitmen guru terhadap sekolah adalah agak memuaskan dengan skor min keseluruhan sebanyak 79.302 (sisihan piawai = 10.732).

Analisis Korelasi Pearson

Hipotesis 1 (Ha1): Kepimpinan instruksional guru besar mempunyai hubungan yang signifikan dengan tahap kepercayaan guru.

Jadual 3. Analisis Korelasi Pearson, r antara Kepimpinan Instruksional Guru Besar dengan Tahap Kepercayaan Guru

Pembolehubah	Min	Sisihan Lazim	Indeks Korelasi r	Signifikan (2 arah)
Kepimpinan Instruksional Guru Besar	75.45	11.15	.71	.000
Tahap Kepercayaan Guru Terhadap Kepimpinan Instruksional Guru Besar	75.51	9.86		

Dapatan dalam Jadual 3 menunjukkan bahawa kepimpinan instruksional guru besar dengan tahap kepercayaan guru terhadap kepimpinan instruksional guru besar mempunyai hubungan signifikan yang kuat dan positif. Justeru, pengkaji telah menerima hipotesis alternatif pertama (Ha1) yang dibina. Secara tidak langsung juga pengujian hipotesis kajian yang pertama ini berupaya menjawab persoalan kajian yang ketiga iaitu tentang sama ada terdapat hubungan yang signifikan antara kepimpinan instruksional guru besar dengan tahap kepercayaan guru terhadap kepimpinan instruksional guru besar.

Hipotesis 2 (Ha2): Tahap kepercayaan guru mempunyai hubungan yang signifikan dengan tahap komitmen guru.

Jadual 4. Analisis Korelasi Pearson, r antara Tahap Kepercayaan Guru dengan Tahap Komitmen Guru

Pembolehubah	Min	Sisihan Lazim	Indeks Korelasi r	Signifikan (2 arah)
Tahap Kepercayaan Guru Terhadap Kepimpinan Instruksional Guru Besar	75.51	9.86	.55	.000
Tahap Komitmen Guru Terhadap Sekolah	79.30	10.73		

Berdasarkan Jadual 4, dapatan menunjukkan kekuatan korelasi antara tahap kepercayaan guru terhadap kepimpinan instruksional guru besar (m = 75.51, sd = 9.86) dan tahap komitmen guru terhadap sekolah (m = 79.30, sd = 10.73) adalah sederhana, r = .55, p = .000. Berdasarkan dapatan hasil kajian ini membuktikan bahawa tahap kepercayaan guru terhadap kepimpinan instruksional guru besar dengan tahap komitmen guru terhadap sekolah mempunyai hubungan signifikan yang sederhana dan positif. Justeru, pengkaji telah menerima hipotesis alternatif kedua (Ha2) yang telah dibina dan secara tidak langsung pengujian hipotesis kajian yang kedua ini berupaya menjawab persoalan kajian yang keempat.

Analisis Regresi Pelbagai

Hipotesis 3 (Ha3): Kepimpinan instruksional guru besar dan tahap kepercayaan guru menjadi penyumbang yang signifikan kepada komitmen guru.

Jadual 5. Analisis Model Regresi Pelbagai (Kepimpinan Instruksional Guru Besar; Komitmen)

Model	R	R²	R² Diubahsuai	F	Nilai Signifikan
Regresi	0.533	0.306	0.304	153.235	0.000

a. Pemalar: (Peramal), Menjelaskan/mendefinisikan matlamat sekolah; Mengurus program pengajaran/instruksional; Mewujudkan/menggalakkan iklim pembelajaran positif
b. Pembolehubah bersandar: Komitmen guru terhadap sekolah

Keputusan analisis regresi dalam Jadual 5 menunjukkan nilai R^2 ialah 0.306. Dapatan ini menunjukkan bahawa peramal kepimpinan instruksional guru besar telah menyumbangkan sebanyak 30.6 peratus kepada komitmen guru terhadap sekolah. Hasil dapatan kajian juga mendapati bahawa faktor peramal menghasilkan nilai signifikan 0.000 dan nilai ini adalah kecil dari aras keyakinan. Ini menunjukkan bahawa kepimpinan instruksional guru besar adalah signifikan dalam membentuk model regresi yang memberi kesan terhadap komitmen guru terhadap sekolah.

Jadual 6. Analisis Model Regresi Pelbagai (Tahap Kepercayaan Guru Terhadap Kepimpinan Instruksional Guru Besar; Komitmen)

Model	R	R²	R² Diubahsuai	F	Nilai Signifikan
Regresi	0.360	0.129	0.127	51.719	0.000

a. Pemalar: (Peramal), Kompetensi; Keterbukaan; Kebergantungan; Kejujuran; Baik hati
b. Pembolehubah bersandar: Komitmen guru terhadap sekolah

Berdasarkan Jadual 6, dapatan analisis regresi menunjukkan nilai R² ialah 0.129. Ini menunjukkan bahawa peramal kepimpinan instruksional guru besar telah menyumbang 12.9 peratus kepada komitmen guru terhadap sekolah. Hasil dapatan kajian juga mendapati bahawa faktor peramal menghasilkan nilai signifikan 0.000 dan nilai ini adalah kecil dari aras keyakinan. Ini menunjukkan bahawa kepimpinan instruksional guru besar adalah signifikan dalam membentuk model regresi yang memberi kesan terhadap komitmen guru terhadap sekolah.

Secara keseluruhannya, pembolehubah tahap kepercayaan guru terhadap kepimpinan instruksional guru besar dinilai sebagai peramal bagi komitmen guru terhadap sekolah yang paling dominan dengan nilai R² sebanyak .306 berbanding pembolehubah gaya kepimpinan instruksional guru besar dengan nilai R² sebanyak .129 yang juga dinilai oleh guru-guru sebagai peramal yang kurang mempengaruhi komitmen guru terhadap sekolah. Justeru, model regresi yang telah dibina juga membuktikan bahawa kepimpinan instruksional guru besar dan tahap kepercayaan guru terhadap kepimpinan instruksional guru besar mempunyai kadar yang sederhana dalam mempengaruhi tahap komitmen guru terhadap sekolah. Secara tidak langsung, dapatan kajian ujian regresi pelbagai ini juga telah menjawab persoalan kajian yang kelima serta menerima hipotesis alternatif ketiga (Ha3) yang telah dibina.

Rumusan

Dapatan kajian ini telah membuktikan satu model hubungan antara kepemimpinan instruksional guru besar dengan tahap kepercayaan dan komitmen guru serta menyokong kajian empirikal, Steers (1977), Cook Wall (1980), Covey (1989), Yahadi (1998), dan Ahmad Zabidi (2006). Malah dapatan kajian ini juga turut mengukuhkan andaian bahawa gaya kepemimpinan instruksional guru besar yang berkesan boleh meningkatkan kepercayaan guru terhadap guru besar dari segi kompetensi, keterbukaan, kebergantungan, kejujuran dan sikap baik hati guru besar. Kepercayaan mempunyai kesan yang positif terhadap sikap proaktif, persepsi, tingkah laku dan hasil prestasi guru-guru. Malah, para pengkaji juga mendapati bahawa kepercayaan yang tinggi terhadap guru besar menyebabkan seseorang guru mempunyai sikap yang lebih positif, peningkatan aras kerjasama serta bentuk-bentuk tingkah laku di tempat kerja yang lain dan tahap prestasi kerja yang bertambah baik. Justeru, keputusan kajian ini membuktikan bahawa pengamalan kepemimpinan instruksional guru besar yang berkesan menunjukkan hubungan yang positif ke atas tahap kepercayaan dan sekali gus meningkatkan komitmen guru terhadap sekolah.

Rujukan

Abdul Ghani Kanesan Abdullah, Tang Keow Ngang dan Aziah Ismail (2007). Keadilan Organisasi, Kepercayaan dan Altruisme. Jurnal Pendidik dan Pendidikan, 22 : 75-92. Pusat Pengajian Ilmu Pendidikan, Universiti Sains Malaysia.

Ahmad Zabidi, Abdul Razak dan Fathiah Saini (2006). Kepemimpinan Pengajaran Daripada Perspektif Islam Ke Arah Pembentukan Komuniti Sekolah Yang Cemerlang Dalam Pencapaian Akademik Dan Akhlak. Masalah Pendidikan, 29 : 5-14. ISSN 0126-5024.

Ball, S.J. dan Goodson, I.F. (1985). Teachers' Lives and Careers. London: Falmer.

Cook J. dan Wall T. (1980). New York. Attitude Measures of Trust, Organization Commitment and Personal Need Non-Fulfillment. Journal of Occupational Psychology, 543 : 39-52.

Covey, S.R. (1989). The Seven Habits of Highly Effective People. New York : Simon & Schuster.

Hallinger, P. (2000). A review of two decades of research on the principal using the Principal Instructional Management Rating Scale. Paper presented at the annual meeting of the American Education Research Association, Seattle, WA.

Hallinger, P.dan Murphy, J. (1987). Assessing the Instructional Leadership Behavior of Principals. Elementary School Journal, 23: 34-45.

Hallinger, P., & Murphy, J. (1985). Assessing the instructional management behavior of principals. Elementary School Journal, 86(2), 217-247.

Hoy, W. K. dan Tschannen-Moran, M. (1999). The Five Faces of Trust: An Empirical Confirmation in Urban Elementary Schools. Journal of School Leadership, 9: 184–208. Dicapai pada 18 April 2010 daripada http://www.resnet.wm.edu/~mxtsch/ scholarship.php/

Hussein Mahmood (1997). Kepimpinan dan Keberkesanan Sekolah. Kuala Lumpur: Dewan Bahasa dan Pustaka.

Lokman Mohd Tahir dan Al-Muzammil Yassin (2008). Impak Psikologi Guru Hasil Kepimpinan Pengetua. Jurnal Teknologi, 48(E) : 129–139: Universiti Teknologi Malaysia.

Mohd. Sahandri Gani B. Hamzah (2008). Komitmen Kerja Guru Pelatih: Satu Meta Penilaian. Bahagian Perancangan dan Penyelidikan Dasar Pendidikan.

Mowday, R., R. Steers dan L. Porter. (1982). Employee-organizations Linkages. Dalam P. Warr (eds). Organizational and Occupational Psychology. New York: Academic Press.

Steers, R. (1977). Antecedents and Outcomes of Organizational Commitment. Administrative Science Quarterly, 22: 46-56.

Tschannen-Moran, M. (2004). Trust Matters: Leadership for Successful Schools. San Francisco: Jossey-Bass.

Tschannen-Moran, M. et al. (1998). Teacher Efficacy: Its Meaning and Measure. Review of Educational Research, 68, 202-224.

Yahadi Yasili (1998). Perkaitan di Antara Keadaan Tempat Kerja dengan Komitmen Guru. Tesis Sarjana, Universiti Utara Malaysia.

Zulkafli Kamaruddin (2008). Penglibatan Guru Dalam Membuat Keputusan, Sokongan Organisasi Dan Komitmen Kerja. Tesis Sarjana Pendidikan, Universiti Sains Malaysia.

PENGGUNAAN *ELECTRONIC SENTENCE BUILDING* (ESB) DALAM MENINGKATKAN PENGUASAAN LITERASI MENULIS AYAT BAHASA MELAYU MURID PEMULIHAN

Rubeeny A/P Krishna Moorthy¹, Mohd Asnorhisham Adam², Sanitah Mohd Yusof³
¹ Sekolah Jenis Kebangsaan Tamil Ladang Ulu Tiram, Pasir Gudang
² Pusat Kolaboratif Pembelajaran Literasi dan Numerasi, Pejabat Pendidikan Daerah Pasir Gudang
³ Fakulti Sains Sosial Dan Kemanusiaan, Sekolah Pendidikan, Univesiti Teknologi Malaysia

E-mail: rubeeny93@gmail.com¹, asnorhisham@gmail.com², p-sanitah@utm.my³

Abstrak: Kajian ini bertujuan untuk meningkatkan kemahiran membina ayat mudah dan betul dengan pengetahuan sedia ada "Teknik Skop" melalui alat bantu belajar 'Electronic Sentence Building' (ESB). Sasaran produk ini adalah terdiri daripada golongan murid pemulihan atau belum menguasai konstruk 11 dalam saringan literasi Bahasa Melayu. Teori yang digunakan dalam menghasilkan produk ini meliputi kajian Vygotsky yang menggunakan teori 'Zone of Proximal Development' (ZPD). Kaedah pengumpulan data yang digunakan dalam kajian ini menerusi ujian pra dan pos dan analisis dokumen daripada 15 orang murid Sekolah Jenis Kebangsaan Tamil, Daerah Pasir Gudang. Dapatan kajian menunjukkan terdapat peningkatan penguasaan literasi menulis bahasa Melayu yang ditunjukkan oleh murid-murid selepas intervensi. Selain itu, penurunan dari segi kesalahan pembinaan ayat juga menunjukkan bahawa produk ESB ini dapat membantu murid-murid dalam merangka ayat yang betul. Dalam masa yang sama, penggunaan ESB memerlukan perhatian guru yang minimum dan dapat meningkatkan keyakinan diri pelajar dalam membina ayat mudah dengan betul.

Kata kunci: *Electronic Sentence Building* (ESB), Murid Pemulihan, Sekolah Jenis Kebangsaan (SJKT), Penguasaan Literasi Menulis Bahasa Melayu

Pengenalan

Masalah penguasaan kemahiran asas 3M dalam kalangan murid masih wujud sama ada di sekolah rendah ataupun di sekolah menengah. Faktor dominan yang menyumbang kepada masalah ini ialah guru. Faktor guru merupakan faktor yang paling penting dalam memastikan penguasaan literasi murid. Walaupun proses Pengajaran dan Pembelajaran (PdP) yang berkesan adalah hasil daripada faktor guru, murid, kelas dan sekolah (Dunkin, M.J. & Biddle, B.J., 1974) namun faktor guru mendominasi faktor-faktor lain (Mohd Asnorhisham Adam dan Abdul Rahim Hamdan, 2015). Oleh itu, produk ESB ini dihasilkan dengan tujuan membantu golongan guru dalam memudahkan PdPc murid-murid sekolah rendah.

Produk ESB ini dihasilkan dengan konsep ZPD iaitu 'Zone of Proximal Development' iaitu teori yang diperkenalkan oleh Vygotsky. Teori ini dipilih dalam menghasilkan Produk ESB ini adalah kerana murid-murid sekolah rendah didapati menghadapi masalah menghasilkan ayat Bahasa Melayu dengan betul. Produk ini direka dengan tujuan untuk membantu murid-murid tahap satu yang menghadapi masalah dengan merangka ayat bahasa Melayu dengan betul. Murid-murid ini menghadapi masalah dalam penguasaan konstruk 11 dan 12 saringan literasi Bahasa Melayu. Objektif utama produk ini ialah ingin meringankan beban guru dalam proses PdPc dalam menangani masalah bina ayat yang betul serta mewujudkan suasana pembelajaran yang menarik dalam membantu murid-murid tahap 1 untuk mengatasi masalah tersebut. Produk ini sesuai digunakan ketika 'post-lesson' iaitu selepas pengajaran dan pembelajaran telah dilakukan. ESB ini wajar digunakan untuk 'reinforce', proses pengayaan pembelajaran murid-murid.

Selain itu, ESB ini juga bertujuan untuk menjadikan sesi pengajaran dan pembelajaran lebih menarik dan interaktif. Kebelakangan ini, murid-murid sekolah rendah didapati mempunyai masalah untuk fokus. ESB dihasilkan untuk menarik perhatian murid-murid dengan penggunaan LED yang berwarna-warni. Pada masa yang sama, produk ini sesuai dan dihasilkan dengan konsep pembelajaran kendiri. Ini bermakna, ESB ini dapat digunakan dengan pemantauan minima guru-guru atau golongan dewasa. Sebagai konklusinya, produk ini dihasilkan daripada golongan guru yang bertujuan untuk menolong guru dalam membantu murid-murid sekolah rendah dalam menangani masalah penghasilan ayat yang bermakna dan betul supaya murid-murid kategori lemah dapat memupuk dan meningkatkan semangat mereka dalam sesi PdP subjek Bahasa Melayu.

Sorotan Literatur

Terdapat pelbagai kajian yang dilakukan untuk menentukan pendekatan yang terbaik untuk kemahiran membina ayat terutamanya untuk ayat dasar. Menurut pakar neurologi Dr. Eric H. Lenneberg (2011), sebelum mencapai usia baligh, otak kanak-kanak memang mudah dilentur. Dalam usia ini otak mereka mudah menerima informasi kerana proses penyerapan informasi mampu berlangsung dengan lancar. Menurut kajian beliau, tempoh terbaik untuk mengajar kanak-kanak untuk menguasai sesuatu kemahiran adalah daripada usia enam hingga lima belas tahun. Hasil kajian beliau mendapati bahawa kanak-kanak yang didedahkan dengan stimuli yang rencam

khususnya bahan bacaan dan penulisan yang menarik sebelum usia 15 tahun mampu menguasai sesuatu kemahiran seperti seorang dewasa.

Menurut Donn Byrne (1988) pula, menulis bukan sesuatu yang diperoleh secara spontan tetapi memerlukan individu untuk menuliskan kata dan mempertimbangkan cara mengkomunikasi dan mengatur. Perkara yang paling sukar bagi seseorang murid sekolah rendah dalam penulisan ialah untuk memulakan keseluruhan proses penulisan. Menurut Cowley (2004), terdapat pelbagai sebab murid menghadapi masalah ini. Antaranya ialah murid berasa takut untuk gagal dan berada dalam keadaan tertekan semasa melakukan aktiviti tersebut.

Kajian Suthanthiradevi (1996), mendapati terdapat pengaruh Bahasa ibunda bagi pembelajaran Bahasa Melayu di SJKT. Kelainan struktur ayat Bahasa Tamil dengan Bahasa melayu turut mempengaruhi proses pembelajaran bahasa murid-murid India. Kelainan-kelainan tersebut tertumpu kepada Hukum DM (diterangkan-menerangkan) dalam kedudukan frasa nama dalam ayat. Binaan ayat biasa (Subjek+Predikat) Bahasa Melayu mengutamakan frasa nama pada awal ayat. Manakala binaan ayat Bahasa Tamil lebih mementingkan struktur Predikat + Subjek dengan kedudukan frasa nama diletak di tengah atau di akhir ayat.

Dalam kajian Nor Azila (2012), masalah membina ayat dalam kalangan murid telah dikesan dari segi morfologi dan sintaksis. Murid gagal membina ayat dengan baik. Struktur ayat tidak disusun dengan betul. Murid juga gemar menggunakan bahasa pasar. Beliau telah menyediakan formula mudah untuk murid ini memperbaiki kemahiran membina ayat iaitu murid perlu menghafal formula yang diberikan. Beliau juga turut melaksanakan pengajaran kaedah bina pelan maklumat berdasarkan gambar yang diberi dan kaedah kata tanya.

Pernyataan Masalah

Berdasarkan portal data yang terdapat dari portal keberhasilan utama Negara (NKRA), KPM seramai 15 murid tahap 1 belum menguasai konstruk 11. Sepanjang bimbingan guru Literasi Bahasa Melayu (GLBM) melayu serta guru pemulihan khas linus (GPML) di SJKT didapati guru tidak dapat mewujudkan suasana pembelajaran yang menarik dalam penyampaian pengajaran ketika mengajar teknik membina ayat iaitu teknik SKOP.

Dalam kit pembelajaran sokongan yang diterbitkan oleh warga Institut Pendidikan Guru Kampus Bahasa Melayu (2017) jelajah kata melalui pengaplikasian Teknik SKOP telah dilakukan kepada murid aliran perdana. Dalam kit pembelajaran ini juga dinyatakan bahawa Gerabak SKOP ini dijalankan melalui beberapa aktiviti yang seiring dengan aktiviti pembelajaran abad 21 iaitu galeri walk, stesyen serta stay and stray. Apabila GLBM serta GPML mengunakan teknik yang sama kepada murid pemulihan tahap satu, suasana pembelajaran yang menarik tidak dapat diwujudkan.

Berdasarkan Collins (1961), pengajaran pemulihan ialah satu bentuk pengajaran yang mengutamakan mata pelajaran asas. Malah beliau menegaskan pengajaran ini ialah satu kaedah pengajaran yang istimewa bagi murid-murid yang gagal dalam mata pelajaran asas di sekolah seperti membaca, menulis dan mengira. Brennan (1974), pula mengatakan bahawa pengajaran pemulihan ialah pengajaran untuk penyesuaian dan pembetulan bagi murid-murid yang didapati menghadapi masalah dalam pembelajaran. Tambahan lagi, Jais Sahok & Mar Nor Husin (1990) menyatakan, pengajaran pemulihan hendaklah dirancang dengan baik dan rapi supaya pelajar yang terlibat mendapat manfaat daripadanya.

Oleh itu pengkaji telah membina satu innovasi dalam teknik SKOP ini dengan membina satu bahan bantu belajar iaitu ESB. Teknik SKOP dalam pembinaan ayat. Teknik SKOP di sini membawa maksud S: subjek, K: kata kerja, O: objek dan P: penerang. Sekiranya mana-mana perkataan tidak disusun dengan betul, maka ianya tidak menyala. Kad perkataan pula merupakan kad yang mengandungi perkataan yang membolehkan pelajar menyusunnya ke atas ESB Box. Konsepnya yang ringkas membuatkan pelajar dan guru dapat memahamai pengunaannya dengan mudah.

Objektif Kajian

Objektif Am

Objektif umum kajian ini adalah untuk melihat kesan penggunaan ESB terhadap penguasaan literasi menulis bahasa Melayu murid.

Objektif Khusus

- Meningkatkan penguasaan literasi menulis konstruk 11 bahasa melayu murid (keupayaan menulis ayat mudah).
- Meningkatkan keyakinan diri murid dalam membina ayat mudah dengan betul.

Metodologi Kajian

Kajian ini berbentuk kajian tindakan. Seramai 15 orang murid pemulihan tahap 1 dari Sekoalah Jenis Kebangsaan Tamil di Daerah Pasir Gudang terlibat dalam kajian ini. Responden telah dipilih secara persampelan bertujuan di mana murid-murid ini mempunyai latarbelakang pengetahuan yang sama dalam subjek Bahasa

Melayu. Kajian dijalankan terhadap para murid tahap 1 yang gagal melepasi saringan LINUS 1 dalam konstruk 11 menulis pada tahun 2018. Kajian ini telah menggunakan model kajian tindakan Stephen Kemmis dan Mc Taggart (1988). Berdasarkan model ini, terdapat empat langkah dalam melaksanakan kajian iaitu mereflek, merancang, bertindak dan memerhati.
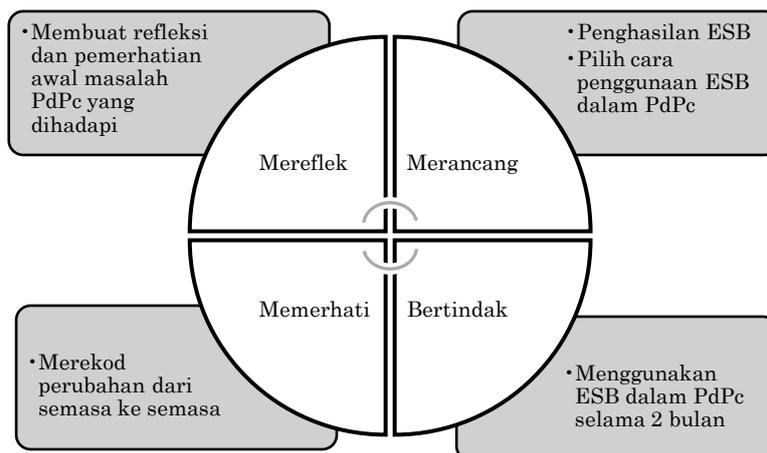
Rajah 1. Model kajian tindakan Stepen Kemmis dalam penggunaan ESB.

Oleh yang demikian, sebagai usaha membantu murid membina ayat ringkas, ESB telah dibangunkan. Pembangunan model ini dapat membantu murid membuat visualisasi dan menarik perhatian para pelajar dalam pembelajaran pembinaan ayat. Model yang dibina adalah model 3D yang membolehkan pelajar berinteraksi dengan lebih baik kerana ianya boleh dipegang dan disentuh dengan bebas oleh murid. Ianya dapat membantu para pelajar meningkatkan kemahiran visualisasi sekaligus membantu dalam pemahaman pembinaan ayat secara interaktif.

Konsep ESB dibina sejajar teori konstruktivisme di mana para murid membina pengetahuan sendiri dengan bantuan secara minima. Murid menggunakan ESB untuk menyusun perkataan daripada bahan yang disediakan bagi membentuk ayat yang lengkap. Sekiranya perkataan yang diberi disusun dengan turutan yang betul maka kesemua empat Light Emitting Diode (LED) akan menyala dan memberi indikasi bahawa murid telah berjaya membina ayat dengan betul. Sekiranya gagal membina ayat dengan betul, maka LED tersebut tidak akan menyala.

Teori disebalik pembangunan ESB adalah teori konstruktivisme sosial oleh Lev Vygotsky. Di dalam teori ini, penekanan diberikan keada pembinaan pengetahuan melalui aktiviti yang berlaku secara sosial di mana berlaku interaksi antara pelajar. Maka kesemua fungsi kognitif adalah berasaskan aktiviti sosial yang berlaku. Pembelajaran juga merupakan asimilasi daripada pengetahuan yang baru dengan yang sedia ada dan ianya dikongsikan bersama dengan sekumpulan pelajar.

Dapatan kajian

Hazaka Yunus & Effandi Zakaria (2013) menyatakan bahawa mengkategorikan kesilapan murid bukan sahaja dapat membantu dalam mereka bentuk pengajaran diagnostik tetapi turut membantu guru untuk memahami kesilapan yang menyebabkan murid menghadapi kesukaran pembelajaran di peringkat yang lebih tinggi kelak. Kesilapan dalam menyusun komponen ayat telah dikenalpasti dan dikategorikan dalam kajian ini. Data analisis dibuat berdasarkan min kepada kekerapan kesilapan terhadap pembinan 10 ayat yang lengkap mengikut Teknik SKOP dengan menggunakan ESB.

Sebelum intervensi murid didapati sering mengalami kekeliruan menyusun perkataan dengan betul. Dengan adanya penciptaan bahan inovasi ESB, yang bercirikan 3D, murid dapat mengatasi kekeliruan yang dialami. Hal ini dapat dilihat melalui dapatan kajian selepas intervensi, di mana kekerapan kesilapan menyusun perkataan berkurang berbanding sebelum intervensi. Setelah intervensi dijalankan peratusan kekerapan melakukan kesilapan menyususn perkataan bagi membina 10 ayat yang betul dan lengkap berkurangan.

Berikut merupakan jadual bilangan murid membuat kesilapan bagi pembinaan ayat menurut teknik skop dengan menggunakan ESB sebelum dan selepas intervensi dijalankan.

Jadual 1. Dapatan Analisis bilangan murid membuat kesilapan dalam pembinaan ayat menurut Teknik SKOP dengan menggunakan ESB sebelum dan selepas intervensi

Ayat	Sebelum Intervensi	Selepas Intervensi
	Bilangan murid membuat kesilapan	Bilanagan murid membuat kesilapan
Ayat 1	13	4
Ayat 2	12	3
Ayat 3	15	5

Ayat 4	14	4
Ayat 5	12	3
Ayat 6	11	2
Ayat 7	15	5
Ayat 8	14	2
Ayat 9	13	3
Ayat 10	11	0
Jumlah min bilangan murid membuat kesilapan	13	3.1

Berdasarkan hasil analisis data dalam ujian pra dan pasca yang telah dijalankan terdapat penurunan dalam kekerapan kesilapan menyusun perkataan ketika membina ayat. Kadar kekerapan melakukan kesilapan yang sedikit dalam data pasca bagi setiap murid menunjukkan keberkesanan model ESB dalam membina ayat mudah bagi murid-murid pemulihan ini.

Keseluruhannya, kesilapan menyusun perkataan dalam membina ayat yang berlaku adalah disebabkan kurangnya penguasaan pemahaman Teknik SKOP yang berbentuk 2D. Kelemahan penguasaan teknik ini membawa kepada masalah berlakunya kesilapan dalam pembinaan ayat. Oleh itu, dengan memperkenalkan inovasi terhadap teknik SKOP yang berbentuk 3D iaitu ESB dapat membantu murid dalam meningkatkan pengetahuan konseptual mereka secara mendalam. Ini kerana ESB dapat membina pengetahuan abstrak mereka melalui berfikir konkrit yang diterapkan melalui pengalaman pembelajaran yang menarik.

Kesimpulan

Penggunaan ESB membawa konsep 2D kepada 3D mendapat sambutan yang baik daripada golongan murid-murid kerana penghasilan ESB menitikberatkan anthropometric dan 'phsio-pleasure.' Ini adalah bertujuan supaya murid-murid sekolah rendah dapat menggunakan produk ESB ini dengan senang dan selamat. Size dan dimensi produk ini adalah amat bersesuaian dengan rangka badan murid-murid.

Penggunaan ESB menunjukkan penurunan dari segi peratus kesalahan yang dihasilkan oleh murid-murid sekolah rendah. Ini bermakna penggunaan ESB didalam sesi pengajaran dan pembelajaran membawa impak yang besar dalam membantu murid-murid untuk menghasilkan ayat bahasa Melayu dengan penggunaan idea S-K-O-P.

Oleh itu, produk ESB ini boleh dikatakan membawa satu kesan yang positif terhadap pengajaran dan pembelajaran murid-murid terutamanya bagi murid tahap 1 iaitu terdiri daripada murid tahun 1, 2 dan 3. Konklusinya, produk ini dapat membantu murid-murid dalam pengayaan dan pemulihan pembinaan ayat bahasa Melayu dengan pemantauan yang minimum daripada golongan guru atau ibu bapa.

Rujukan

Abdul Jalil Othman, Normarini Norzan, Ghazali Darusalam & Saedah Siraj. Cabaran Guru Program LINUS dalam Pengajaran dan Pembelajaran Bahasa (2011). Universiti Malaya.

Bahagaian Pendidikan Khas, (2012). Garis Panduan Perlaksanaan Program Pemulihan Khas. Kementerian Pendidikan Malaysia.

Bahagian Pembangunan Kurikulum (2015). Buku Pengoperasian LINUS2.0. Kementerian Pendidikan Malaysia.

Brennan, W.K. (1974), Shaping The Education Of Slow Learners, London: Routledge & Regan Paul.

Cedric Boeckx & Víctor M. Longa, (2011), Lenneberg's Views on Language Development and Evolution and Their Relevance for Modern Biolinguistics, FORUM ,Biolinguistics 5.3: 254–273, 2011.

DK Suzanawati PG. Osman (2014). Keupayaan Menguasai Kemahiran Menulis Melalui Pembelajaran Berasaskan Projek Dalam penulisan Berbentuk Risalah di Sekolah Rendah. Jurnal Pendidikan Bahasa Melayu ISSN: 2180-4842.Vol.4, Bil 1(Mei 2014):19-29

Donn Byrne. (1988). Teaching Skills: Longman Handbooks for Language Teachers. London. Longman Publishing Group.

Institut Pendidikan Guru Kampus Bahasa Melayu, 2017, Cakna Minda: Kit Pembelajaran Sokongan Kurikulum Bahasa Melayu Sekolah Rendah, Institut Pendidikan Guru Kampus Bahasa Melayu, Kuala Lumpur.

Jais Sahok dan Mat Nor Husin, (1990). Pendidikan Pemulihan. Eagle Trading. Petaling Jaya.

Mohd Asnorhisham Adam & Abdul Rahim Hamdan (2015). Isu Pendekatan Pengajaran Kolaboratif Terhadap Pemulihan Literasi Bahasa Melayu Kertas dibentangkan dalam Proceeding 2nd International Education Postgraduate Seminar (IEPS2015).

Nor Azila Binti Md. Nor (2012). Meningkatkan Kemahiran Membina Ayat Di Dalam Disiplin Penulisan Bahasa Melayu Dalam Kalangan Murid Tahun 4. Kajian Tindakan Bahasa Melayu.

Suthanthiradevi A/P J.N.J. Money (1996). Pengaruh Bahasa Ibunda Dalam Proses Pembelajaran Bahasa Melayu Murid-murid India. Tesis Sarjana Sains. Universiti Putra Malaysia.

Kerangka Konsep Pembelajaran Berasaskan Permainan Menggunakan Aplikasi 'Sayang Hijaiyah' untuk Pembelajaran Bahasa Arab Murid Prasekolah

Siti Syafawati Iliyas[1], Nurul Farhana Jumaat[2], Zakiah Mohamad Ashari[3], Dayana Farzeeha Ali[4], Norazrena Abu Samah[5]

[1,2,3,4,5] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia

E-mail: farhana@utm.my[2]

Abstrak: Pengenalan huruf hijaiyah merupakan asas dalam membaca dan mempelajari Bahasa Arab. Pendedahan awal kepada kanak-kanak sangat penting supaya mereka dapat menyerap ilmu bahasa Arab dengan mudah dan berkesan. Melalui teknik pembelajaran berasaskan permainan, minat dan motivasi kanak-kanak dapat ditingkatkan supaya mereka dapat menguasai huruf hijaiyah dengan mudah dan berkesan. Kajian ini dilakukan untuk membangunkan aplikasi mudah alih "Sayang Hijaiyah" dan menguji tahap keberkesanan teknik pembelajaran berasaskan permainan melalui aplikasi "Sayang Hijaiyah". Oleh yang demikian, satu kerangka konsep pembelajaran bersaskan permainan akan dibangunkan bagi mengkaji keberkesanan pelaksanaan aplikasi "saying Hijaiyah" ini dari segi kesannya terhadap minat, motivasi dan pencapaian murid.

Kata Kunci: pembelajaran berasaskan permainan, aplikasi mudah alih, huruf hijaiyah, Bahasa Arab

Pengenalan

Teknologi dan pendidikan pada masa ini sangat berkait rapat dan ia memainkan peranan penting dalam meningkatkan tahap pencapaian murid dalam pelbagai bidang pendidikan. Selaras dengan matlamat Kementerian Pendidikan Malaysia untuk melahirkan generasi celik ICT, sistem pendidikan di Malaysia diberikan pelbagai kemudahan untuk melaksanakan pengajaran dan pembelajaran dengan menggunakan teknologi dan inovasi terkini. Kementerian terus dengan matlamat untuk melayakkan semua sekolah mencapai taraf "Sekolah Bestari" iaitu mencapai standard tahap minimum penggunaan ICT, keupayaan guru, kesediaan infrastruktur dan aplikasi ICT (Kementerian Pendidikan Malaysia, 2013). Menurut Pelan Induk Pembangunan Pendidikan Malayasia (PIPP 2013-2025) antaranya adalah memanfaatkan ICT untuk pembelajaran dan kementerian komited dalam memastikan semua keperluan asas disediakan. Menjelang tahun 2020, untuk mencapai status negara maju, kerajaan telah memastikan segala infrastruktur ICT disediakan dan semua guru perlu melestarikan penggunaan ICT bukan hanya di institusi pengajian tinggi malahan menyeluruh di semua peringkat pendidikan.

Sehubungan itu, guru-guru juga perlu memainkan peranan sebagai pengantar maklumat yang tepat kepada murid dengan mempelajari serta mendalami kemahiran untuk menggunakan teknologi tersebut. Guru perlu bersedia meningkatkan pengetahuan dan kemahiran mereka bagi menjadikan komputer sebagai media penyampaian ilmu yang berkesan bagi menggantikan pendekatan konvensional dan tradisional (Mohamed & Hassan, 2014) . Bagi menjayakan matlamat pendidikan pada masa hadapan, setiap guru perlu memahirkan diri dengan ICT. Kajian terhadap guru-guru di Jabatan Perpaduan Negeri dan Integrasi Nasional (JPNIN) mendapati penguasaan dan kecekapan guru menggunakan kemudahan ICT adalah pada tahap sederhana. Justeru itu, Kementerian Pendidikan Malaysia (2001) telah meggubal dasar supaya guru-guru mengintegrasikan ICT secara komprehensif di sekolah dengan matlamat supaya pelajar dapat membudayakan penggunaan ICT dan menghasilkan masyarakat yang berdaya saing. Sistem pendidikan negara juga banyak begantung kepada usaha guru-guru dalam mengintegrasikan penggunaan ICT semasa sesi pengajaran dan pembelajaran. (Mohamed & Hassan, 2014)

Seperti yang kita semua sedia maklum, pendidikan awal bermula dengan pendidikan tidak formal. Pada peringkat ini, pendidikan sangat penting untuk membentuk keperibadian pelajar untuk memasuki alam pendidikan formal di sekolah (Sulaiman, 2010). Pendidikan prasekolah ialah program pendidikan bagi murid yang berumur empat hingga enam tahun. Perlaksanaannya adalah mengikut kurikulum prasekolah berdasarkan Falsafah Pendidikan Kebangsaan (Kementerian Pendidikan Malaysia, 2013). Aktiviti pembelajaran di sekolah kini banyak didorong oleh faktor persekitaran dan kaedah pengajaran. Namun pemilihan kaedah pengajaran oleh guru banyak dipengaruhi oleh kehendak ibubapa yang beranggapan bahawa kaedah bermain didalam kelas tidak banyak membantu murid mencapai prestasi dalam akademik. Sekolah di Malaysia juga mementingkan peningkatan dan pencapaian cemerlang dalam akademik, sekaligus membuatkan guru bertungkus-lumus untuk meningkatkan prestasi murid dan mengabaikan pedagogi belajar melalui permainan. Perkara ini secara langsung menyekat proses pembelajaran kanak-kanak melalui konsep penerokaan dan bermain dalam mengasah kemahiran dan mengembangkan minat mereka (Mohamad Ashari & Baharuddin, 2017). Sedangkan menurut Md Jaafar (2003), pembelajaran melalui bermain di peringkat awal persekolahan mampu mempengaruhi perkembangan kanak-kanak dari aspek fizikal, kognitif, mental dan sosia-emosi.

Selain daripada itu, kanak-kanak di peringkat prasekolah juga harus didedahkan dengan teknologi kerana di peringkat ini, kanak-kanak sangat mudah tertarik dan peka dengan kaedah pembelajaran menggunakan visual dan pendengaran. Bahasa Arab merupakan antara subjek yang diajar di peringkat

prasekolah. Pada peringkat ini, kanak-kanak didedahkan dengan huruf Hijaiyah dan beberapa perkataan bahasa Arab untuk merangsang kemahiran bertutur mereka (Isa & Hamidin, 2017).

Hasil penelitian Muraini Mursanib & Samsul Alam (2016) mendapati murid dapat meningkatkan pencapaian dan menguasai huruf Hijaiyah kerana media gambar didapati mampu memotivasikan dan meningkatkan minat murid untuk mengenal huruf Hijaiyah. Tidak dapat kita nafikan bahawa, guru memainkan peranan penting dalam mempelbagaikan pendekatan aktiviti yang sesuai dengan perkembangan kanak-kanak, kebolehan, keupayaan bakat serta minat murid. Penglibatan murid dalam aktiviti-aktiviti pembelajaran yang aktif akan menjadikan sesebuah pembelajaran itu lebih bermakna, berkesan dan juga menggembirakan. Oleh yang demikian, penggunaan ICT dalam pengajaran dan pembelajaran prasekolah adalah salah satu cara untuk mendapatkan pembelajaran yang berkesan kerana kanak-kanak hari ini adalah generasi komputer dan perlu didedahkan dengan dengan ICT (Sandra, Abu Bakar, & Norlidah, 2013).

Pendidikan berasaskan permainan (Game Based Learning) merupakan salah satu cabang sistem pendidikan yang menggunakan teknologi dan inovasi terkini, di mana murid akan didedahkan dengan kaedah pembelajaran melalui permainan yang menggunakan teknologi atau sebarang bentuk media mengikut inovasi dan kreativiti guru. Kemahiran dan pengetahuan kanak-kanak berkembang baik apabila terlibat dengan aktiviti bermain yang dikongsi dengan rakan dan disokong oleh orang dewasa (Kamisah Osman & Nurul Aini Bakar, 2012). Banyak kajian berkaitan keberkesanan pendekatan pembelajaran melalui permainan mendapat hasil positif antaranya adalah meningkatkan minat, motivasi dan pencapaian murid dalam banyak matapelajaran. Menyedari betapa pentingnya merangsang minat dan motivasi murid untuk kekal minat terhadap subjek matematik telah mendorong Hung, Huang, & Hwang (2014) melaksanakan eksperimen terhadap 2 kumpulan pelajar. Keputusan kajian mendapati pelajar yang diberikan permainan berasaskan buku pembelajaran elektronik telah berjaya meningkatkan pencapaian, motivasi, dan juga kecekapan mereka untuk menyelesaikan masalah matematik. Pembelajaran melalui permainan juga telah memberi kesan kepada tingkah laku pembelajaran positif dan tingkah laku prososial kanak-kanak di sekolah pedalaman di Miri, Sarawak (Chung Chin & Zakaria, 2015).

Latar belakang Masalah

Al-Quran merupakan kitab yang wajib dibaca dan dihayati setiap perinciannya oleh setiap orang Islam. Mempelajari al-Quran merupakan perkara asas Fardhu Ain. Ini bermakna setiap individu perlu menguasai ilmu bahasa Arab dan bahasa Arab boleh dikuasai bermula dengan mengenali huruf Hijaiyah. Setiap huruf mempunyai beberapa bentuk berdasarkan posisi huruf di dalam satu-satu perkataan. Setiap huruf pula mempunyai bunyi dan makhraj berbeza. Makhraj bermaksud tempat membunyikan huruf. Menurut penelitian pengkaji di beberapa sekolah, masih ramai lagi murid berumur sepuluh hingga dua belas tahun yang tidak dapat mengenal huruf Hijaiyah disebabkan mereka tidak dapat membezakan bentuk dan makhraj huruf dengan betul. Malahan bukan sahaja di peringkat sekolah, kajian terhadap 500 orang pelajar diploma di UiTM Terengganu yang dijalankan oleh Azarudin Awang, Azman Che Mat, & Ahmad Nazuki, (2010) juga mendapati bahawa masih ramai lagi pelajar di universiti tersebut yang tidak dapat menguasai pembacaan al-Quran dengan betul. Kajian juga menunjukkan bahawa ramai saudara baru yang mengikuti kelas pengajian al-Quran di PERKIM menghadapi masalah dalam mengenal makhraj huruf (Othman, 2011).

Memperkenalkan bahasa kedua kepada murid prasekolah perlu melalui teknik atau kaedah yang betul dan dapat menarik minat mereka kerana murid akan mudah jemu dengan kaedah yang sama setiap kali sesi pembelajaran. Murid-murid perlu diperkenalkan dengan huruf Hijaiyah dengan teknik-teknik yang menarik seperti menggunakan kaedah berbantukan komputer atau kaedah berasaskan permainan. Kajian Jamali, Rahman, Azizan, & Md Isa, (2016) mendapati semua responden berpendapat bahawa pembelajaran berasaskan permainan berjaya membina keyakinan murid untuk bertutur dalam bahasa arab dan teknik yang telah digunakan telah berjaya. Ini disokong oleh kajian Mohd Hatta, (2012) yang mendapat hasil perubahan positif terhadap murid lemah yang telah menjalani pembelajaran membaca perkataan bahasa arab melalui kaedah bermain.

Pembelajaran melalui permainan telah banyak mempengaruhi minat dan motivasi murid. Kajian terdahulu banyak membuktikan minat dan motivasi meningkat selepas melalui pendekatan tersebut antaranya adalah kajian Sayed Yusoff et al. (2013) yang menggunakan permainan interaktif menjadikan pelajar tidak jemu dengan konsep maklum balas segera melalui permainan tersebut. Begitu juga dengan aplikasi Permainan Digital Uji Minda yang telah dibangunkan oleh Syahira, Rosli, & Jenal (2017) berjaya menarik minat penggunanya iaitu murid pendidikan khas yang berumur tujuh hingga sepuluh tahun. Pembelajaran berasaskan permainan bukan sahaja mempengaruhi minat malahan juga motivasi murid. Melalui tinjauan yang dilakukan oleh Azli et al. (2015) mendapati bahawa penggunaan permainan digital memberikan kesan terhadap motivasi murid sekaligus meningkatkan prestasi pembelajaran serta meningkatkan kemahiran murid dalam aktiviti mencabar.

Bagi kanak-kanak, pendedahan awal menjadikan penerokaan ilmu itu semakin menarik dan mencabar, ditambah dengan kepelbagaian bahan interaktif di media digital. Seperti yang sedang menjadi trend kanak-kanak pada masa ini yang sangat obses kepada alat peranti bergerak dengan pelbagai aplikasi-aplikasi pembelajaran yang menarik. Pembelajaran melalui aplikasi di kalangan kanak-kanak dilihat mempunyai kesan positif dan adakalanya negatif jika tidak digunakan dengan sebaiknya dengan pengawalan orang dewasa. Ibu bapa atau orang dewasa terlebih dahulu perlu mengawasi kanak-kanak dan mengajarkan mereka aplikasi-aplikasi yang bagus untuk meningkatkan kualiti pembelajaran kendiri mereka (West, 2013).

Huruf Hijaiyah merupakan asas untuk mempelajari Bahasa Arab. Memperkenalkan huruf Hijaiyah menerusi penggunaan aplikasi media digital untuk mempelajari huruf Hijaiyah akan menambahkan keseronokkan kepada kanak-kanak dengan komponen-komponen multimedia yang pelbagai, pastinya menjadikan penerokaan bahasa Arab menjadi mudah dan menggembirakan.
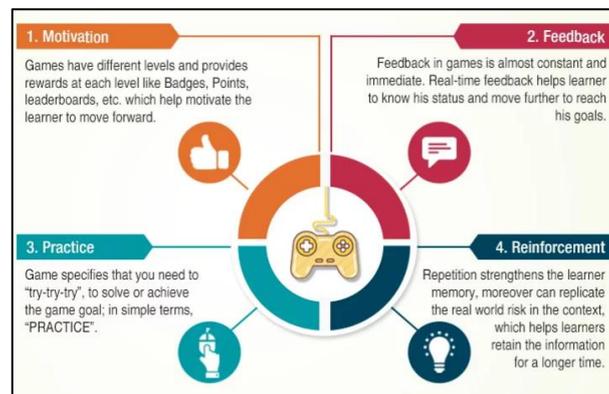
Pembelajaran berasaskan permainan

Pembelajaran berasaskan permainan merupakan pembelajaran berpusatkan murid menggunakan permainan digital. Permainan digital dalam pendidikan merupakan media pembelajaran menggunakan komputer atau alat peranti bergerak lain. Permainan digital merupakan media pembelajaran yang berpotensi membolehkan murid membina pemahaman dalam setiap fasa pembelajaran(Yusoff, Tan & Zaffwan, 2013). Aktiviti bermain di kalangan murid prasekolah sangat penting untuk perkembangan fizikal, sosial dan emosi serta perkembangan kognitif mereka. Aktiviti fizikal yang dilakukan akan mempengaruhi perkembangan dari aspek motor kasar dan motor halus yang akan meningkatkan kemahiran yang boleh membuatkan mereka berasa lebih yakin, selamat dan mampu berdikari. Kemahiran bersosial murid juga akan meningkat kerana mereka akan belajar mengawal diri sendiri, emosi dan mempunyai sensitiviti nilai semasa proses bermain berlaku (Mya Afifi, 2009).

Pembelajaran berasaskan permainan telah berperanan penting dalam meningkatkan minat murid untuk mengambil bahagian dalam sesi pembelajaran. Kanak-kanak lebih cenderung memberikan tumpuan mereka dalam aktiviti permainan berbanding membaca buku. Kaedah simulasi dan permainan berjaya mengekalkan motivasi sekaligus meningkatkan kemahiran mendengar, bertutur, membaca dan menulis murid kerana mereka dapat belajar dalam suasana yang tidak formal malah menyeronokkan (Ismail, 1996). Perkara ini disokong dengan dapatan kajian Puteh & Ali (2010) dan berpendapat bahawa permainan dan kanak-kanak tidak dapat dipisahkan dan bermain dapat mengasah kemahiran-kemahiran asas sosial. Pendekatan belajar melalui bermain juga penting dalam meningkatkan motivasi kanak-kanak kerana melalui aktiviti ini, kanak-kanak dapat meneroka hubungan, menambah penegetahuan dan meningkatkan keyakinan secara semula jadi (Ashari, Kosnin, & Yeo, 2012).

Pendidikan prasekolah memfokuskan kepada teori konstruktivis iaitu kurikulum berpusatkan pelajar. Namun bimbingan dan tunjuk ajar guru semasa proses pengajaran dan pembelajaran diperlukan bagi mendorong murid lebih fokus kepada pengajaran guru terutama semasa aktiviti permainan berlangsung. Pembelajaran berasaskan permainan merupakan proses pengajaran dan pembelajaran yang berlaku ketika murid sedang bermain. Kaedah pembelajaran ini adalah kaedah yang menarik dan berdaya saing serta menjadikan murid gembira di samping mendapatkan pengetahuan. Boyle (2011) mengatakan bahawa bermain merupakan pedekatan yang dirancang dan mempunyai struktur unik bagi memberikan ruang kepada murid untuk belajar secara tidak formal, bebas dan menyeronokkan. Pengalaman sebenar yang diperoleh oleh murid akan memberikan kesan pembelajaran yang lebih baik. Murid akan lebih mengenali persekitaran melalui kaedah penerokaan, manipulasi bahan dan alatan serta simulasi dengan kaedah yang bertenaga serta dapat mencetuskan pemikiran yang innovatif di kalangan murid.

Menurut Dasara (2016), terdapat 4 elemen penting dalam persekitaran pembelajaran berasaskan permainan iaitu, i) motivasi, ii) maklum balas, iii) latihan, dan iv) pengukuhan seperti yang tertera pada Rajah 1.

Rajah 1. Elemen pembelajaran berasaskan permainan (Dasara, 2016)

Selain itu, kajian terperinci telah dilakukan oleh Tarasat & Daud, (2014) terhadap murid prasekolah dengan menggunakan aplikasi asas membaca dan hasil menunjukkan bahawa aplikasi asas membaca lebih berkesan dan meningkatkan pencapaian kemahiran asas membaca murid. Murid lebih tertarik dengan kaedah dan suasana yang berbeza daripada yang biasa guru gunakan. Motivasi murid juga meningkat kerana mereka mengalami keseronokkan belajar dan sekaligus dapat menguasai pembelajaran yang sedang mereka hadapi. Muhamad, Harun, Md. Salleh and Megat Aman Zahiri (2015), mendapati dengan penggunaan kaedah pembelajaran berasaskan permainan membantu murid menyelesaikan masalah bukan rutin dalam matapelajaran matematik. Kajian Abu, Johan, Mansor, & Jaafar (2007) mendapati bahawa murid memilih untuk belajar menggunakan kaedah bermain. Kajian terhadap murid autism mendapati bahawa pembelajaran berasaskan permainan membantu murid meningkatkan kemampuan murid membaca (Putri, 2017). Hasil penelitian (Vitianingsih, 2016) mendapati

180

bahawa permainan pembelajaran yang mereka bangunkan sangat membantu murid dan guru PAUD dan memudahkan mereka mengenal simbol, mengira dan memadankan perkataan. Kajian yang dilakukan oleh Lim, (2012) terhadap murid tahun 4 di daerah Kuching juga mendapati pembelajaran melalui kaedah bermain meningkatkan minat dan pencapaian murid dalam pembelajaran sains.

Kajian terhadap keberkesanan penggunaan permainan bahasa dalam pengajaran dan penerapan nilai-nilai murni sekolah telah dibuat oleh Haron & Nawi, (2014). Permainan bahasa perlu berdasarkan kemahiran asas murid iaitu mendengar, bertutur, membaca dan menulis supaya murid dapat meningkatkan kemahiran dan menerapkan elemen keseronokan dalam pembelajaran dan penguasaan bahasa di samping mempelajari nilai-nilai murni melalui aktiviti yang mereka lalui.

Kaedah pembelajaran berasaskan permainan bukan sahaja sesuai dilaksanakan kepada kanak-kanak malahan juga di pelbagai peringkat umur dan pelbagai bidang pembelajaran. Ini disokong oleh beberapa orang sarjana dalam kajian mereka. Jadual 2.1 menunjukkan beberapa kajian berkaitan pembelajaran berasaskan permainan yang telah dibuat dan telah meningkatkan prestasi murid dalam banyak bidang pembelajaran tidak terhad kepada pembelajaran bahasa sahaja. Pelbagai bentuk permainan digunakan untuk menjadikan proses pengajaran dan pembelajaran menarik dan berkesan.

Kerangka Konsep

Kajian yang dijalankan melibatkan beberapa proses penting seperti dalam Rajah 2. Kerangka konsep kajian ini adalah berpandukan kepada IPO Model iaitu input, proses dan output. Terdapat 3 langkah utama dalam kajian ini iaitu pembelajaran berasaskan permainan proses peraksanaan kelas rawatan menggunakan aplikasi "Sayang Hijaiyah" dan kesannya terhadap minat, motivasi dan pencapaian murid.
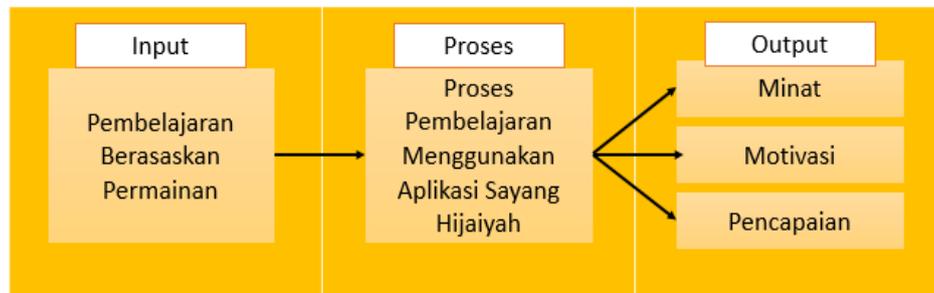
Rajah 2. Kerangka Konsep

Input

Input dalam pendidikan bermaksud daya yang digunakan untuk melaksanakan proses pembelajaran samaada manusia atau bukan manusia. Dalam kajian ini, input yang akan diberikan kepada murid adalah berupa pembelajaran melalui permainan. Murid diberikan kebebasan sepanjang pembelajaran berlangsung untuk mereka meneroka aplikasi mudah alih "Sayang Hijaiyah". Dasara (2016) mengenalpasti 4 elemen penting dalam persekitaran pembelajaran berasaskan permainan iaitu, i) motivasi, ii) maklum balas, iii) latihan, dan iv) pengukuhan.

Proses

Proses pembelajaran merupakan proses berlakunya perubahan kepada murid. Proses yang berkualiti terhasil daripada penyelarasan atau pengelolaan yang baik oleh guru sehingga boleh mewujudkan situasi pembelajaran yang meyeronokkan, mendorong dan mempengaruhi minat dan motivasi murid. Aplikasi "Sayang Hijaiyah" akan dibangunkan dengan menggunakan perisian Adobe Flash CS6 Pro. Selain itu, pengkaji akan menntegrasi elemen pembelajaran berasaskan permainan di dalam aplikasi "Sayang Hijaiyah" seperti yang terdapat dalam Jadual 1.

Jadual 1. Elemen dan integrasi elemen pembelajaran berasaskan permainan di dalam aplikasi "Sayang Hijaiyah"

No.	Elemen pembelajaran berasaskan permainan	Integrasi elemen pembelajaran berasaskan permainan di dalam aplikasi "Sayang Hijaiyah"
1	Motivasi	Permainan yang disertakan mempunyai aras pengetahuan yang berbeza. Ganjaran akan diberikan pada setiap peringkat berupa "badges", "points" dan "leaderboard". Ini bagi meningkat motivasi murid dalam setiap aktiviti yang disediakan di dalam aplikasi "Sayang Hijaiyah"
2	Maklum balas	Maklum balas dalam permainan akan diberikan secara berterusan. Selain itu, maklum balas masa nyata membantu pelajar mengetahui statusnya dan bergerak lebih jauh untuk mencapai matlamat dalam

		pembelajaran.
3	Latihan	Beberapa siri latihan mengikut aras kefahaman akan disediakan di dalam aplikasi ini.
4	Pengukuhan	Aktiviti pengukuhan akan menambahkan daya ingatan pelajar. Satu set latihan yang lebih mencabar (penilaian sumatif) akan diberikan kepada pelajar di akhir pembelajaran.

Output

Output dinilai melalui prestasi yang diperolehi. Output juga adalah peningkatan kualiti, keberkesanan serta kemampuannya menjadikan murid lebih positif berbanding sebelum diberikan input. Dalam kajian ini output akan dinilai berdasarkan minat, motivasi dan pencapaian murid selepas menjalani kelas rawatan.

Rasional kajian

Teknologi pembelajaran memainkan peranan penting dalam menentukan keberkesanan dan kejayaan sesebuah proses pengajaran dan pembelajaran. Kepelbagaian teknologi pembelajaran membantu murid menguasai pembelajaran sekaligus memberikan mereka pengalaman yang pelbagai. Sehubungan itu, kajian ini penting bagi menentukan keberkesanan pembelajaran berasaskan permainan menggunakan aplikasi terhadap pembelajaran Bahasa Arab. Secara umumnya kajian ini dilihat penting dan mampu memberikan manfaat kepada beberapa pihak tertentu iaitu:

1. Murid
Untuk membantu mereka mencipta pengalaman berbeza yang lebih bermakna dan berkesan.

2. Guru
Guru-guru prasekolah supaya dapat mempelbagaikan kaedah pengajaran dan sekaligus mendorong guru-guru lain untuk terus menggunakan kepelbagaian teknologi pembelajaran

3. Pentadbir
Pentadbir sistem pendidikan yang mana merujuk kepada pentadbir sekolah, Pejabat Pendidikan Daerah, Jabatan Pendidikan Negeri dan Kementerian Pelajaran Malaysia di mana dari kajian ini akan memberikan maklumat kepada pihak perancang agar dapat menyediakan pelbagai latihan dan kemahiran kepada para guru.

Rumusan

Pengenalan kepada huruf Hijaiyah sangat penting kepada kanak-kanak bermula seawal usia dua tahun kerana huruf Hijaiyah merupakan kunci asas membaca al-Quran. Setiap huruf Hijaiyah mempunyai bentuk dan bunyi berbeza. Kerana perbezaan tersebut, maka pengenalan terhadap huruf Hijaiyah mesti dibuat terhadap murid seawal mungkin. Hasil penilitian Suhati dan Lestari, (2014) kepada 22 orang murid di RA Al-Ikhlas Kecamatan Rasau Jaya mendapati bahawa pengenalan awal terhadap huruf Hijaiyah kepada mereka dapat meningkatkan kemampuan mereka mengenal huruf Hijaiyah melalui media bergambar kerana pada usia emas mereka ini, potensi murid berkembang dengan cepat. Pada peringkat usia kanak-kanak seawal tahun, mereka sangat peka kepada proses pemerolehan bahasa iaitu satu proses tanpa sedar yang melibatkan pembelajaran bahasa. Pendapat ini disokong oleh Zukhaira, (2010) yang mengatakan bahawa kanak-kanak pada usia antara 2 hingga 6 tahun merupakan waktu dimana kanak-kanak sangat mudah terpengaruh dengan Bahasa yang dituturkan oleh orang di sekeiling mereka.

Pembelajaran bahasa pada awal usia kanak-kanak mestilah tidak terlalu formal dan perlu dilakukan tanpa sebarang tekanan terhadap mereka. Kajian Zukhaira, (2010) mendapati pembelajaran bahasa melalui kaedah nyayian kepada murid prasekolah TK Islam Mutiara Hati mendapat sambutan positif dan memberi kesan yang baik. Murid-murid mempunyai minat yang tinggi untuk mempelajari Bahasa arab dan memudahkan mereka mengenal kosakata Bahasa arab dengan mudah melalui nyanyian. Pengenalan kepada Bahasa Arab yang dibuat kepada murid prasekolah Kecamatan Gunungpati Semarang melalui permainan puzzle dapat menarik minat murid dan mendorong mereka menguasai kosakata bahasa Arab dengan mudah (Zukhaira & Busri, 2011).

Rujukan

Zukhaira Z. (2010). Pengenalan bahasa Arab melalui nyanyian pada anak usia prasekolah di TK Islam Mutiara Hati• . Abdimas, 14(1). Retrieved from http://journal.unnes.ac.id/nju/index.php/abdimas/article/view/12

Zukhaira Z, & Busri, H. (2011). Pengenalan bahasa arab melalui permainan puzzle pada anak-anak prasekolah, *Jurnal Abdimas, 15*(1), 59-65.

Suhati, C., R, M., & Lestari, S. (2014). Peningkatan kemampuan mengenal huruf hijaiyah dengan media gambar pada anak usia 5-6 tahun. *Jurnal Pendidikan Dan Pembelajaran, 3*(9), 1–14.

Dasara, Y. (June, 2016). 4 components of game-based learning. *CommLab India.* Retrieved on 24 March 2019 from https://blog.commlabindia.com/elearning-design/game-based-learning-components-infographic

Haron, H., & Nawi, R. (2014). Kaedah permainan dalam pengajaran nilai, *Seminar Bahasa Melayu.* 93–97.

Lim, L. G. (2012). Kesan penggunaan kaedah bermain sambil belajar dalam proses pembelajaran sains tahun empat. *Seminar Penyelidikan Tindakan IPG KBL Tahun* 2012.195-209.

Putri, A. (2017). Penerapan media gamifikasi terhadap kemampuan penerapan media gamifikasi terhadap kemampuan membaca permulaan anak autis kelas rendah di sekolah luar biasa, *Jurnal Pendidikan Khusus,* 1–12.

Vitianingsih, A. V. (2016). Game edukasi sebagai media pembelajaran pendidikan anak usia dini, *Jurnal inform, 1(*1), 1–8.

Pelan Pembangunan Pendidikan Malaysia 2013 – 2025. Kementerian Pendidikan Malaysia. Retrieved from https://www.moe.gov.my/index.php

Abu, B., Johan, O. M., Mansor, S. M. S. S., & Jaafar, H. (2007). Kemahiran Belajar pelajar universiti. *Contrasting Learning Styles and Study Skills*, 1–104.

Muhamad, N., Harun, J., Md. Salleh, S & Megat Aman Zahiri, M. Z. (2015) Pembangunan berasaskan permainan bagi meningkatkan kemahiran penyelesaian masalah kreatif dalam matematik. In: 2nd International Education Postgraduate Seminar (IEPS 2015), 20-21 Dec, 2015, Johor Bahru, Johor.

Tarasat, S., & Daud, A. (2014). Kesan penggunaan perisian asas membaca terhadap pencapaian membaca murid peringkat prasekolah. *Procedia - Social and Behavioral Sciences*, 134, 399–407. https://doi.org/10.1016/j.sbspro.2014.04.262

Ashari, Z. M., Kosnin, A. M., & Jiar, Y. K. (2012). Keperluan aktiviti bermain dan kepentingannya terhadap motivasi kanak-kanak prasekolah. *Seminar Kebangsaan Majlis Dekan Pendidikan IPTA*. 7-9 Oktober, 2012. The Puteri Pacific Hotel, Johor Bahru.

Puteh, S. N., & Ali, A. (2010). The play approach in teaching language and literacy for preschool education. *Pendidikan Bahasa Melayu,* 1, 1–15. Retrieved from http://spaj.ukm.my/jpbm/index.php/jpbm/article/view/26

Mohd Arif Ismail. (1996). Permainan Dan Simulasi Dalam Pengajaran Dan Pembelajaran Bahasa Di Kalangan Guru- Guru Dan Pelajar-Pelajar Sekolah Rendah Di Daerah Hulu.

Sayed Yusoff, Tan Wee Hoe, & Muhammad Zaffwan. (2013). Permainan digital : Pendekatan baharu dalam pendidikan masa depan. Prosiding Seminar Kebangsaan ICT Dalam Pendidikan, 240–245.

M.West, D. (2013). Mobile Learning : Transforming Education, Engaging Student, and Improving Outcames. Center for Technology Innovation at Brookings, (September).

Azli, N., Masrop, M., Anuar, H., Mak, H., B, A. N., & Sains, F. (2015). Kesan Permainan Digital Dalam Pendidikan, (June), 292–297.

Syahira, A., Rosli, B., & Jenal, R. (2017). APLIKASI PERMAINAN DIGITAL UJI MINDA UNTUK KANAK-KANAK PENDIDIKAN KHAS, (Wikipedia 2016).

Mohd Hatta, N. H. (2012). Keberkesanan Penggunaan Kaedah Bermain Dalam Pengajaran Asuhan Tilawah Al-Quran, (September), 34–44.

Jamali, H. N., Rahman, A. A., Azizan, K. F. K., & Md Isa, S. N. (2016). MEMBINA KEMAHIRAN BERTUTUR DALAM BAHASA ARAB MELALUI TEKNIK MAIN, 3, 89–100.

Othman, S. (2011). Masalah Penyebutan Huruf AL-Quran di Kalangan Saudara BAru.

Chung Chin, L., & Zakaria, E. (2015). Effect of Game-Based Learning Activities on Children's Positive Learning and Prosocial Behaviours. Jurnal Pendidikan Malaysia, 40(2), 159–165. https://doi.org/10.17576/jpen-2015-4002-08

Hung, C.-M., Huang, I., & Hwang, G.-J. (2014). Effects of digital game-based learning on students' self-efficacy, motivation, anxiety, and achievements in learning mathematics. Journal of Computers in Education, 1(2–3), 151–166. https://doi.org/10.1007/s40692-014-0008-8

Kamisah Osman, & Nurul Aini Bakar. (2012). Educational computer games for Malaysian classrooms: Issues and challenges. Asian Social Science, 8(11), 75–84. https://doi.org/10.5539/ass.v8n11p75

Sandra, R., Abu Bakar, N., & Norlidah, A. (2013). Enggunaan Ict Merentas Kurikulum Standard Prasekolah Kebangsaan (Kspk): Tinjauan Di Prasekolah Kementerian Pelajaran Malaysia. Jurnal Kurikulum & Pengajaran Asia Pasifik, Bil 1(2), 20–31.

Muraini Mursanib, & Samsul Alam. (2016). Meningkatkan Kemmpuan Mengenal Huruf Hiajaiyah Melalui Media Gambar Pada Kelompok B TK Al-Khairaat Tatura, (I), 1–17.

Isa, S. N. M., & Hamidin, N. M. (2017). Keperluan Modul Bahasa Arab Diperingkat Prasekolah, (September), 74–86.

Mohamed, N., & Hassan, H. (2014). KOMUNIKASI (ICT) DALAM PENGAJARAN TERHADAP MURID-MURID PRA SEKOLAH : SATU TINJAUAN.

Motivasi Guru Prasekolah Terhadap Pelaksanaan Belajar Melalui Bermain dalam Pembelajaran Bahasa di Kelantan

Syaza Soraya Sauli[1], Zakiah Mohamad Ashari[2], Nurul Farhana Jumaat[3], Dayana Farzeeha Ali[4], Norazrena Abu Samah[5]
[1] Jabatan Pendidikan Negeri Johor, Kementerian Pendidikan Malaysia
[2,3,4,5] Sekolah Pendidikan, Fakulti Sains Sosial dan Kemanusiaan, Universiti Teknologi Malaysia

E-mail: syazasorayautm@gmail.com[1], zakiahma@utm.my[2], nfarhana@utm.my[3], dayanafarzeeha@utm.my[4], norazrena@utm.my[5]

Abstrak: Belajar melalui bermain merupakan pendekatan yang disarankan penggunaannya di peringkat prasekolah untuk menyediakan suasana kelas yang aktif dan menyeronokkan. Pelaksanaan belajar melalui bermain memerlukan motivasi guru bagi memastikan proses pengajaran dan pembelajaran dicapai pada tahap yang optimum terutamanya pembelajaran bahasa. Oleh itu, kajian ini bertujuan untuk mengenalpasti tahap motivasi guru prasekolah tentang pelaksanaan pendekatan belajar melalui berman dalam pembelajaran bahasa kanak-kanak. Penyelidikan ini menggunakan kaedah kuantitatif. Data yang dikumpul dengan menggunakan soal selidik diedarkan kepada 56 orang guru prasekolah dan kemudian di analisis secara deskriptif merujuk kepada peratusan dan kekerapan menggunakan IBM SPSS versi 22.0. Hasil kajian menunjukkan bahawa tahap motivasi guru-guru prasekolah di Negeri Kelantan terhadap pendekatan belajar melalui bermain berada ditahap sederhana dengan skor min 3.614. Kajian diharap dapat membantu pihak sekolah, daerah, negeri dan Kementerian Pendidikan Malaysia khususnya untuk menambah baik program latihan dalam perkhidmatan bagi membimbing guru-guru prasekolah seiring dengan keperluan pemerolehan bahasa bagi membentuk modal insan yang cekap berkomunikasi dan bijak menggunakan bahasa apabila berinteraksi.

Kata Kunci: pendekatan belajar melalui bermain; motivasi; guru prasekolah.

Pengenalan

Bermain merupakan cara utama bagi seseorang kanak-kanak untuk belajar (Gestwicki & Bertrand, 2011) Hal ini demikian kerana, bermain dan belajar adalah dimensi yang membantu seorang mendapat pengetahuan terhadap perkara baharu dengan cara yang menyeronokkan. Oleh itu, pendedahan pembelajaran melalui bermain dalam KSPK (2017) ini merupakan salah satu langkah yang baik seiring dengan fitrah seorang kanak-kanak. Amalan pendekatan belajar melalui bermain ini ditakrifkan sebagai satu pendekatan yang berstruktur serta terancang bagi memberikan peluang kepada kanak-kanak mahupun orang dewasa belajar dalam suasana yang tidak begitu formal, menyeronokkan dan bebas (Sharifah Nor & Aliza, 2012). Oleh itu, dalam melakanakan amalan belajar melalui bermain ini, pengetahuan sedia ada guru, pemahaman konsep serta rancangan pembelajaran kelas adalah aspek penting bagi memastikan pembelajaran yang menggunakan amalan ini mencapai objektif pembelajaran yang berstruktur.

Melalui acuan KSPK (Semakan 2017), pendekatan belajar melalui bermain adalah konsep dan prinsip utama pendidikan prasekolah selain daripada konsep pembelajaran bertema, pembelajaran bersepadu serta penggunaan teknologi maklumat dan komunikasi di dalam kelas (KEMAS, 2017). Pelaksanaan amalan belajar melalui bermain ini merupakan parameter yang menentukan pencapaian objektif pendidikan prasekolah tanpa mengenepikan fitrah dan kecenderungan kanak-kanak. Apabila mereka merasakan bahawa keperluan fitrah mereka tercapai, secara tidak langsung akan meningkatkan minat mereka untuk belajar dan mencapai objektif pendidikan prasekolah (Zakiah & Kamis, 2017).

Oleh itu, proses pembelajaran peringkat awal kanak-kanak perlu mempertimbangkan kemampuan, keupayaan dan kesediaan kanak-kanak pada peringkat perkembangan tertentu dan kanak-kanak mengaitkan pengetahuan baharu dengan pengetahuan sedia ada dengan menggunakan perkara di sekeliling untuk mempelajari tentang kehidupan. Vygotsky pula mengatakan bermain ialah tugas kanak-kanak dan mereka memerlukan sokongan dan bimbingan individu lain (scaffold) bagi menguasai sesuatu kemahiran semasa berkomunikasi. Kemahiran ini menjadikan kanak-kanak lebih matang dalam menghadapi cabaran yang lebih kompleks (Moyles, 2005).

Amalan belajar melalui bermain ini mampu memberikan pendedahan pengetahuan, kemahiran serta memupuk nilai murni kepada kanak-kanak secara tidak formal dan praktikal dalam suasana yang menyeronokkan. Pelajar yang melalui proses belajar melalui bermain akan mendapat pengalaman langsung yang sudah pasti akan memberikan kesan pembelajaran yang mantap dan berkesan kepada mereka (pula menekankan bahawa penggunaan pendekatan belajar melalui bermain berkesan untuk mencorak dan mengembangkan minda kanak-kanak selaras dengan fitrah kanak-kanak yang suka bermain dan mereka akan lebih bermotivasi untuk terus belajar berbanding dengan pendekatan secara langsung. Selain itu, aktiviti bermain di prasekolah dianggap penting kerana melalui bermain kanak-kanak membina pengetahuan (Morrison, 2011).

Antara salah satu medium pembelajaran yang menggunakan pembelajaran melalui bermain ini di peringkat prasekolah ialah pembelajaran bahasa dan literasi melalui Tunjang Komunikasi yang terkandung dalam KSPK (Semakan 2017) tersebut. Bahasa memainkan peranan penting dalam hidup individu sebagai salah satu medium komunikasi sama ada berbentuk formal atau tidak formal serta bertindak sebagai medium penyampaian ilmu. Pemerolehan bahasa bermaksud penguasaan bahasa oleh seseorang secara tidak langsung dan dikatakan aktif berlaku dalam kalangan kanak-kanak dalam lingkungan umur dua (2) hingga enam (6) tahun.

Daripada konteks pembelajaran bahasa dan literasi ini, salah satu objektif pendidikan prasekolah ialah kanak–kanak mampu untuk menggunakan Bahasa Melayu dengan betul dan memperkembangkan kemahiran berbahasa iaitu berkomunikasi, menulis, mendengar juga membaca (KPM, 2010). Sekiranya kemahiran asas ini tidak mampu dicapai pada alam persekolah prasekolah, kanak-kanak akan mempunyai masalah kelak. Kajian lepas menyatakan bahawa kegagalan penguasaan bahasa di peringkat kanak-kanak akan membawa kepada risiko kegagalan semasa di sekolah. Hal ini demikian kerana bahasa merupakan medium utama penyampaian maklumat bagi mata pelajaran lain seperti Matematik, Sains, Sejarah, Kemahiran Hidup selain daripada subjek bahasa itu sendiri. Sekiranya kanak-kanak tidak mempunyai kemahiran asas bahasa yang teguh, mereka akan menghadapi masalah serta tekanan apabila melangkah ke alam persekolahan rendah dan menengah.

Latarbelakang Masalah Kajian

Kegagalan untuk menguasai bahasa berkait rapat dengan cara guru mengajar dan cara kanak-kanak belajar pada peringkat prasekolah (Aliza, 2012). Sebagai contoh, kaedah mengajar, bahan bantu mengajar yang digunapakai, mahupun bahasa pengantar yang digunakan guru ketika proses pengajaran dan pembelajaran berlangsung. Penggunaan bahasa dialek juga mempengaruhi sikap guru dalam menyampaikan ilmu ketika proses pengajaran dan pembelajaran berlangsung. Berdasarkan kajian, pelajar tidak tahu untuk membezakan bahasa Melayu baku serta bahasa Melayu dialek dalam penulisan apabila sering berkomunikasi menggunakan bahasa dialek harian. Kesannya, mereka akan menggunakan bahasa Melayu dialek dalam penulisan tanpa menyedari kesalahan tersebut. Selain itu, dalam aspek komunikasi, permasalahan sebutan baku juga menjadi isu apabila guru atau pelajar dipengaruhi oleh dialek. Sekiranya kanak-kanak tidak mendapat penekanan sepenuhnya penggunaan bahasa Melayu standard dalam komunikasi harian mereka, mereka akan cenderung untuk menghadapi masalah ini apabila melangkah ke alam dewasa. Oleh hal yang demikian, jelaslah di sini penekanan terhadap pembelajaran bahasa dalam tunjang komunikasi ini amatlah penting bagi mengelakkan kanak-kanak ketinggalan dalam pelbagai perkara di masa hadapan, terutamanya bagi kanak-kanak yang tidak menggunakan bahasa Melayu standard dalam kehidupan harian mereka.

Komunikasi yang berlaku semasa "permainan drama" juga membolehkan kanak-kanak belajar menggunakan struktur ayat yang betul tanpa perlu mempelajari aspek tatabahasa secara formal. Selain itu, belajar melalui bermain juga, membantu kanak-kanak menguasai bahasa daripada aspek perbendaharaan kata dan peraturan tatabahasa tersebut. Kebanyakan kanak-kanak menguasai bahasa dan memperoleh pengalaman pembelajaran secara tidak formal, seperti komunikasi harian ketika bermain (Almon & Miller, 2012). Mereka memperoleh kemahiran bahasa secara semula jadi tanpa belajar secara langsung daripada orang dewasa (Bodrova & Leong 2010; Aliza, 2012). Oleh itu, amalan belajar secara tidak langsung ini, iaitu melalui bermain, mampu meningkatkan pemerolehan bahasa apabila mereka mencuba untuk memahami hubungan antara objek permainan dengan simbol (Einarsdottir, 2012).

Kanak-kanak yang diajar secara formal dan mengabaikan amalan belajar melalui bermain ini akan sentiasa berasa tertekan dan stress. Satu survey yang telah dijalankan oleh Putri Afzan Maria (2017) mendapati bahawa kebanyakan kanak-kanak berasa tertekan pada masa kini disebabkan oleh desakan guru dan kebanyakan ibu bapa yang menekankan "output" akademik semata-mata. Hal ini adalah bertentangan dengan amalan bersesuaian perkembangan kanak–kanak tersebut. Hal ini selari dengan pendapat Samuelsson dan Carlsson (2008) yang menyatakan kebanyakan sistem pendidikan awal kanak-kanak lebih mengutamakan pembelajaran akademik semata-mata dan kurang menumpukan kepada aktiviti permainan. Penafian peluang kanak-kanak untuk bermain, terutamanya dalam aspek pembelajaran akan meningkatkan tekanan kepada mereka (Peter Grey, 2017). Hal ini demikian kerana mereka akan berasa tertekan dengan pembelajaran berasaskan teori semata-mata dan menidakkan fitrah bermain yang wujud dalam diri mereka (Fauziah, 2009).

Sekiranya kanak-kanak tidak menggunakan pendekatan yang menyeronokkan ini dalam sesi pembelajaran di sekolah, mereka akan mudah berasa takut ketika pembelajaran dijalankan serta sukar untuk bergaul dengan kanak-kanak lain dalam penerimaan sosial. Selain itu, sekiranya para guru tidak mengaplikasikan amalan belajar melalui bermain dalam pembelajaran bahasa pada peringkat prasekolah ini, kanak–kanak akan berhadapan dengan limitasi peluang terhadap mereka untuk meningkatkan keupayaan, menunjukkan kebolehan, meluahkan pendapat dan mengasah bakat yang ada ketika bermain (Zakiah et al., 2011). Hal ini demikian kerana tanpa adanya penggunaan amalan belajar melalui bermain ini, kemahiran motor kasar dan halus tidak dapat diterokai di peringkat kanak-kanak dan tidak dapat dilaksanakan sepenuhnya ketika proses pengajaran dan pembelajaran (KEMAS, 2017).

Namun, walaupun pendekatan belajar melalui bermain di tekankan penggunaannya, pelaksanaannya dalam bilik darjah prasekolah masih ditahap rendah. Justeru itu kajian ini bertujuan untuk melihat sejauh mana motivasi guru prasekolah dalam melaksanakan pendekatan belajar melalui bermain dalam kalangan guru-guru prasekolah di Negeri Kelantan.

Objektif Kajian

Kajian ini adalah dijalankan bagi mengenalpasti tahap motivasi guru prasekolah tentang pelaksanaan pendekatan belajar melalui berman dalam pembelajaran bahasa kanak-kanak.

Metodologi Kajian

Kajian ini adalah kajian kuantitatif menerusi kaedah tinjauan menggunakan soal selidik. Melalui kaedah ini satu set borang soal selidik digunakan untuk dijawab oleh responden. Terdapat 56 orang responden iaitu guru prasekolah di Daerah Pasir Putih, Kelantan yang terlibat dalam kajian ini dan. Instrumen kajian diadaptasi dari *The Work Tasks Motivation Scale for Teachers* oleh Calude Fernet (2008) dan diubah mengikut keperluan kajian ini. Terdapat 30 item yang perlu dijawab oleh responden dengan skala Likert 5 mata iaitu dari sangat setuju (5), setuju (4), tidak pasti (3), tidak setuju (2) dan sangat tidak setuju (1).

Dapatan dan Perbincangan

Dapatan daripada soalselidik yang diedarkan, semua responden yang terlibat menyatakan bahawa mereka pernah menggunakan pendekatan belajar melalui bermain dalam proses pengajaran dan pembelajaran bahasa di prasekolah.

Analisis menunjukkan jenis bahasa pengantar yang digunakan oleh guru ketika proses pembelajaran bahasa berlangsung di dalam kelas. Terdapat tiga (3) jenis bahasa pengantar yang dikategorikan iaitu Bahasa Melayu Baku, Bahasa Melayu Dialek, serta campuran antara Bahasa Melayu Baku dan Bahasa Melayu Dialek. Daripada analisis data yang dijalankan, didapati bahawa majoriti guru menggunakan campuran Bahasa Melayu Baku serta Bahasa Melayu Dialek sebagai bahasa pengantar ketika proses pembelajaran bahasa berlansung iaitu seramai 43 (76.8%) orang, diikuti dengan Bahasa Melayu Baku seramai 9 (16.1%) orang dan Bahasa Melayu Dialek seramai 4 (7.1%) orang.

Jadual 1. Tahap Motivasi Guru Prasekolah dalam Melaksanakan Pendekatan Belajar Melalui Bermain

Bahasa	Bilangan guru prasekolah	Peratusan (%)
Bahasa Melayu Baku	9	16.1
Bahasa Melayu Dialek	4	7.1
Bahasa Melayu Baku+Dialek	43	76.8
Jumlah Keseluruhan	**56**	**100**

Jadual 2 menunjukkan nilai min keseluruhan bagi menilai tahap motivasi guru terhadap amalan belajar melalui bermain dalam pembelajaran bahasa. Nilai min keseluruhan bagi tahap motivasi guru terhadap amalan belajar melalui bermain adalah 3.641 yang menunjukkan bahawa tahap motivasi guru ialah sederhana. Terdapat dua (2) dimensi dengan masing-masing mempunyai 15 item soalan bagi mengukur tahap motivasi guru terhadap amalan belajar melalui bermain dalam pembelajaran bahasa kanak-kanak prasekolah. Dimensi pertama ialah dimensi tahap persediaan kelas dan dimensi kedua adalah dimensi pembelajaran. Nilai min bagi dimensi pembelajaran adalah lebih tinggi iaitu 3.617, berbanding nilai min bagi dimensi persediaan kelas, iaitu hanya 3.611 sahaja. Namun begitu, tahap motivasi bagi kedua-dua dimensi tersebut ialah sederhana.

Jadual 2. Tahap Motivasi Guru Prasekolah dalam Melaksanakan Pendekatan Belajar Melalui Bermain

Dimensi	Nilai Min	Tahap
Persediaan Kelas	3.611	Sederhana
Pembelajaran	3.617	Sederhana
Motivasi Keseluruhan	**3.614**	**Sederhana**

Bagi dimensi tahap persediaan kelas, 43 (76.8%) responden menyatakan bahawa mereka tidak melihat sebarang kepentingan dalam melaksanakan persediaan kelas sebelum sesi pengajaran dan pembelajaran bermula. Dapatan kajian ini dapatlah dikaitkan dengan kajian Ade Sobandi (2014) yang mendapati bahawa terdapat sebilangan guru enggan terlibat dengan persediaan kelas seperti rancangan pengajaran harian adalah kerana mereka merasakan bahawa ia menambah beban tugas mereka. Berdasarkan kajian ramai guru yang tidak mengubah kaedah pengajaran adalah disebabkan oleh kekangan masa serta mereka tidak melihat sebarang kepentingan melaksanakan tugasan itu secara tidak langsung menganggap ia menambah tugas guru. Kajian

lepas mengaitkan situasi tersebut dengan menyatakan bahawa bebanan tugas guru sedia ada menyebabkan guru berasa terbeban dalam mempelajari ilmu baharu. Bagi dimensi pembelajaran pula, 49 (87.5%) responden bersetuju bahawa mereka melaksanakan amalan belajar melalui bermain dalam pembelajaran bahasa ini disebabkan oleh pihak sekolah memberi tanggungjawab kepada mereka untuk melaksanakan tugasan tersebut serta 42 (75%) responden melaksanakan amalan belajar melalui bermain dalam pembelajaran bahasa ini adalah kerana tugasan menuntut mereka untuk melaksanakannya.

Kesimpulan

Dalam konteks ini, dapatlah dilihat bahawa guru-guru melaksanakan amalan belajar melalui bermain dalam pembelajaran bahasa di dalam bilik darjah adalah kerana tuntutan tugasan yang telah dipikul. Hal ini adalah dilihat melibatkan faktor luaran seperti keperluan pengajaran berdasarkan polisi dan kurikulum yang telah ditetapkan dan akan mempengaruhi amalan pedagogi guru. Contohnya, Mariani (2006) mendapati bahawa guru prasekolah terlalu memberi penumpuan terhadap keperluan akademik murid sebagai ukuran prestasi kerja mereka. Hal ini demikian kerana kehendak yang telah ditetapkan oleh pihak Kementerian Pelajaran Malaysia (KPM) (2009) yang menetapkan bahawa kanak-kanak prasekolah perlu menguasai kemahiran 4M (Membaca, Menulis, Mengira dan Menaakul). Namun begitu, perkara tersebut adalah didapati bertentangan dengan saranan yang telah digariskan oleh The National Association on the Education of Young Children (2009) yang menggariskan bahawa amalan pedagogi setiap guru prasekolah haruslah selari dengan perkembangan murid dan bukanlah melihat pencapaian semata-mata. Oleh hal yang demikian, hasil dapatan kajian menjelaskan bahawa tahap motivasi guru prasekolah adalah sederhana merangkumi kedua-dua dimensi yang dikaji iaitu persediaan kelas dan pengajaran guru. Oleh itu, kedua-dua dimensi tersebut perlu diberikan perhatian supaya objekti keberkesanan kurikulum yang dilaksanakan dapat dicapai sepenuhnya sekaligus membantu guru melaksanakan amalan pedagogi yang bersesuaian dengan tahap perkambangan kanak-kanak.

Rujukan

Ade Sobandi (2014). The English teachers' perception of lesson study. 8th WALS International Conference, 1-4.

Aliza Ali. (2012). Pemahaman Dan Persepsi Guru Tentang Penggunaan Kurikulum Berasaskan Main Bagi Perkembangan Bahasa Murid Prasekolah. Tesis sarjana pendidikan, Fakulti Pendidikan, Universiti Kebangsaan Malaysia.

Almon, J. & Miller, E. (2012). The crisis in early education: A research-based case for more play and less pressure. http://www.habitot.org/museum/pdf/play_research/Crisis_EarlyEd.pdf [2 Februari 2015].

Bodrova, E. dan D. Leong (2010), ―Curriculum and Play in Early Child Development‖, Encyclopedia onEarly Childhood Development, Centre of Excellence for Early Childhood Development and Strategic Knowledge Cluster on Early Child Development, Montreal, available at: www.childencyclopedia.com/documents/Bodrova-LeongANGxp.pdf.

Calude Fernet, Caroline Senecal, Frederic Guay, Herb Marsh & Martin Dowson (2008). The work tasks motivation scale for teachers. Journal of Career Assessment, 16(2), 256-279.

Einarsdottir, J. (2012). Play and literacy: A Collaborative Action Research Project in Preschool. Scadinavian Journal of Educational Research, 58 (1), 93-109.

Fauziah Mohd. Jaafar. (2009). Kepentingan Aktiviti Bermain di dalam Pendidikan Prasekolah.

Gestwicki, C. & Bertrand, J. (2011). Essentials of early childhood education. 4th Edition.Toronto: Nelson Education.

Heni Jusuf (2016). Pengembangan blended learning untuk memotivasi peserta didik dalam memahami materi ajar. Jurnal Ilmiah Teknologi Informasi Terapan, Vol. 3 (1), 137-146.

Kementerian Pelajaran Malaysia. (2017). Dokumen standard prasekolah: Kurikulum Standard Prasekolah Kebangsaan. Kuala Lumpur: Bahagian Pembangunan Kurikulum.

Mariani Md Nor. (2006). Trends reality and issues in early childhood education. Journal of Education 29.

Moyles, J. (2005). The Excellence of Play. New York, NY: Open University Press.

Morrison, G. S. (2011). Fundamental of Early Childhood Education. Englewood Cliffs, NJ: Pearson.

Peter Grey (2011). The Decline of Play. American Journal of Play, volume 3, number 4. ©2011 by The Strong.

Pramling Samuelsson, I., & Asplund Carlsson,M. (2008). The playing learning child: Towards a pedagogy of early childhood. Scandinavian Journal of Educational Research, 52(6), 623–641.

Sharifah Nor, P., & Aliza, A. (2012). Persepsi Guru Terhadap Penggunaan Kurikulum Berasaskan Bermain bagi Aspek Perkembangan Bahasa dan Literasi Murid Prasekolah. Jurnal Pendidikan Bahasa Melayu, 2(1), 141-159.

Sharifah Nor, P., & Aliza, A. (2011). Pendekatan bermain dalam pengajaran bahasa dan literasi bagi pendidikan prasekolah. Jurnal Pendidikan Bahasa Melayu, 1(2), 1-16.

Putri Azan Maria (2017). Applying Pause Analysis to Explore Cognitive Processes in the Coping of Sentences by Second Language Users. University of Sussex.

Zakiah Mohamad Ashari & Mohamad Kamis Baharuddin (2017). Play Based Pedagogy in PreSchool: A Meta Analysis Research. Man in India, 97 (12): 237-243.

Zakiah Mohamad Ashari, Azlina Mohd Kosnin, Yeo Kee Jiar (2011). Persepsi dan Amalan Guru Novis Terhadap Penggunaan Pendekatan Amalan Belajar Sambil Bermain. E-Proceedings of The International Conerence on Early Childhood and Special Education. Universiti Sains Malaysia.

Pencapaian Pelajar Dalam Pemfaktoran Persamaan Kuadratik Menggunakan Kaedah CPR

Nurul Huda Abdul Wahab[1], Sharifah Osman[2]

[1,2] Sekolah Pendidikan, Fakulti Sains Sosial dan Kemanusiaan, Universiti Teknologi Malaysia

E-mail: ok_huda@yahoo.com[1], sharifah.o@utm.my[2]

Abstrak: Pemfaktoran dan Pecahan Algebra merupakan topik yang sukar dikuasai oleh kebanyakan pelajar, terutamanya dalam konteks persamaan kuadratik. Pelajar sukar memahami dan sering melakukan kesilapan dalam pemfaktoran persamaan kuadratik. Justeru, kajian ini dijalankan untuk membantu pelajar meningkatkan pemahaman, penguasaan dan mencapai tahap kemahiran yang diperlukan dalam Pemfaktoran Persamaan Kuadratik. Kumpulan sasaran yang terlibat dalam kajian ini terdiri daripada 30 orang pelajar dari sebuah sekolah menengah di daerah Kluang. Satu sesi pengajaran dan pembelajaran telah dilakukan untuk memperkenalkan pelajar kepada Kaedah CPR (Constant Product & Plus, and Result). Kajian ini berpandukan Model Kajian Tindakan dengan menjalankan langkah mengikuti kitaran kajian tindakan iaitu tinjauan awal, merancang tindakan, melaksana tindakan dan memerhati serta mereflek. Menerusi kitaran kajian tindakan tersebut, ujian pra dan ujian pasca telah ditadbir untuk mengukur pencapaian pelajar dalam Pemfaktoran Persamaan Kuadratik, sebelum dan selepas menggunakan kaedah CPR. Terdapat perbezaan skor pencapaian yang ketara diantara ujian pra dan ujian pasca daripada keputusan analisis ujian. Ini menunjukkan bahawa tahap pencapaian pelajar adalah sangat rendah dan lemah apabila menggunakan kaedah konvensional berbanding dengan penggunaan Kaedah CPR. Dapatan kajian jelas menunjukkan bahawa Kaedah CPR dapat membantu meningkatkan pemahaman dan pencapaian pelajar dalam Pemfaktoran Persamaan Kuadratik.

Kata Kunci: pemfaktoran dan pecahan algebra; persamaan kuadratik; pemfaktoran; kaedah CPR.

Pengenalan

Menurut Griffiths dan Howson (1974), Matematik adalah pengetahuan asas yang diperlukan oleh pelajar untuk melanjutkan pengajian mereka ke tahap yang lebih tinggi. Matematik adalah penting dalam kehidupan seharian kita, tanpa mengira latar belakang pendidikan dan kehidupan sosial. Kerajaan Malaysia juga menekankan pendidikan matematik dalam usaha membangunkan insan yang berfikrah matematik untuk mendukung Pelan Pembangunan Pendidikan Malaysia (PPPM). Di samping itu, Matematik juga merupakan subjek teras dalam Kurikulum Standard Sekolah Menengah (KSSM) yang wajib diambil oleh semua pelajar yang mengikuti Sistem Pendidikan Nasional. KSSM memberikan penekanan kepada Kandungan Pembelajaran Matematik yang merangkumi lima bidang utama pembelajaran saling berkaitan iaitu Nombor dan Operasi, Sukatan dan Geometri, Perkaitan dan Algebra, Statistik dan Kebarangkalian, serta Matematik Diskret (KPM, 2016). Pemfaktoran Persamaan Kuadratik merupakan subtopik bagi tajuk Pemfaktoran dan Pecahan Algebra di dalam Dokumen Standard Kurikulum dan Pentaksiran Tingkatan Dua (DSKP) di sekolah menengah di Malaysia. Pemahaman dalam matematik adalah idea atau prinsip atau makna yang didapati dari pengetahuan hasil rumusan dari tentuan dalaman atau luaran seseorang itu mengapa ia memilih cara atau kaedah tertentu untuk menyelesaikan masalah dan kenapa cara atau kaedah yang digunakan itu boleh menyelesaikan masalah (Sari, 2017). Namun, apabila pengajaran dan pembelajaran dengan menggunakan kaedah konvensional tidak dapat mengoptimumkan pemahaman pelajar, satu kaedah alternatif harus dicari dalam usaha untuk membina kemahaman pelajar bagi memahami sesuatu subtopik. Ini kerana, Kaedah konvensional yang diajar menggunakan Kaedah Darab Silang didapati amat sukar untuk dikuasai oleh kebanyakan pelajar. Para pelajar mudah keliru dan seterusnya tidak dapat melakukan pemfaktoran dengan betul.

Dalam kajian ini, kaedah CPR diperkenalkan kepada pelajar sebagai satu kaedah alternatif selaras dengan objektif kajian iaitu untuk meningkatkan tahap kemahiran Pemfaktoran Persamaan Kuadratik pelajar melalui pendekatan reka bentuk kajian tindakan. Kajian tindakan dilaksanakan bertujuan untuk memperbaiki amalan pengajaran, memperbaiki atau meningkatkan pemahaman terhadap amalan pengajaran, dan memperbaiki situasi di mana pengajaran dijalankan (BPPDP, 2008). Kajian Tindakan mempunyai dua unsur utama iaitu kajian dan tindakan. Oleh itu ia sangat sesuai diaplilkasikan dalam konteks pendidikan kerana dua unsur utama ini seringkali dijalankan secara beriringan, iaitu tindakan dalam proses pengajaran dan pembelajaran dan kajian dijalankan bagi mendapatkan bukti-bukti yang dapat menyokong sesuatu tindakan yang dilaksanakan. Ini kerana menurut Bahagian Perancangan dan Penyelidikan Dasar Pendidikan (BPPDP), 2008 juga, kajian tindakan diyakini dapat menonjolkan amalan terbaik dalam pengajaran, pembelajaran dan pengurusan sekolah. Perkara utama dalam prinsip pelaksanaan kajian tindakan ialah matlamat untuk memperbaiki amalan seseorang atau mengatasi masalah yang dihadapi dengan membuat tindakan terhadap penemuan yang didapati tentang sesuatu amalan itu.

Latar Belakang Masalah

Tinjauan awal dilakukan oleh pengkaji bertujuan untuk memahami dengan lebih mendalam masalah yang timbul. Data diperolehi dengan melakukan temubual dengan pelajar, penyemakan buku kerja dan latihan pelajar serta menjalankan satu ujian pra meliputi subtopik Pemfaktoran Persamaan Kuadratik. Melalui tinjauan yang telah dilakukan oleh pengkaji juga, beberapa kelemahan pelajar dalam melakukan Pemfaktoran Persamaan Kuadratik menggunakan Kaedah Darab Silang telah dapat dikenal pasti. Antara kesalahan yang sering dilakukan oleh pelajar adalah kesilapan memilih punca, dan kecuaian dalam penggunaan tanda positif dan negatif. Kebanyakan pelajar tidak dapat melakukan Pemfaktoran Persamaan Kuadratik menggunakan kaedah konvensional iaitu Kaedah Darab Silang. Merujuk kepada Wahyudi, Purwanto, & Mulyati (2014), subtopik Persamaan Kuadrat sememangnys dianggap sukar bagi para pelajar. Dapatan melalui temubual yang telah dilakukan juga, pelajar mengatakan Kaedah Darab Silang agak sukar untuk dikuasai memandangkan kaedah tersebut adalah secara cuba jaya sehingga menyebabkan segelintir pelajar mudah berputus asa apabila perlu mencuba berulang kali sebelum berjaya mendapat jawapan akhir. Masalah terus berlarutan apabila para pelajar sering keliru dengan penggunaan tanda negatif dan positif serta penggunaan tanda silang yang dipakai. Persepsi bahawa "matematik itu susah" juga membuatkan mereka malas untuk meneruskan cubaan menjawab soalan. Justeru itu, satu kajian perlu dijalankan dalam usaha untuk mencari kaedah yang lebih mudah bagi melakukan Pemfaktoran Persamaan Kuadratik.

Metodologi

Kajian ini menggunakan Model Kajian Tindakan yang dibangunkan oleh Lewin pada tahun 1946 sebagai rekabentuk kajian yang melibatkan seramai 30 orang pelajar tingkatan 2 di sebuah sekolah menengah di daerah Kluang. Para pelajar ini telah didedahkan dengan kaedah konvensional iaitu Kaedah Darab Silang dalam pembelajaran Pemfaktoran Persamaan Kuadratik dalam kelas. Menerusi kajian tindakan ini, kaedah CPR diperkenalkan bagi membantu pelajar memahami serta meningkatkan tahap kemahiran Pemfaktoran Persamaan Kuadratik. Ujian pra dan ujian pasca dijalankan sebelum dan selepas kaedah CPR diperkenalkan kepada pelajar. Ujian-ujian tersebut dianalisis secara deskriptif. Terdapat 4 langkah yang diikuti dalam menjalankan kajian ini iaitu menjalankan tinjauan awal, merancang tindakan, melaksana tindakan dan memerhati serta mereflek.

Tinjauan awal

Satu ujian pra telah ditadbir untuk melihat skor pencapain pelajar menggunakan Kaedah Darab Silang dalam melakukan Pemfaktoran Persamaan Kuadratik. Skor pencapaian pelajar di dalam ujian pra direkod dan dianalisis. Dapatan Ujian pra mendapati kesemua pelajar tidak mencapai markah minimum 40%. Dapatan ini akan digunakan sebagai dokumen kawalan untuk membuktikan tahap pemahaman pelajar sememangnya lemah dalam melakukan Pemfaktoran Persamaan Kuadratik menggunakan Kaedah Darab Silang.

Merancang Tindakan

Satu sesi pengajaran dan pembelajaran untuk memperkenalkan satu kaedah alternatif bagi melakukan Pemfaktoran Persamaan Kuadratik menggunakan Kaedah CPR telah dijalankan. Turutan langkah melakukan Pemfaktoran Ungkapan Kuadratik menggunakan Kaedah CPR adalah :

Contoh soalan : $x^2 - 6x + 9$
Langkah 1: Memilih pemalar ("Constant", C)
Pemalar adalah nombor tanpa ungkapan algebra (berada di bahagian akhir soalan). Pemalar bagi contoh soalan adalah 9. (C = 9).
Langkah 2: Mencari hasil darab dan hasil tambah pemalar ("Product & Plus", P)
Menyenaraikan seberapa mungkin hasil darab dua nombor yang mendapat jawapan yang sama dengan pemalar. Dalam contoh soalan ini, hasil darab dua nombor yang mendapat jawapan 9 perlu dicari dan diletak secara menegak ke bawah (P = 3x3, -3x-3, 1x9 dan -1x-9)

	3	-3	1	-1
	3	-3	9	-9

Kemudian tambah dua nombor yang telah ditulis secara menegak itu tadi. (3+3 =6, -3+(-3)=(-6), 1+9=10 dan -1+(-9)= (-10)

	3	-3	1	-1
=	+ 6 3	-6 -3	10 9	-10 -9

Langkah 3: Memilih keputusan ("Result", R)

Daripada hasil tambah yang telah dilakukan, pelajar harus memilih keputusan yang sama dengan nilai pekali x. Dalam contoh soalan, nilai pekali x ialah -6. Melalui langkah 2, pasangan nombor yang perlu dipilih adalah -3 dan -3 kerana apabila di tambah mendapat jawapan -6.

Jawapan akhir dibuat dengan menyediakan dua kurungan. Masukkan simbol algebra di sebelah depan kedua-dua kurungan. Dalam contoh soalan ini, algebra yang digunakan adalah x. Kemudian, masukan pasangan nombor yang telah dipilih tadi. Itulah jawapan yang dicari bagi menyelesaikan contoh soalan ini iaitu (x-3) (x-3).

Melaksanakan dan Memerhati

Aktiviti 1: Memperkenalkan Kaedah CPR dalam melakukan Pemfaktoran Persamaan Kuadratik. Pelajar diajar dan diterangkan langkah demi langkah untuk melakukan Pemfaktoran Persamaan Kuadratik menggunakan Kaedah CPR. Soalan latihan diberikan selepas selesai sesi pengajaran dan pembelajaran.

Pemerhatian Aktiviti 1: Berdasarkan soalan latihan yang diberikan, pelajar dapat menyelesaikan Pemfaktoran Persamaan Kuadratik menggunakan Kaedah CPR dan mendapat jawapan yang betul dalam masa yang sangat singkat.

Refleksi Aktiviti 1: Setelah menggunakan Kaedah CPR, maklum balas yang diterima adalah, pelajar mendapati kaedah CPR lebih senang berbanding Kaedah Darab Silang dan kurang mengelirukan.

Aktiviti 2: Selepas sesi pengajaran dan pembelajaran dengan menggunakan kaedah CPR telah dijalankan, ujian pasca telah ditadbirkan kepada pelajar. Soalan Ujian pasca adalah sama dengan Ujian Pra. Skor pencapaian Ujian pasca kemudiannya direkod dan dianalisis.

Pemerhatian Aktiviti 2: Berdasarkan keputusan ujian pasca, didapati terdapat peningkatan skor pencapaian bagi semua pelajar berbanding ujian pra.

Refleksi Aktiviti 2: Melalui perbandingan analisis ujian pra dan ujian ulang pos, didapati semua pelajar berjaya meningkatkan skor pencapaian. Perkembangan yang sangat positif ini sudah cukup membuktikan bahawa Kaedah CPR adalah bersesuaian dengan tahap kemahiran pelajar sebagai kaedah alternative menggantikan Kaedah Darab Silang.

Mereflek

Perbezaan skor pencapaian yang ketara antara ujian pra dan ujian pasca, membuktikan bahawa Kaedah CPR yang diperkenalkan sememangnya dapat membantu pelajar dalam melakukan Pemfaktoran Persamaan Kuadratik. Objektif kajian untuk meningkatkan tahap kemahiran Pemfaktoran Persamaan Kuadratik pelajar juga telah tercapai.

Dapatan dan Perbincangan

Bagi tujuan perbandingan data, Microsoft Excel 2010 digunakan untuk mendapatkan purata skor pencapaian pelajar. Analisis skor pencapaian ujian pra dan ujian pasca menunjukkan terdapat perbezaan yang ketara. Dapatan ini jelas menunjukkan bahawa berlaku peningkatan tahap pemahaman pelajar dalam melakukan Pemfaktoran Persamaan Kuadratik berbanding Kaedah Darab Silang. Merujuk kepada Hutkemri dan Enny (2018), apabila pelajar membentuk andaian yang salah dalam memahami pelajaran, mereka juga membangunkan konsep yang salah dan sekaligus mereka gagal menguasai lantaran menganggap terlalu sukar untuk dipelajari. Pelajar mendapati matematik sukar kerana mereka tidak memahami konsep matematik (Botty et al., 2015).
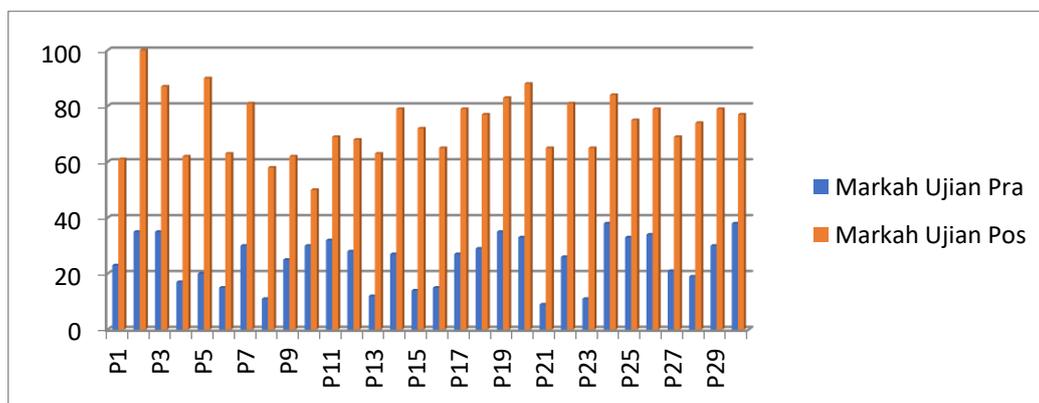
Rajah 1. Analisis Ujian pra dan Ujian Pasca

Seperti yang ditunjukkan dalam Rajah 1, skor pencapaian semua pelajar dalam ujian pra adalah sangat rendah. Peratusan minima yang diperoleh adalah 9% manakala 38% untuk maksimum dalam ujian pra. Kesemua

skor pencapaian dalam ujian pra tidak melepasi peratusan minimum 40% iaitu gred minimum untuk Pentaksiran Tingkatan 3 (PT3). Purata peratus ujian pra hanya 25%. Ini bermakna, proses sesi pengajaran dan pembelajaran untuk menggunakan kaedah konvensional iaitu Kaedah Darab Silang tidak dapat dilakukan oleh pelajar. Sebaliknya, analisis skor pencapaian Ujian Pasca pelajar adalah lebih tinggi dengan peratus minimum 50% dan maksimum 100% dengan purata keseluruhan 73.5%. Dapatan kajian ini terbukti dapat meningkatkan tahap pemahaman pelajar dengan menggunakan Kaedah CPR.

Kesimpulan

Penggunaan Kaedah CPR sebagai kaedah alternatif untuk melakukan Pemfaktoran Persamaan Kuadratik dapat meningkatkan tahap kemahaman pelajar apabila mereka berjaya mencapai skor pencapaian yang lebih tinggi di dalam ujian pasca berbanding ujian pra. Sebagai cadangan, kaedah CPR juga boleh diguna pakai oleh para guru matematik yang lain kerana kaedah ini bukan sahaja dapat mengurangkan kekeliruan pelajar dalam memilih punca, tanda negatif dan positif malah menjimatkan masa untuk menjawab soalan. Hasil kajian ini juga telah menunjukkan perkembangan positif yang diharapkan apabila pada awalnya semua pelajar yang tidak dapat menguasai kaedah konvensional iaitu Kaedah Darab Silang telah menunjukkan peningkatan skor pencapaian. Oleh yang demikian, kajian seterusnya boleh dilakukan untuk Pemfaktoran Persamaan Kuadratik yang mempunyai pekali kuadratik, a yang lebih besar daripada 1 untuk tajuk Ungkapan dan Persamaan Kuadratik bagi Tingkatan 4.

Rujukan

Bahagian Perancangan dan Penyelidikan Dasar Pendidikan (BPPDP) Malaysia (2008). Buku manual kajian tindakan (3rd ed). Kuala Lumpur, Malaysia: Ministry of Education, Malaysia.

Botty, Taha, Shahrill, M., & Mahadi, M. A. (2015). Connecting students' achievements with attitudes, the teachings and study habit. Mediterranean Journal of Social Sciences, 6(4 S1), 113-119.

Griffiths & A.G.Howson (1974). Mathematics: Society and curricula. Cambridge: Cambridge University Press.

Hutkemri Zulnaidi & Enny Oktavika (2018) The effect of Geogebra on students' misconceptions of limit function topic. Jurnal Kurikulum & Pengajaran Asia Pasifik Januari, 6(1).

Kementerian Pendidikan Malaysia (KPM), Kurikulum Standard Sekolah Menegah (2016). Matematik Dokumen Standard Kurikulum dan Pentaksiran (DSKP) Tingkatan 2. Putra Jaya : Bahagian Pembangunan Kurikulum.

Sari, P. (2017). Pemahaman Konsep Matematika Siswa pada Materi Besar Sudut Melalui Pendekatan PMRI. Jurnal Gantang, 2(1), 41-50.

Wahyudi, W., Purwanto, P., & Mulyati, S. (2014). Penalaran Matematis Siswa Berkemampuan Tinggi Dan Rendah Dalam Menyelesaikan Persamaan Kuadrat. Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan, 1(7), 1287-1296.

Amalan Kepimpinan Sekolah dalam memantapkan keberkesanan Kumpulan Sokongan Ibu Bapa (KSIB) di Sekolah

Mazalizan Salim[1], Hamdan Said[2], Haslina Said[3], Mahazad Ab Majid[4]

[1,2] Sekolah Pendidikan, Fakulti Sains Sosial dan Kemanusiaan, Universiti Teknologi Malaysia
[3] Institut Aminuddin Baki (IAB), Bandar Enstek, Nilai
[4] Institut Perguruan Guru Kampus Temenggong Ibrahim

E-mail: mazalizansalim@gmail.com[1], p-hamdan@utm.my[2], haslina@iab.edu.my[3], mahazad74@gmail.com[4]

Abstrak: Sistem sokongan bersepadu memerlukan pihak sekolah perlu membina perkongsian dengan ibu bapa dan membangun tanggungjawab bersama bagi kejayaan anak-anak dalam sistem pendidikan. Penglibatan dan usaha tinggi ibu bapa menyokong sekolah akan meninggalkan kesan impak positif kepada sistem pendidikan yang berjaya. Melihatkan kepentingan penglibatan ibu bapa yang tinggi di sekolah, menjadi peranan utama amalan kepimpinan sekolah meletakkan elemen ini sebagai sumber kekuatan untuk bersama-sama menerajui sekolah ke arah kecemerlangan dan kemenjadian murid secara amnya. Dapatan kajian dari dua buah sekolah Zon Pasir Gudang menunjukkan wujudnya penglibatan ibu bapa melalui kefungsian Persatuan PIBG dalam memperkasakan Kumpulan Sokongan Ibu bapa (KSIB) di sekolah berkenaan. Dapatan respondan melalui instrumen kajian soal selidik dan temu bual telah mengukuhkan wujudnya jalinan yang baik antara dua elemen ini dalam KSIB di sekolah berkenaan. Kehadiran, sokongan dan sukarelawan ibu bapa dalam KSIB terhadap program keibubapaan melibatkan kurikulum, kokurikulum dan program sahsiah di sekolah amat memberangsangkan. Peranan besar mereka seharusnya bersifat berterusan dalam proses pendidikan dengan sokongan amalan kepimpinan yang berkesan.

Kata Kunci: kepimpinan sekolah, penglibatan ibu bapa, PIBG, KSIB

Pengenalan

Sekolah sebagai institusi sosial berperanan besar dalam melahirkan dan menghasilkan pendidikan berkualiti. Amalan kepimpinan yang berkesan dilihat sebagai keupayaan seseorang Pengetua Guru Besar (PGB) dapat menjangka, membayangkan, mengekalkan fleksibiliti, berfikir secara strategik dan mewujudkan amalan kepimpinan terbaik dalam melonjakkan kecemerlangan sekolah (Bibi Sakinah, 2013). Menurut Abd Ghani (2009), cabaran bagi PGB sebagai pemimpin yang bertanggungjawab di mana mempunyai kompetensi atau kualiti diri, berfokuskan kualiti dan bersikap proaktif namun tidak mengenepikan isu-isu kemanusiaan sebagaimana yang turut dinyatakan dalam elemen kepimpinan menurut perspektif Islam. PGB yang berkongsi amalan kepimpinan, mampu bekerjasama di bawah satu pasukan, lebih terarah dan berani memulakan perubahan akan berjaya mencipta masa depan yang lebih maju untuk organisasi (Mohamad Isa, 2018). Sehubungan itu pihak sekolah perlu mengambil peluang atas hubungan yang sedia ada untuk mewujudkan 'chemistry" antara pihak sekolah dengan ibu bapa. Hubungan yang akrab kedua-dua elemen ini akan membuka peluang-peluang yang sedia wujud untuk mendapatkan bantuan, sokongan dan kerjasama demi kebaikan sistem pendidikan di sekolah. Pemimpin sekolah era globalisasi yang dimaksudkan oleh Abd Ghani (2009) seharusnya memiliki tiga kekuatan dan keterampilan generik iaitu keterampilan konseptual, keterampilan kemahiran dan keterampilan hubungan, jaringan atau rangkaian. Semua kemahiran ini jika diamalkan, berupaya menjadikan pemimpin yang lebih berkesan. Keupayaan kemahiran dan amalan pemimpin ini akan membawa ibu bapa dan sekolah berhubung secara intelektual dalam mencapai visi dan misi sekolah.

Sokongan dan kerjasama ibu bapa memainkan peranan penting dalam menjadikan sekolah hebat dan berjaya. Para ibu bapa dan ahli komuniti setempat dilihat berpotensi besar dalam membantu pihak sekolah terlibat secara fizikal dan teknikal untuk mencapai hasrat kecemerlangan tersebut. Kajian dan penyelidikan yang ada ternyata amat konsisten dalam menunjukkan bahawa sekolah cemerlang dan berkesan diterajui oleh pentadbir dan guru-guru yang bersedia melakukan perubahan dengan kerjasama yang padu daripada ibu bapa. Sejajar untuk menghasilkan pendidikan berkualiti, sokongan dan kerjasama ibu bapa memainkan peranan penting untuk menjadikan sesebuah sekolah itu hebat dan berjaya.

Kejayaan dan kecemerlangan melalui pemuafakatan bersama ibu bapa dalam persatuan dengan pihak sekolah turut dapat dilihat melalui KSIB, memberi sokongan pelbagai bentuk seperti kewangan bagi menampung kos pelaksanaan, sumbangan tenaga dan kemahiran serta kepakaran dalam program-program yang melibatkan kecemerlangan akademik, kokurikulum dan sahsiah murid. Menurut Alimuddin (2006), kekuatan sokongan persatuan ibu bapa secara tidak langsung memudahkan pihak guru mengendalikan pelbagai aktiviti apabila setiap aktiviti yang dilaksanakan mendapat sokongan dan kebenaran daripada pihak ibu bapa. Selain bantuan dari segi kewangan, pihak sekolah boleh mendapatkan sokongan moral dan khidmat nasihat kepakaran daripada ibu bapa yang sentiasa inginkan sekolah anak-anak mereka berjaya dan berdaya saing di peringkat lebih tinggi.

Keaktifan Persatuan PIBG dan keberkesanan KSIB dapat dilihat sejauhmana penglibatan Ibu bapa dalam menyokong sistem pendidikan sekolah. Berpandukan Surat Pekeliling Ikhtisas Bil 5/2001 dengan jelas menekankan

peranan PIBG adalah bertujuan untuk mewujudkan permuafakatan antara ibu bapa dan sekolah. Sarana Ibu Bapa dan Sarana Sekolah (2013) telah menjelaskan antara peranan PIBG adalah mewujudkan satu sistem komunikasi yang membina hubungan baik antara pihak sekolah dengan ibu bapa melalui memperkasakan KSIB di sekolah masing-masing. Melalui permuafakatan seumpama ini diharapkan dapat membina kesefahaman dengan lebih jelas tentang tugas dan tanggungjawab bersama dalam usaha meningkatkan pembelajaran murid di sekolah. Mohd Fuad (2007) menjelaskan perwujudan PIBG sebenarnya adalah usaha untuk membina muafakat dalam pendidikan. Mohamad Isa (2018) turut menyatakan sekolah perlu mempunyai hubungan yang mantap dan akrab dengan ibu bapa kerana kejayaan sistem pendidikan negara bergantung kepada sejauh mana semua elemen itu dapat berfungsi, saling melengkapi dan membantu antara satu sama lain. Bukan sahaja kepimpinan sekolah, malahan ibu bapa melalui KSIB ini wajar memperlengkapkan diri dan minda dengan info terkini seperti ilmu pengetahuan, pelbagai kemahiran seperti kemahiran berkomunikasi dan kemahiran perhubungan sesama manusia dalam kepimpinan ke arah kesatuan.

Menurut Agata Mleczke (2013), kepimpinan sekolah yang kuat akan mendorong penglibatan ibu bapa dalam aktiviti dan sukarelawan sekolah untuk meningkatkan pencapaian akademik murid dari semasa ke semasa. Penemuannya dan beberapa kajian yang lain membuktikan bahawa peranan pemimpin sekolah amat penting dalam pengenalan, pelaksanaan dan kesinambungan penyelesaian yang memberi tumpuan kepada penglibatan ibu bapa serta membawa manfaat kepada perpaduan masyarakat komuniti setempat. Tumpuan utama dalam penyelesaian masalah ini jika diambil peduli, sudah pasti permasalahan lain yang melibatkan anak-anak di sekolah dapat diselesaikan dan dirungkaikan dengan baik. Kejayaan misi membangunkan modal insan menurut Bibi Sakinah (2013) iaitu murid-murid bukan hanya terletak di bahu pihak sekolah mahupun kerajaan, tetapi harus didokong sama oleh ibu bapa. Jaringan dan jalinan hubungan yang baik antara pihak sekolah dengan ibu bapa serta komuniti luar dalam aspek sukarelawan amat penting dalam pengurusan kecemerlangan sekolah. Menurutnya lagi, sekiranya tumpuan kehadiran ibu bapa dan sokongan yang berterusan kepada sekolah melalui hubungan ukhwah erat antara ibu bapa dengan pihak sekolah, sudah pasti kejayaan anak-anak dapat dipertingkatkan melaluinya.

Latar Belakang Masalah

Hubungan manusia amat penting bagi menjamin kestabilan dan keharmonian dalam sistem pendidikan. Guru besar orang yang bertanggungjawab mewujudkan suasana harmoni, bukan sahaja dengan pihak kakitangan bawahannya bahkan dengan semua ibu bapa dan masyarakat sekelilingnya. Guru besar yang tidak mahir dalam hubungan interpersonal pasti menghadapi masalah untuk mendapatkan kerjasama bukan sahaja dalam warga sekolah malah turut daripada ibu bapa sendiri. Menurut Teoh Cheng Moi (2018), pada Kolokium Amalan Baik Pengetua Guru Besar (PGB) Kebangsaan, terdapat kajian segelintir PGB sering kelihatan mengabaikan hubungan manusia apabila dilantik ke jawatan tersebut. Menurutnya lagi PGB tidak bersikap terbuka dan menunjukkan sikap pasif khususnya semasa menghadapi masalah pengurusan terutama apabila urusan dan perkara berkenaan berkaitan dengan ibu bapa. Dapatan kajian oleh Institut Aminuddin Baki (2013) melaporkan bahawa dalam beberapa situasi ada PGB kelihatan masih kurang proaktif, kurang kreatif, kurang inovatif, sering kali hilang fokus dan tumpuan terhadap matlamat sebenar pengurusan kerana sering menghadapi masalah yang sama. Wee Eng Lee (2002) turut menyatakan terdapat segelintir PGB tidak bersikap terbuka dan menunjukkan sikap pasif khususnya semasa menghadapi masalah pengurusan di sekolah. Apakah permasalahan kepimpinan seseorang PGB itu wujud disebabkan oleh kurangnya kursus kepimpinan yang dihadiri atau adakah kerana personaliti yang melibatkan sikap, etika dan gaya amalan kepimpinan yang tidak menjurus kepada corak kepimpinan yang berkesan?.

Sekolah sebagai institusi sosial tidak wujud bersendirian. Kualiti sekolah bukan sahaja diukur kepada kekuatan akademiknya tetapi merangkumi jaringan hubungan yang istimewa dengan ibu bapa. Hubungan manusia atau interpersonal penting dalam menggerakkan sesebuah organisasi (Rafeah, 2018). Oleh itu, permuafakatan bersama komuniti amat penting untuk membawa kejayaan dan kecemerlangan sesebuah sekolah. Menurut Pam dan Harvey (1995), seringkali pemimpin sekolah dan guru dilihat kurang berinteraksi dengan ibu bapa atau melihat hubungan tersebut sebagai bukan satu keutamaan. Ini dikukuhkan lagi dengan dapatan kajian Zainon (2009) hubungan yang terjalin antara pihak sekolah dengan ibu bapa berada pada tahap kurang memuaskan di mana kehadiran ibu bapa ke sekolah kajiannya antara 44 hingga 65 peratus sahaja. Dapatan sumber dari data Pejabat Pendidikan Daerah (PPD) Pasir Gudang pada Mesyuarat Agung PIBG 2017, kehadiran ibu bapa pada mesyuarat agung di sekolah kebangsaan Zon Pasir Gudang yang melibatkan lapan buah sekolah berada pada tahap sederhana baik. Pencapaian kehadiran direkodkan adalah antara 48 hingga 76 peratus dan bilangan kehadiran ibu adalah lebih ramai dari kaum bapa. Ini disebabkan wujud beberapa perkara yang menjadi halangan kepada kehadiran mereka ke sekolah. Halangan – halangan tersebut merupakan cabaran yang perlu ditangani oleh kepimpinan sekolah agar penglibatan ibu bapa dapat dipertingkatkan dari semasa ke semasa. Bukti melalui respondan juga berpendapat hubungan antara ibu bapa dengan pihak sekolah terutama dalam aspek komunikasi yang sederhana bergantung kepada tahap pendidikan ibu bapa itu sendiri. Pelbagai permasalahan antara pihak sekolah dengan ibu bapa telah wujud terutama dalam aspek ketidakpuasan hati dengan pengurusan sekolah sama ada disuarakan melalui media massa, laporan polis hingga kepada tindakan guaman (Zainon & Ahmad, 2009). Kini, penularan ketidakpuasan hati ibu bapa sering dilontarkan melalui saluran capaian internet yang mudah seperti '*WhatsApp*'', "*Facebook*'' mahupun telegram, tanpa melalui perbincangan dan pertemuan dua hala dengan pihak pengurusan sekolah.

Seharusnya perkara-perkara ini tidak boleh berlaku berterusan dalam iklim sekolah. Manfaat yang besar akan diperolehi oleh semua warga sekolah, murid-murid dan ibu bapa sekiranya wujud hubungan yang baik

antara pihak sekolah dan ibu bapa bermula dengan komunikasi yang sihat. Sekolah melalui amalan kepimpinan guru besar perlu mempunyai hubungan yang mantap dan akrab dengan ibu bapa kerana kejayaan sistem pendidikan negara bergantung kepada sejauh mana semua elemen itu dapat berfungsi, saling melengkapi dan saling membantu antara satu dengan yang lain (Jamil dan Rahimah, 2007). Dari itu, hubungan yang baik perlu dipertingkatkan dari semasa ke semasa sehingga matlamat dan tujuan yang sama tercapai. Sekolah cemerlang dan berkesan melalui amalan guru besar perlu proaktif dalam membina hubungan dengan ibu bapa. Setiap isu sekolah perlukan perbincangan yang baik sama ada berkaitan dengan program-program sekolah yang baru atau tentang laporan perkembangan anak-anak mereka.

Kewujudan dan kefungsian golongan ibu bapa sering dijadikan aset-aset terakhir dalam faktor untuk mencapai kecemerlangan. Sumber manusia ini sering dijadikan hanya sebagai sumber sandaran bukannya sumber kekuatan yang utama. Namun jika diselidiki, elemen kekuatan ini iaitu ibu bapa sebenarnya memiliki pelbagai kemahiran dan kepakaran tertentu yang sedikit sebanyak boleh membantu dalam menyokong kecemerlangan sekolah. Jika di sekolah luar bandar, ibu bapa selalunya mahir dalam pertukangan, pembinaan, penjahitan dan memasak. Manakala kepakaran, kelebihan dan keilmuan yang dimiliki oleh ibu bapa di kawasan bandar seperti kekuatan kewangan, pengaruh kekuasaan dan pemilikan. Malahan ada ibu bapa yang berkebolehan dalam melatih murid-murid dalam bidang sukan dan fasilitator akademik. Elemen kekuatan inilah yang perlu dilihat oleh kepimpinan sekolah dalam skop yang lebih besar.

Adalah amat merugikan jika semua kekuatan yang ada pada ibu bapa ini tidak dipandang dan dimanfaatkan oleh guru besar sepenuhnya sedangkan penglibatan positif mereka adalah suatu faktor yang memberikan kesan baik pada jangka masa yang singkat mahupun panjang. Kajian-kajian oleh Epstein, J.L (1995,2001,2002,2013,2009) mendapati bahawa, penglibatan ibu bapa dan komuniti dalam dunia pendidikan dapat meningkatkan keyakinan para guru dan pencapaian murid kerana ibu bapa merasakan mereka sebahagian daripada golongan yang dipercayai oleh pihak sekolah untuk mencapai kecemerlangan sahsiah murid. Penglibatan Ibu bapa yang bermula dari rumah dalam membantu pembelajaran akademik murid menyebabkan anak-anak akan lebih merasakan kasih sayang dan perhatian ibu bapa, impaknya murid-murid akan berusaha menunaikan impian dan harapan mereka. Menurut Bibi Sakinah (2013), perwujudan semua persatuan sebenarnya adalah usaha membina muafakat dalam pendidikan. Tanpa muafakat dan persefahaman yang lebih jelas, hala tuju, visi dan misi sesebuah sekolah akan menjadi satu impian sahaja. Menurut Alimuddin (2006), kekuatan sokongan KSIB secara tidak langsung memudahkan pihak guru mengendalikan pelbagai aktiviti apabila setiap aktiviti yang dilaksanakan mendapat sokongan dan kebenaran daripada pihak ibu bapa. Selain bantuan kewangan, pihak sekolah boleh mendapatkan sokongan moral dan khidmat nasihat kepakaran daripada ibu bapa yang sentiasa inginkan sekolah anak-anak mereka berjaya dan berdaya saing di peringkat lebih tinggi.

Metodologi

Kajian tinjauan jenis deskriptif yang menggunakan data kuantitatif telah digunakan. Bentuk kajian ini dipilih untuk mendapatkan maklumat dari sampel yang besar. Melalui kajian deskriptif, data yang dikutip dari statistik asas seperti min, frekuensi, sisihan piawaian dan taburan skor melalui seluruh populasi. Sampel seramai 176 orang yang terdiri daripada guru penolong kanan, guru, kakitangan sokongan dan jawatankuasa ibu bapa dari dua buah sekolah kebangsaan Zon Pasir Gudang yang terkenal dengan kecemerlangan PIBG melalui penglibatan ibu bapa yang memberangsangkan dalam KSIB. Penggunaan borang soal selidik dan temu bual sebagai instrumen kajian dipercayai ketelusannya apabila maklumat yang diperlukan diperolehi secara terus daripada pemberi maklumat. Untuk menyokong kajian ini, maka kaedah temu bual digunakan dan dua orang guru besar dipilih sebagai sampel temu bual dan perisian statistik berkomputer SPSS (Statistical Packages For The Social Science) versi 13.0 digunakan untuk menganalisis data kuantitatif.

Dapatan dan Perbincangan

Jadual 1. Min Dan Sisihan Piawai Amalan Kepimpinan Guru Besar dan penglibatan Ibu Bapa dalam KSIB

Bil	Item	Skor Min Keseluruhan	Tafsiran Min	Sisihan Piawai
1	Guru besar mengamalkan komunikasi yang baik sebagai pendekatan mesra terhadap ibu bapa	4.50	Tinggi	0.619
2	Guru besar berkongsi visi, misi dan hala tuju sekolah kepada ibu bapa	4.04	Tinggi	0.748
3	Guru besar memberikan maklumat program dan aktiviti melalui pelbagai saluran	4.12	Tinggi	0.629
4	Guru besar berkongsi kejayaan program yang melibatkan murid dan sekolah kepada ibu bapa	4.31	Tinggi	0.675
5	Guru besar sentiasa hargai penglibatan dan sumbangan ibu bapa terhadap sekolah	4.07	Tinggi	0.717
6	Ibu bapa sentiasa memberi maklum balas terhadap makluman program yang dijalankan	3.81	Tinggi	0.793
7	Ibu bapa mengamalkan budaya bermusyawarah dalam KSIB untuk program sekolah	3.74	Tinggi	0.891
8	Ibu bapa kerap hadir ke sekolah sebagai peserta	3.73	Tinggi	0.873

	dalam program keibu bapaan			
9	Ibu bapa mendaftar sebagai ahli sukarelawan dalam KSIB	3.63	Sederhana	0.839
10	Ibu bapa hadir sebagai sukarelawan sekolah seperti AJK dan Fasilitator program sekolah	3.54	Sederhana	0.914
	Purata Keseluruhan	3.95	Tinggi	0.769

Jadual 2. Analisis Temu bual – Amalan Kepimpinan Guru Besar dengan Penglibatan Ibu Bapa dalam KSIB

Bil	Item Hubungan	Guru Besar A	Guru Besar B
1	Wujud hubungan baik antara sekolah dengan ibu bapa	/	/
2	Amalan hubungan baik dan berkesan secara konsisten dan berterusan tingkatkan penglibatan ibu bapa ke sekolah	/	/
3	Wujud penyertaan aktif ibu bapa sebagai sukarelawan dalam program sekolah	/	/
4	Amalan GB menghargai dan meraikan sumbangan dan kerjasama ibu bapa di sekolah	/	/

Berdasarkan dapatan kajian ini, didapati respondan memberi persepsi wujudnya hubungan yang baik antara sekolah dengan ibu bapa dan keberkesanan KSIB berada pada tahap tinggi. Respondan memberi maklum balas bersetuju bahawa melalui amalan kepimpinan guru besar yang berkesan telah berjaya membina hubungan baik dan mengaktifkan penglibatan ibu bapa melalui memperkasakan persatuan KSIB di sekolah. Antara amalan kepimpinan sekolah yang telah diakui oleh respondan ialah pihak sekolah telah mengamalkan pendekatan yang mesra seperti berkomunikasi dengan baik, memaklumkan setiap program dan aktiviti melalui pelbagai saluran, guru besar berkongsi dengan ibu bapa tentang visi, misi dan hala tuju sekolah, malahan dapatan tafsiran min yang tinggi menunjukkan amalan guru besar berkongsi kejayaan program yang melibatkan murid dan sekolah kepada ibu bapa dan amalan guru besar yang sentiasa menghargai setiap penyertaan dan sumbangan ibu bapa kepada sekolah.

Melalui dapatan temu bual dalam rajah 2, kedua-dua orang guru besar berpendapat bahawa melalui jaringan hubungan yang baik dan berkesan antara pihak sekolah dengan ibu bapa akan menggalakkan penglibatan dan penyertaan mereka dalam program yang menjurus kepada kecemerlangan sekolah. Mereka bersetuju bahawa melalui beberapa pendekatan yang dijadikan amalan kepimpinan akan dapat meningkatkan penglibatan ibu bapa secara tidak langsung. Antaranya kaunter mesra pelanggan, pengunaan laman web dan peti cadangan yang sedia ada di sekolah akan dipastikan keberkesanannya secara berterusan. Kedua-duanya bersependapat bahawa pemimpin sekolah perlu bersedia memberi komitmen dalam amalan kepimpinan mereka iaitu menerima secara baik dan menambahbaik sedaya upaya. Mereka juga bersetuju bahawa sebagai guru besar, perlu bersedia mengadakan perbincangan untuk menyelesaikan sesuatu masalah yang timbul dengan ibu bapa melalui permulaan komunikasi yang baik.

Dapatan respondan bahawa ibu bapa kedua-dua sekolah berkenaan sentiasa memberi maklum balas terhadap makluman program yang hendak dijalankan oleh pihak sekolah. Diikuti dengan item amalan ibu bapa membudayakan musyawarah antara mereka dalam persatuan KSIB bagi menjayakan program-program sekolah malahan skor tafsiran min juga tinggi bagi item ibu bapa yang hadir ke sekolah sebagai peserta dalam program keibubapaan yang dirasakan oleh ibu bapa sangat memberi manfaat kepada mereka dalam membangunkan kecemerlangan anak-anak secara berterusan. Dua item yang menunjukkan tafsiran min sederhana ialah pada sistem analisis Sarana Ibu bapa mendaftar sebagai ahli sukarelawan dalam KSIB dan ibu bapa dapat hadir sebagai sukarelawan sekolah seperti AJK dan Fasilitator program sekolah. Melihatkan nilaian min yang sederhana ini, kajian mendapati wujudnya halangan-halangan yang menyebabkan sebahagian ibu bapa tidak dapat menyertai program anjuran sekolah. Antaranya kekangan masa, ekonomi keluarga, pekerjaan yang membataskan keadaan, tanggungjawab kepada ahli keluarga yang lain, sikap dan sebagainya. Dapatan dari soalan terbuka respondan juga mendapati bahawa wujud komunikasi yang kurang memuaskan antara ibu bapa dengan sekolah disebabkan bergantung kepada tahap pendidikan ibu bapa itu sendiri. Bukti ini turut disokong dalam dapatan kajian Zainon (2009). Namun begitu, amalan kepimpinan guru besar dalam memperkasakan KSIB di sekolah berkenaan tetap dipertingkatkan dari semasa ke semasa. Penambahbaikan akan segera dilakukan setelah mengadakan '*post mortem*' sejurus selepas sesuatu program sekolah diadakan.

Secara keseluruhan, kedua-dua sekolah di daerah Pasir Gudang ini telah berjaya memperkasakan persatuan KSIB melalui PIBG yang aktif dengan disokong sepenuhnya oleh guru besar di sekolah terbabit. Peranan ibu bapa sebagai AJK dan fasilitator dalam program sekolah telah menyebabkan motivasi anak-anak di sekolah berkenaan semakin meningkat. Keadaan ini terbukti apabila program motivasi murid tahun enam dijalankan di kedua buah sekolah berkenaan, didapati ibu bapa boleh bertindak sebagai AJK makanan, AJK tempat dan persiapan, AJK keselamatan, AJK kebersihan dan lain-lain lagi. Malahan kesemua keceriaan kelas dan kebajikan murid telah disokong sepenuhnya oleh ibu bapa yang sentiasa perihatin akan keperluan pembelajaran anak-anak mereka di sekolah. Salah sebuah sekolah yang dikaji turut didapati, ada ibu bapa secara persendirian telah membelanjakan sejumlah wang besar kepada keperluan sekolah seperti membeli beberapa alat penghawa dingin untuk kelas, bilik khas dan bilik guru di sekolah. Malahan ibu bapa dan ahli keluarga terdekat murid yang mempunyai kepakaran tertentu pernah menjadi fasilitator dalam program sekolah. Ini semua merupakan pendekatan terbaik yang digunakan dalam kepimpinan guru besar di sekolah berkenaan dalam memperkasakan persatuan KSIB di sekolah mereka. Kejayaan demi kejayaan berjaya dicapai oleh murid dan sekolah berkenaan

dalam bidang kurikulum, kokurikulum dan sahsiah murid. Perkara ini diakui oleh JPN, PPD, NGO malahan komuniti setempat yang rata-rata sangat berbangga dengan sekolah berkenan. Pelbagai anugerah yang diterima hingga ke peringkat antarabangsa seperti program *'ecolife'* satu usahasama program kitar semula bersama Negara Jepun. Inilah impak dari hubungan yang baik dan kerjasama secara berterusan antara kepimpinan sekolah dengan ibu bapa secara amnya. Dapatan kajian ini disokong dengan kenyataan Bity Salwana (2010) bahawa kewujudan dan keberlangsungan sesebuah organisasi terutama sekolah itu banyak bergantung kepada hubungan, sikap dan gelagat serta kesediaan kepimpinannya terhadap hubungan sesama manusia.

Melalui sorotan kajian ini, dapatlah ditafsirkan bahawa melalui sistem pendidikan kini, sekolah dan ibu bapa perlu mempunyai peranan yang saling berhubungan dan menyokong dalam membentuk generasi warisan negara. Sekolah dan keluarga bekerjasama untuk meningkatkan pembelajaran, murid akan cenderung untuk terus unggul bukan sahaja di sekolah, tetapi juga sepanjang hayat mereka, (Henderson & Berla, 1994; Patricia, 2017). Ibu bapa perlu menyedari bahawa pendidikan merupakan aset penting untuk membangunkan sesebuah keluarga dan masyarakat yang membina ke arah ketamadunan. Melalui penglibatan ibu bapa yang aktif ini, sedikit sebanyak masalah disiplin dan sahsiah murid berada pada tahap terkawal. Ini disebabkan wujudnya amalan kepimpinan guru besar pada kedua sekolah berkenaan yang turut menjadikan ibu bapa sebagai *'smart partnership'* dalam memperkasakan sistem pendidikan kini.

Kesimpulan

Penyelidikan menunjukkan bahawa sekolah-sekolah yang cemerlang mempunyai perkongsian yang berkesan dengan ibu bapa (Davies, 1996; Masa Durisic dan Mila Bunijevac, 2017). Peranan dan amalan kepimpinan guru besar yang berkesan akan dapat merealisasikan sekolah yang berjaya melalui penglibatan ibu bapa secara bersama. Oleh itu, sekolah, keluarga dan perkongsian komuniti adalah komponen penting dalam mendidik murid-murid. Penglibatan ibu bapa secara menyeluruh dalam program sekolah akan membawa perubahan dan impak yang besar secara amnya pada sekolah dan murid. Peningkatan penglibatan ibu bapa akan meningkatkan kejayaan murid, kepuasan ibu bapa dan guru dan peningkatan iklim pembelajaran murid yang lebih berkesan. Untuk memastikan penglibatan ibu bapa yang berkesan, sekolah melalui amalan kepimpinan guru besar perlu mempunyai program perkongsian, melaksanakan, menilai dan memperbaiki rancangan dan amalan yang boleh meningkatkan penglibatan ibu bapa dan komuniti. Dalam membina kepercayaan, pendekatan yang efektif untuk penglibatan ibu bapa bergantung kepada pendekatan yang kuat melalui kepimpinan sekolah dengan penekanan interaksi positif. Objektif program penglibatan ibu bapa terutama dalam aspek kesukarelawan dan keberkesanan dalam kesatuan KSIB adalah berkongsi matlamat yang sama dalam meningkatkan kerjasama dalam mempromosikan pembangunan murid yang sihat dan komuniti sekolah selamat. Maklum balas yang diberikan menunjukkan pihak sekolah telah mewujudkan hubungan yang positif dengan ibu bapa hingga sekolah dapat memacu kecemerlangannya dan murid-murid pula mendapat manfaatnya.

Rujukan

Abd Ghani Abdullah. (2009). Kepimpinan dan penambahbaikan sekolah. Kuala Lumpur : PTS Profesional Publication Sdn. Bhd.

Ahmad Fairus, Yeo Kee Jiar (2011), Harapan ibu Bapa Terhadap Masa Depan Anak-anak. Pendidikan UKM

Alimuddin (2006). Gerakan PIBG transformasi berkesan. Kuala Lumpur. Kementerian Pendidikan Malaysia.

Agata Mleczko. (2013). The Impact of School Leadership on Parental Engagement: A Study og Inclusion and cohesion. 19, 9-32

Bibi Sakinah. (2013). Amalan terbaik bersama komuniti dalam melonjakkan kecemerlangan sekolah. Moderasi Pendidikan Johor Leads. Jabatan Pelajaran Johor. Edisi Kedua (128-135)

Bity Salwana Alias. (2010). Analisis Kompetensi Berdasarkan Kualiti, Peribadi, Pengetahuan,Kawalan dan Amalan Pengetua Dalam Bidang Pengurusan sekolah. Jurnal Penyelidikan Pendidikan. BPPDP. Kementerian Pelajaran Malaysia. Jilid 112009/2010

Epstein, J.L (2009). In School, family and community partnership: Your handbook for action (3rd ed.). USA. Corwin Press.

Kementerian Pelajaran Malaysia, (2013). Sarana Sekolah & Sarana Ibu Bapa. Putrajaya : Kementerian Pelajaran Malaysia.

Le Heng Liang, Mohd Anuar Abdul Rahman (2014). Bentuk Penglibatan dan Strategi Melibatkan Ibu Bapa Dalam Pendidikan Murid Di Sekolah Rendah. Universiti Teknologi Malaysia.

Masa Durisic dan Mila Bunijevac. (2017). Parental Involvement as a Important Factor for Successful Education. C.E.P.S, Journal, Vol.7,

Mohd Fuad Razali (2007). "Manfaatkan PIBG Untuk Kejayaan Sekolah." Pendidik 40. 44 – 45.

Mohamad Isa. (2018). Menjulang Kecemerlangan Murid Dan Sekolah Melalui KSIB. Kolokium Amalan Baik Pengetua Guru Besar Kebangsaan. Institut Pendidikan Guru 31.10.2018. IPG Batu Pahat

Mohd Jamil dan Rahimah. (2007). Pengetua Berkualiti Penjana Transformasi Pendidikan Negara. Institut Kepimpinan Pendidikan. : Universiti Malaya.

Rafieah Yob. (2018). PIBK Unggul Memperkasakan sekolah. kolokium Amalan Baik Pendidikan Guru Besar Kebangsaan. Institut Pendidikan Guru Batu Pahat. 31.10.2018

Teoh Cheng Moi (2018). Pembudayaan Komuniti Pembelajaran Profesional SJKC Confucion. Kuala Lumpur. Kolokium Amalan Baik Pengetua Guru Besar (PGB) Kebangsaan. 31.10.2018. IPG Batu Pahat.

Institut Aminuddin Baki KPM. (2013). Amalan-amalan Terbaik Pengurusan dan Kepimpinan Sekolah Kebangsaan Malaysia :Perpustakaan Negara Malaysia.

Institut Aminudin Baki. (2016). Hubungan Sesama Manusia – Komunikasi dan jalinan Hubungan luar – Modul 5 NPQEL : Firdaus Press Sdn Bhd.

Wee, Eng Lee. (2002). Kepimpinan Untuk Perubahan. Institut Aminuddin Baki : Kementerian Pelajaran Malaysia

Zainon Omar dan Ahmad Esa (2009). Persepsi Guru Terhadap Hubungan Pihak Sekolah Dengan Ibu Bapa. Seminar Kebangsaan Laporan Pendidikan. Universiti Tun Hussein Onn.

Persepsi Pelajar Tingkatan Empat Terhadap Penggunaan Komponen FROG VLE Dalam Pembelajaran

Noor Azlida Ali[1], Norah Md Noor[2], Noor Asmina Mohd Rashid[3]
[1] Sekolah Menengah Medini, Iskandar Puteri, Johor, Malaysia
[2,3] Sekolah Pendidikan, Fakulti Sains dan Kemanusiaan, Universiti Teknologi Malaysia

E-mail: noorazlidaali@gmail.com1, norah@utm.my2, noorasmina@gmail,com3

Abstrak: Kajian ini adalah bertujuan bagi mengenalpasti persepsi murid tingkatan empat terhadap penggunaan komponen FROG VLE iaitu *Frog Assignment*, *Frog Play*, dan *Quizzes* sewaktu proses pembelajaran berlangsung. Seramai 28 orang murid tingkatan empat di salah sebuah sekolah di daerah Johor Bahru yang mengambil matapelajaran Ekonomi terlibat sebagai responden kajian. Borang soal selidik digunakan bagi tujuan pengumpulan data dan dianalisis menggunakan statistik deskriptif dan frekuensi menerusi perisian SPSS 22.0. Analisis deskriptif mendapati tahap kecenderungan menggunakan FROG VLE adalah tinggi (purata min 4.43). Komen murid terhadap tiga komponen FROG VLE ini adalah menggalakkan dari segi membantu, meningkatkan motivasi ekstrinsik, membantu kognitif dan bersedia untuk belajar secara kendiri. Dapatan ini menunjukkan bahawa murid mempunyai minat yang positif terhadap penggunaan komponen FROG VLE dalam pembelajaran mereka.

Kata Kunci: Frog VLE; pembelajaran; gamifikasi; kuiz *online*.

Pengenalan

Pembelajaran yang berkesan dapat dipengaruhi oleh suasana pembelajaran yang kondusif dan mampu menggalakkan proses komunikasi dan interaksi secara dua hala antara murid dan guru (Mook Song Sang, 2002; Mukhtadi Ali, 2005)). Penggunaan internet bukanlah suatu perkara yang asing dan baru digunakan di peringkat sekolah, malah ia juga telah menjadi sebagai platform kegemaran murid dalam mengakses pelbagai maklumat berkaitan pendidikan (Arthur dan Brafi, 2013).

Frog Virtual Learning Environment atau lebih dikenali sebagai FROG *VLE,* merupakan salah satu suntikan penggunaan teknologi dalam sistem pendidikan yang diperkenalkan oleh pihak Kementerian Pendidikan Malaysia yang bertujuan meningkatkan tahap pendidikan menerusi penggunaan internet 4G tanpa wayar (KPM, 2012). Selain itu, penggunaan FROG *VLE* dapat memberikan suasana pembelajaran maya yang menyeronokkan dan mampu meningkatkan tahap motivasi dan minat murid seperti penggunaan komponen- komponen di dalam FROG VLE seperti *Frog Assignment*, *Frog Play*, dan *Quizzes*.

Sistem Aplikasi FROG VLE boleh digunakan sebagai alat bantu mengajar secara atas talian untuk digunakan oleh guru dan murid dalam pengajaran dan pemudahcaraan (PdPc). Transformasi positif ini merupakan salah satu langkah ke depan oleh pihak KPM untuk menjadikan pendidikan di Malaysi setaraf dan maju bersama negara-negara maju yang lain. Penambahbaikan dari segi kemudahan Teknologi Maklumat dan penggalakan KPM bagi Penggunaan sistem aplikasi FROG VLE secara berperingkat oleh guru yang berada sama ada di kawasan bandar dan luar bandar dalam pengajaran dan pemudahcaraan (PdPc adalha selaras dengan Dasar Pendidikan Negara untuk mengurangkan jurang antara sekolah bandar dan sekolah di kawasan pedalaman (Kaur & Hussein, 2014; Hairuddin *et all.*, 2016).

Latar Belakang Kajian

Meskipun penggunaan FROG VLE mampu meningkatkan tahap motivasi dan minat murid terhadap pembelajaran, namun menerusi kajian literatur yang dilakukan mendapati bahawa murid menghadapi masalah kekurangan latihan tentang penggunaan komponen Frog VLE seperti Frog Assignment, Frog Play, Quizzes, dan komponen- komponen lain (Sumarmi Lapammu dan Zamri Mahamod, 2018).

Pembelajaran secara kolaborasi secara maya juga merupakan kelebihan yang terdapat pada FROG VLE yang mana boleh memupuk proses pembelajaran dan perbincangan pada bila- bila masa dan di mana sahaja melalui capaian internet. Namun, masalah capaian internet yang lemah juga dilihat sebagai kekangan utama bagi murid menggunakan FROG VLE dengan sebaik mungkin yang mana turut memberi kesan terhadap penggunaan komponen- komponen asas FROG VLE dan menghalang murid utuk berkolaborasi secara atas talian dengan baik.

Justeru, kajian ini bertujuan untuk melihat konsep pengetahuan dan tahap penggunaan komponen FROG VLE seperti Frog Assignment, Frog Play, dan Quizzes di kalangan murid. Di samping itu, tahap pengetahuan dan kekangan yang menyentuh komponen- komponen asas Frog VLE dalam persekitaran pembelajaran akan dikenalpasti kerana menurut Muhammad Sabid dan Megat Aman Zahiri (2018) menyatakan bahawa komponen- komponen asas tersebut mampu mengubah suasana pembelajaran murid dalam bilik darjah. Selain itu, kajian ini
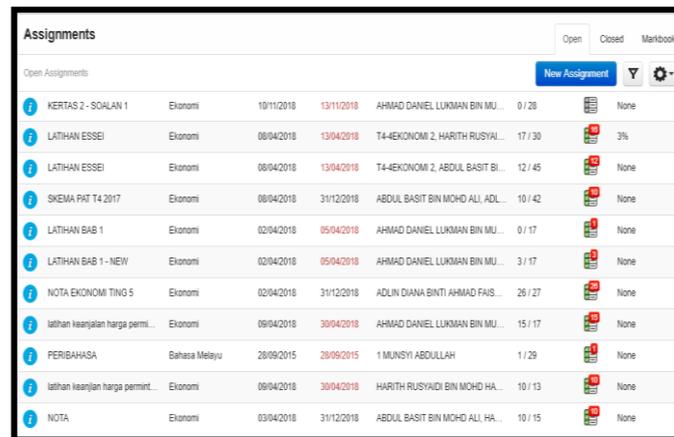
juga dilakukan bagi melihat sejauh mana tahap pengetahuan murid terhadap penggunaan komponen FROG VLE sebagai satu platform pembelajaran secara maya.

Metodologi Kajian

28 orang murid tingkatan 4 yang mengambil matapelajaran Ekonomi di salah sebuah sekolah di daerah Johor Bahru terlibat dalam proses pengumpulan data kajian. Reka bentuk tinjauan kajian kes menggunakan borang soal selidik digunakan di dalam kajian ini kerana menurut Merriam (1998), kaedah ini sesuai digunakan bagi jumlah unit yang kecil seperti sekolah, institusi atau unit sosial yang kompleks secara keseluruhan dan mendalam. Borang soal selidik yang digunakan mengandungi kaedah kuantitatif dan kualitatif, namun, kaedah kuantitatif merupakan kaedah yang dominan.

Penggunaan komponen Frog Assignment, Frog Play, dan Quizzes diberikan kepada murid bagi mengenalpasti persepsi mereka terhadap komponen- komponen tersebut. Selain itu, satu set borang soal selidik digunakan untuk tujuan pengumpulan data di samping murid turut perlu menjalani proses temubual bagi mendapatkan maklumat tambahan. Borang soal selidik dibahagikan kepada dua bahagian iaitu bahagian A dan bahagian B. Bahagian A merupakan soalan berkaitan dengan maklumat elemen-elemen komponen FROG VLE. Murid hanya perlu menandakan di dalam ruangan yang disediakan. Manakala bahagian B pula ialah soalan-soalan yang perlu dijawab oleh responden untuk mengkaji tahap penggunaan tiga komponen yang terlibat iaitu FROG VLE Frog Assignment, Frog Play dan Quizzes.

Rajah 1 merupakan paparan bagi Frog Assignment, sementara Rajah 2 pula menunjukkan paparan yang terdapat dalam komponen Frog Play. Di antara elemen yang terdapat di dalamnya ialah kuiz, permainan mini dan dapatkan mata untuk menghias dan menyusun atur avatar sendiri. Rajah 3 pula merupakan paparan Quizzes yang mempunyai soalan berbentuk aneka pilihan jawapan bagi matapelajaran Ekonomi yang digunakan sewaktu kajian dijalankan.

Rajah 1. Paparan *Frog Assignment*

Rajah 2. Paparan *Frog Play*

Rajah 3. Paparan *Quizzes*

Matapelajaran Ekonomi telah dipilih dan subtopik keanjalan harga permintaan digunakan dalam proses pembelajaran. Dalam tempoh ini murid menjalani proses pembelajaran tanpa menggunakan teknologi selama satu minggu dan pada minggu ketiga, murid dibawa ke makmal komputer bagi tujuan penggunaan tiga komponen FROG VLE iaitu Frog Assignment, Frog Play dan Quizzes dalam proses pembelajaran. Komponen Frog Assignment digunakan sebagai platform latih tubi. Pada minggu ketiga, murid diberi pendedahan pengunaan Frog Play dan Frog Assignment. Manakala pada minggu keempat murid perlu menghantar tugasan secara atas talian menerusi Frog Assignment.

Dapatan Kajian dan Perbincangan

a) Persepsi Murid Terhadap Penggunaan Komponen FROG VLE dalam Pembelajaran

Dapatan kajian menunjukkan bahawa daripada 28 orang murid, didapati bahawa elemen komponen FROG VLE yang paling dipersetujui oleh murid membantu pembelajaran ialah Frog Play menerusi pemilihan daripada 14 orang murid. Analisis tiga komponen tersebut bagi taburan setiap data dipaparkan dalam bentuk jadual berikut dibawah:

Jadual 1. Taburan Analisis Komponen *Frog VLE*

Komponen FROG VLE	Bilangan
Frog Assignment	3
Frog Play	**14**
Quizzes	11

Jadual 2 menunjukkan taburan pernyataan bermakna di dalam item soal selidik daripada soalan tiga komponen FROG VLE yang menjadi pilihan setiap murid yang terlibat.

Jadual 2. Taburan Pernyataan Bermakna di dalam Item Soal Selidik

Tema	Bilangan Penyataan	Contoh Ayat
Orientasi Pembelajaran (isi kandungan)	16	- *Kerana ia banyak membantu saya memperoleh info pembelajaran* - *Kerana kita boleh tahu tahap pembelajaran kita dalam setiap subjek* - *Memudahkan pembelajaran saya.*
Motivasi (ekstrinsik)	9	- *Frog Quizzes membantu saya lebih bersemangat lagi untuk belajar.* - *Saya akan mendapat ganjaran apabila menggunakan Frog Play dan dapat mengurangkan tekanan semasa belajar.* - *Saya suka kerana saya akan mendapat ganjaran apabila semua soalan yang dijawab dalam Frog Quizzes adalah betul*
Kognitif (pemikiran)	9	- *Dapat memahirkan lagi ingatan dengan menjawab soalan yang disediakan* - *Komponen FROG VLE banyak membantu saya memperoleh info tentang pelajaran dan menambah daya ingatan sewaktu menjawab soalan.* - *Saya dapat menguji tahap pengetahuan dan pemahaman dalam pembelajaran setiap subjek*
Kesedian Untuk Belajar (terbina sendiri)	4	- *Ruangan Frog play membuatkan saya lebih tertarik untuk menggunakan komponen FROG VLE.* - *Dapat memupuk sikap minat terhadap pembelajaran secara maya*

N= 28 orang

Seramai 16 daripada 28 orang murid menggambarkan kaedah pembelajaran yang dilalui menepati silibus yang sedia ada manakala salah seorang daripada mereka pula menyatakan bahawa kaedah pembelajaran

tersebut memudahkan untuk mendapatkan pelbagai maklumat. Selain itu, terdapat juga seorang murid menyokong perspektif Orientasi Pembelajaran kerana murid tersebut menyatakan bahawa proses pembelajarannya menjadi lebih mudah Kerana membantu mereka walaupun mereka masih bergantung kepada silibus sedia ada. Kebanyakan murid menyatakan bahawa proses pembelajaran tersebut memberikan keselesaan dan tidak membosankan di samping diberikan bantuan oleh para guru. Hal ini demikian kerana majoriti adalah daripada murid tingkatan empat dan mereka tidak mempunyai pengalaman dan pengetahuan yang luas berkaitan konsep pengaturcaan komputer.

Seterusnya tema Motivasi juga di antara pilihan yang tinggi menerusi kekerapan jawapan pilihan daripada 9 orang murid. Daripada soalan yang sama penyelidik mendapati murid lebih bersemangat lagi untuk belajar mengunakan Quizzes semasa proses pembelajaran. Di antara mereka menyatakan keseronokan mendapat ganjaran sekiranya jawapan mereka adalah betul semasa menjawab soalan yang ada di dalam Quizzes. Pernyataan daripada salah seorang murid juga jelas menunjukkan mereka dapat menghilangkan tekanan semasa proses pembelajaran kerana berpeluang menguji minda menerusi soalan- soalan kuiz.

Terdapat 9 orang murid memberikan jawapan yang menggambarkan tema Kognitif di mana salah seorang daripada mereka menyatakan bahawa daya ingatan dapat ditingkatkan semasa mengunakan komponen FROG VLE. Di samping itu, dua orang murid menyatakan bahawa tahap pengetahuan dan pemahaman mereka dapat diuji bagi setiap subjek yang dipelajari menggunakan komponen FROG VLE. Selain itu, terdapat 4 orang murid telah memberikan jawapan yang menunjukkan Tema Kesedian Untuk Belajar. Mereka merasakan komponen FROG VLE dapat menarik lagi minat mereka untuk belajar menggunakannya di samping seorang daripada mereka menyatakan bahawa peggunaan komponen FROG VLE boleh memupuk sikap minat terhadap pembelajaran secara maya semasa proses pembelajaran.

b) Tahap Kecenderungan Murid Menggunakan Komponen Frog VLE

Jadual berikut menunjukkan analisis deskriptif berkaitan kecenderungan murid menggunakan komponen FROG *VLE*.

Jadual 3. Analisa Tahap Kecenderungan Murid Menggunakan Komponen FROG *VLE*

No item	Item	Peratus (%)					Min
		1	2	3	4	5	
S1	Saya menggunakan Komponen FROG VLE dalam pembelajaran saya	-	28.6	3.6	7.1	60.7	4.00
S2	Saya mendapat tunjuk ajar dan panduan daripada guru untuk menggunakan Komponen FROG VLE	-	-	-	32.1	67.9	4.68
S3	Saya mendapat galakan guru menggunakan Komponen FROG VLE dalam mengulangkaji latihan berkaitan untuk aktiviti latih-tubi	-	-	-	43.9	57.1	4.57
S4	Saya mendapat galakan guru menggunakan Komponen FROG VLE dalam mengulangkaji latihanberkaitan untuk aktiviti pengayaan dan membaca nota.	-	-	-	53.6	57.1	4.46
S5	Saya boleh menghantar kerja rumah atas talian tepat pada masa yang ditetapkan dalam komponen FROG VLE	-	-	-	16	12	4.43
Purata							4.43

Item S2 didapati menunjukkan nilai min yang tertinggi iaitu 4.68 iaitu sebanyak 67.9 % telah memilih item sangat setuju dengan pernyataan mendapat tunjuk ajar dan panduan daripada guru untuk menggunakan komponen FROG VLE. Secara keseluruhan, di dapati bahawa tahap kecenderungan murid untuk menggunakan tiga komponen FROG VLE iaitu Frog Assignment, Frog Play dan Quizzes dalam pembelajaran adalah pada tahap setuju dengan purata min sebanyak 4.43.

Kesimpulan

Hasil kajian menunjukkan bahawa murid tingkatan empat yang mengambil matapelajaran Ekonomi memberikan perspektif yang positif terhadap penggunaan komponen FROG VLE iaitu Frog Assignment, Frog Play dan Quizzes dalam proses pembelajaran di mana proses pembelajaran menjadi lebih mudah dan membantu murid dalam proses pembelajaran yang mereka lalui. Di samping itu, mereka juga lebih tertarik dengan komponen FROG VLE iaitu Frog Assignment, Frog Play dan Quizzes dalam proses pembelajaran kerana dapat menambah keseronokan yang membuatkan mereka lebih bermotivasi. Bukan itu sahaja, murid juga lebih seronok apabila dapat membuat latihan dan membaca nota secara atas talian.

Tambahan lagi, hasil kajian telah menunjukkan bahawa tahap pengetahuan dan tahap penggunaan komponen FROG VLE iaitu Frog Assignment, Frog Play dan Quizzes para murid bagi proses pembelajaran adalah tinggi dan positif dengan nilai min purata sebanyak 4.43. Sikap positif untuk menggunakan komponen FROG VLE dalam pembelajaran juga boleh meningkatkan kemahiran mereka menggunakan peralatan ICT dan internet. Penggunaan komponen Frog Assignment dapat membantu murid menghantar tugasan dan membaca nota yang

diberikan kepada secara atas talian. Secara keseluruhan, dapat disimpulkan bahawa penggunaan peralatan ICT seperti FROG VLE dalam proses pembelajaran diterima secara positif oleh murid dan berupaya meningkatkan mutu dan kualiti proses pembelajaran.

Rujukan

Hairuddin Harun, Prof. Dr.Ahmad Esa, Dr.Mohd Hasril Amiruddin et all. 2016. Utilization of FROG VLE as Teaching Tools: Readiness of Islamic Education Teachers in Muar District Schools: Universiti Tun Hussein Onn Malaysia.

Kaur, T., & Hussein, N. (2014). Teachers' readiness to utilize Frog VLE: A case study of a Malaysian secondary school. Journal of Education, Society & Behavioral Science, 5(1), 20-29.

Lapammu, S., & Mahamod, Z. (2018). Tahap Pengetahuan, Sikap Dan Kesediaan Pelajar Tingkatan 4 terhadap Penggunaan Pembelajaran Persekitaran Maya Vle Frog Dalam Pembelajaran Bahasa Melayu (The Level of Knowledge, Attitudes and Readiness Form 4 Students to the Using of Virtual Learning Environment VLE Frog in Malay Language Learning). Jurnal Pendidikan Bahasa Melayu, 8(2), 53-62.

Merriam, S. B. (1998). Qualitative Research and Case Study Applications in Education. Revised and Expanded from" Case Study Research in Education.". Jossey-Bass Publishers, 350 Sansome St, San Francisco, CA 94104.

Ministry of Education (2012) Preliminary Report: Malaysia Education Blueprint 2013-2025, Ministry of Education, Kuala Lumpur, Malaysia

Mok Soon Sang(2002). Psikologi Pendidikan untuk Kursus Diploma Perguruan Semester 3. Subang Jaya: Kumpulan Budiman.

Muhammad Sabiq Mohd Noora and Megat Aman Zahiri Megat Zakaria (2018), Tinjauan Motivasi, Sikap dan Peningkatan Prestasi Murid Sekolah Rendah Melalui Penggunaan Halaman Celik Akal (VLE), Sains Humanika, 10(3-2).

Muhtadi, Ali. (2005) "Menciptakan iklim kelas (Classroom Climate) yang kondusif dan berkualitas dalam proses pembelajaran." Majalah Ilmiah Pembelajaran 2.

Peruntukan Geran Perkapita Dan Kemudahan Bengkel PVMA Bidang Automotif di Malaysia

Mohd Najib Ab Kadir¹, Sarimah Ismail², Zahrah Ja'afar³
¹,²,³ Sekolah Pendidikan, Fakulti Sains Sosial dan Kemanusiaan, Universiti Teknologi Malaysia, Malaysia

E-mail: ajib8022@gmail.com¹, p-sarima@utm.my², zarajc190@gmail.com³

Abstrak: Analisis sorotan kajian secara sistematik berkaitan peruntukan geran perkapita yang kecil dan peralatan bengkel PVMA Automotif di Malaysia melalui *database index Scopus* mendapati 14 artikel telah diterbitkan. Malangnya 14 artikel tersebut meliputi pelbagai mata pelajaran. Hanya satu artikel sahaja berkaitan bidang automotif dan ianya tidak menjurus kepada PVMA. Ini menunjukkan skop kajian ini masih kurang mendapat perhatian walaupun peruntukan geran perkapita yang kecil dan peralatan bengkel PVMA Automotif di Malaysia yang tidak lengkap telah menimbulkan banyak masalah kepada pengajaran guru bidang ini. Dapatan analisi ini menunjukkan peruntukan geran perkapita yang kecil dan peralatan bengkel PVMA Automotif di Malaysia perlu dikaji secara mendalam.

Kata Kunci: Pendidikan Vokasional Menegah Atas, Geran Perkapita, Kemudahan Bengkel, Bidang Automotif

Pengenalan

Fokus utama carian sorotan kajian dijalankan melalui Scopus adalah untuk mengenalpasti kajian yang telah dijalankan berkaitan peruntukan geran perkapita yang yang diperuntukkan oleh kerajaan untuk menyediakan kemudahan peralatan di bengkel di sesebuah institusi pendidikan untuk tujuan pengajaran dan pembelajaran Pendidikan Vokasional Menegah Atas (PVMA) di Malaysia. PVMA disediakan untuk pelajar lepasan pentaksiran tingkatan tiga(PT3) selama dua tahun (tingkatan empat dan tingkatan lima) di sekolah akademik harian di Malaysia. Pelajar yang mengikuti kursus PVMA ini akan memperoleh Sijil Kemahiran Malaysia(SKM) tahap dua dan Sijil Pelajaran Malaysia(SPM) apabila tamat pengajian dan lulus dengan baik. Matlamat utama perlaksanaan PVMA adalah untuk memberi peluang kepada pelajar lepasan PT3 terutama yang lemah dalam akdemik meneruskan pengajian dalam bidang kemahiran supaya mereka dapat peluang bekerja mengikut bidang kemahiran yang diikuti samada di industri atau bekerja sendiri dan peluang menyambung pelajaran ke peringkat yang lebih tinggi juga dalam bidang yang sama.

Objektif utama perlaksanaan PVMA di Malaysia pula adalah untuk menjadikan aliran Pendidikan Vokasional sebagai pilihan selain aliran perdana sedia ada. Di samping itu juga, ia bertujuan untuk mengelakkan pelajar lemah dalam akademik berisiko untuk tercicir, menimbulkan minat belajar secara *hands-on* yang berterusan, menggilap potensi belajar pelajar melalui kurikulum yang dapat memberi kemahiran asas dan kemahiran bekerja yang diperlukan oleh industri, membekalkan kemahiran asas kepada pembentukan sahsiah *Character Building* dan pembangunan karektor *Character Development* yang mantap supaya pelajar dapat menyediakan diri dengan pengetahuan dan kemahiran pekerjaan.

Pendidikan PVMA di Malaysia bermula pada Januari 2015 dengan menawarkan 12 bidang yang dilaksanakan di 213 buah sekolah. 12 bidang tersebut adalah penyediaan makanan, membuat pakaian, seni kecantikan, animasi, pembuatan perabot, dekorasi dalaman, automotif, motosikal, penyejuk bekuan dan penyamanan udara, pemasangan dan penyelenggaraan elektrik, operator akuakultur dan pekerja am tanaman. Sehingga April 2019, terdapat 269 buah sekolah diseluruh Malaysia yang melaksanakan PVMA dengan lebih daripada 20 bidang yang ditawarkan.

Bagi PVMA bidang automotif, terdapat 17 buah sekolah akademik harian seluruh Malaysia melaksanakannya. Bidang yang memerlukan peralatan dan kemudahan bengkel yang lengkap ini yang memerlukan peruntukan geran perkapita yang besar bagi memastikan proses pengajaran dan pembelajaran dapat dijalankan dengan sempurna dan berkesan bagi menyediakan pekerja separa mahir Negara dalam bidang automotif setelah pelajar-pelajar yang mengikuti bidang ini tamat pengajian kelak.

Perlaksanaan PVMA di sekolah akademik harian menghadapi masalah dari aspek peruntukan geran perkapita atau dalam bahasa inggerisnya *perhead capita grant* (PCG) yang rendah (RM220/ pelajar/ mata pelajaran/ tahun) dan tidak dapat menampong kos pembelian bahan mentah untuk pembelajaran amali pelajar dan pembelian kemudahan di bengkel yang tidak lengkap terutamanya bilangan peralatan tangan dan mesin. Permasalahan telah dikaji sejak Mata Pelajaran Vokasional (MPV) mula diperkenal dan dilaksanakan dalam kurikulum sekolah akademik harian pada tahun 2004. Dapatan kajian Zainuddin (2004) mendapati guru terpaksa menggunakan PCG mata pelajaran lain bagi menampung kos bahan projek amali dan sebahagian guru yang lain pula terpaksa mengeluarkan wang sendiri bagi membuat pemembelian. Dapatan kajian Sarimah dan Farawahida (2009) pula mendapati guru-guru tidak berpuashati dengan peruntukan RM220 yang rendah kerana mereka terpaksa membuat bajet yang minimum bagi menampung pembelian alatan dan dan bahan projek amali yang mahal.

Setelah lima belas tahun perlaksanaanya, peruntukan PCG dengan nilai yang sama (RM220/ pelajar/ mata pelajaran/ tahun) berterusan diberikan di sekolah-sekolah sehingga kini. Dalam keadaan nilai ringgit yang

rendah dan harga barang yang melambung tinggi, sudah tentu peruntukan PCG sebanyak RM220/ pelajar/ mata pelajaran/ tahun ini tidak mencukupi. Hadawi dan Crabbe (2018) menyatakan peruntukan PCG bagi setiap mata pelajaran perlu dikaji setiap kali pertukaran silibus yang baharu dibuat agar inya bersesuaian dengan harga barang semasa di pasaran dan keperluan mata pelajaran yang ditawarkan supaya masalah kewangan untuk pembelian bahan dan peralatan tidak menjadi halangan pelajar mendapat pengetahuan dan kemahiran yang cukup. Andoko dan Wirawan (2017) menyatakan jumlah peralatan dan bilangan pelajar haruslah seiring bagi memastikan pelajar mendapat pendidikan yang sempurna dalam bidang kemahiran yang diikuti.

Metodologi

Pencarian sorotan kajian secara sistematik bagi peruntukan geran perkapita dan kemudahan bengkel PVMA bidang Automotif di Malaysia dijalankan melalui e-database Scopus. Kata kunci yang digunakan untuk mencari artikel berkaitan tajuk ini adalah peruntukan geran perkapita, peruntuka peralatan,Pendidikan Vokasional menegah atas dan bidang Automotif di Malaysia. Dapatan pencarian menunjukkan terdapat 140 artikel telah diperoleh berkaitan dengan peruntukan kewangan kecil dan peralatan bengkel yang tidak lengkap. Di antara 140 artikel tersebut, sebanyak 28 artikel berkaitan Latihan Pendidikan Teknik dan Vokasional dan atau dalam Bahasa Inggesrinya *Technical and Vocational Education and Training* (TVET). Disebabkan perlaksanaan MPV bermula pada tahun 2004 sementara PVMA pada tahun 2015, pencarian sorotan kajian telah dihadkan di antara tahun 2004 hingga Mac 2019 yang menemukan 14 artikel bagi tempoh perlaksanaan mata elajaran Vokasional di sekolah harian yang telah berjalan hampir 15 tahun. Namun, hanya satu artikel sahaja dari 14 artikel tersebut yang benar-benar memberi tumpuan kepada fokus kajian iaitu PVMA bidang Automotif.

Klasifikasi

Di bawah subtajuk klasifikasi ini, tiga aspek yang dilaporkan berkaitan kandungan artikel yang diperolehi iaitu teori yang digunakan dalam kajian, metodologi yang diaplikasi dalam kajian, sampel yang terlibat dalam kajian dan konteks kajian. Berikut adalah klasifikasi satu-satunya artikel yang melaporkan dapatan kajian berhubung peruntukan geran perkapita dan kemudahan bengkel bidang Automotif dari aspek teori, metodologi, sampel dan konteks kajian (rujuk jadual 1).

Jadual 1. Klasifikasi kajian Peruntukan Geran Perkapita dan Kemudahan Bengkel bidang Automotif yang dilaporkan dalam artikel

	Klasifikasi kajian	Dapatan
1.	Teori kajian	Teori pengajaran dan pembelajaran kognitif
2.	Metodologi kajian	Kuantitatif
3.	Sampel kajian	Pelajar
4.	Konteks kajian	Tiga buah Sekolah Menegah Vokasional Kota Malang Indonesia

Analisis dan Dapatan

Penulisan subtajuk analisa dan dapatan pencarian sorotan kajian secara sistematik bagi tajuk peruntukan geran perkapita dan kemudahan bengkel PVMA bidang Automotif di Malaysia ini dibahagikan kepada dua bahagian utama iaitu penerangan diskriptif dan kategori sorotan kajian. Kandungan bagi penerangan diskriptif biasanya adalah bilangan artikel diterbitkan mengikut tahun dan jurnal yang kerap menerbitkan artikel bagi fokus kajian berkenaan.
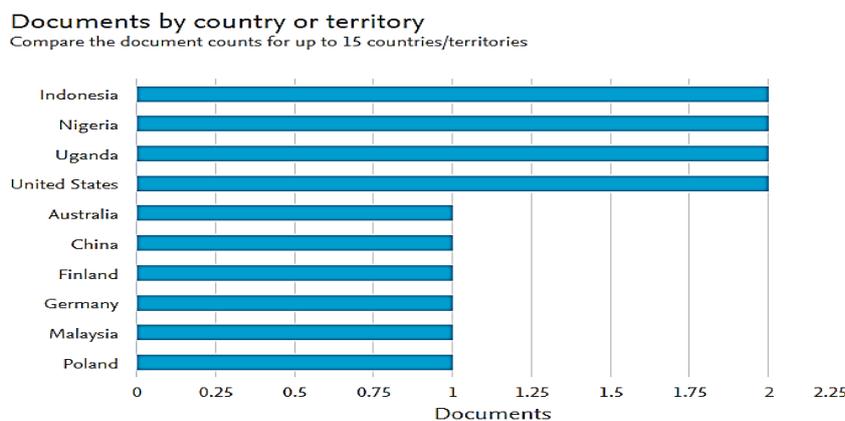
Rajah 1. Bilangan artikel diterbitkan mengikut negara

Terdapat 10 negara yang telah menjalankan di antara satu dan dua kajian bagi fokus kajian peruntukan geran perkapita dan kemudahan bengkel yang dikaji yang dilaporkan oleh 14 artikel. Negara-negara tersebut adalah Indonesia, Nigeria, Uganda, United States, Australia, China, Findland, Germany, Malaysia dan Poland.

Empat negara yang telah menjalankan dua kajian adalah Indonesia, Nigeria, Uganda dan United States sementara enam Negara yang lain hanya menjalankan satu kajian sahaja (rujuk rajah1).

Jadual 2. Artikel yang diperoleh dari carian e-database Scopus

Title	Authors	Year	Cited by	Publisher
Evaluation of thermal comfort room garment workshop in textile vocational school	Febiyani A., Suhardi B., Pujiyanto E.	2018		Institute of Electrical and Electronics Engineers Inc.
Interprofessional education: evaluation of a radiation therapy and medical physics student simulation workshop	Jimenez Y.A., Thwaites D.I., Juneja P., Lewis S.J.	2018	1	John Wiley and Sons Ltd
User-friendly libraries for active teaching and learning: A case of business, technical and vocational education and training colleges in Uganda	Lugya F.K.	2018		Emerald Group Publishing Ltd.
Randomised controlled feasibility study of a school-based multi-level intervention to increase physical activity and decrease sedentary behaviour among vocational school students	Hankonen N., Heino M.T.J., Hynynen S.-T., Laine H., Araújo-Soares V., Sniehotta F.F., Vasankari T., Sund R., Haukkala A.	2017	8	BioMed Central Ltd.
Needs analysis of automotive workshop equipment based on Indonesian national standards	Andoko, Wirawan W.A.	2017		World Institute for Engineering and Technology Education
Occupational safety training and practices in selected vocational training institutions and workplaces in Kampala, Uganda	Kintu D., Kyakula M., Kikomeko J.	2015	1	Taylor and Francis Ltd.
The multidisciplinary approach to biochemistry laboratory education [Biyokimya laboratuvar eğitimine çok disiplinli yaklaş{dotless}m]	Erkoç F., Sepici-Dinçel A., Kayrin L., Özkan Y., Ekşioğlu S., Yüksel M., Haklar G., Yavuz O., Çelik H., Konuk M., Kurban S., Uysal H., Kisa U., Bodur E., Selvi M., Akca G., Şimşek B.	2013	1	
Quality assurance in technical vocational education for sustainable national development in the 21st century	Rufai A., Kamin Y.B., Saud M.S.B., Idris A.	2013		
Innovative education in additive manufacturing in China	Lin F., Zhang L., Zhang T., Wang J., Zhang R.	2012	2	University of Texas at Austin (freeform)
Creating a web-based course on measurement uncertainty in international cooperation	Werner T., Plowucha W., Jakubiec W., Weckenmann A.	2010	3	European Society for Engineering Education (SEFI)
Train the trainers hands-on workshop	Varzaru G., Plotog I., Codreanu N.D., Mihailescu T.	2009	1	
Biomedical imaging graduate curricula and courses: Report from the 2005 whitaker biomedical engineering educational summit	Louie A., Izatt J., Ferrara K.	2006	3	
A local pollution prevention group collaborates with a high school intermediate unit bringing the benefits of microscale chemistry to high school chemistry labs in the Lake Erie watershed	Tallmadge W., Homan M., Ruth C., Bilek G.	2004	3	
Occupational hazards among clinical dental staff	Fasunloro A., Owotabe F.J.	2004	23	Jaypee Brothers Medical Publishers (P) Ltd

Terdapat 14 artikel kajian berkaitan diperoleh dari carian Scopus dari tahun 2004 sehingga Mac 2019. Jadual 2 menunjukkan bilangan artikel yang diperoleh adalah dari tahun 2004 sehingga 2018 sahaja kerana belum ada penerbitan yang diperoleh bagi tahun 2019. Jadual menunjukkan tajuk kajian yang diperoleh, nama penerbit, tahun terbitan, bilangan petikan dan penerbit artikel. Daripada 14 artikel ini pula haya satu artikel sahaja yang berkitan dengan bidang Automotif yang dikaji oleh Andako dan Wrawan pada tahun 2017, di Malang Indonesia.

Terdapat sebelas mata pelajaran yang turut mengkaji mengenai penggunaan geran perkapita dan kemudahan peralatan bengkel (rujuk rajah 2). Mata pelajaran berkaitan kejuruteraan adalah yang tertinggi menghadapi masalah peruntukan kewangan yang terhad dan peralatan yang tidak lengkap (sebanyak 20.7%) terutama di negara mundur dan sedang membangun berbanding di Negara maju seperti Amerika Syarikat dan Jepun. Malangnya kajian berkaitan permasalah ini kurang dikaji mungkin kerana ia melibatkan polisi kewangan dan polisi pendidikan Negara berkenaan.
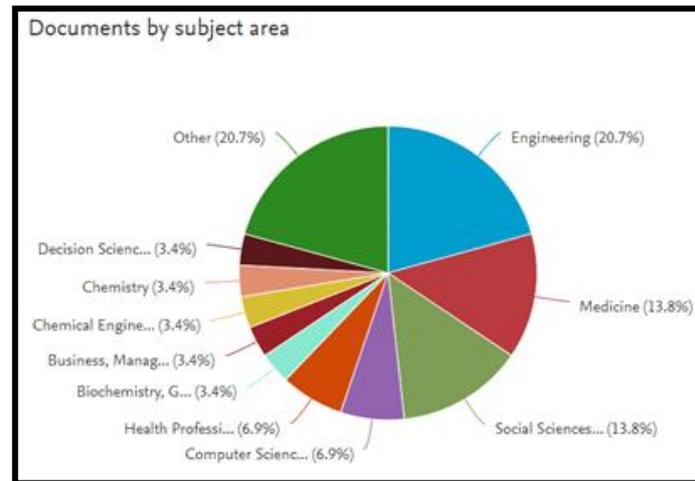
Rajah 2. Peratusan mata pelajaran yang dikaji

Cadangan Kajian Lanjutan

Peruntukan kewangan yang kecil dan berkaitan peralatan bengkel merupakan masalah yang berlaku dalam PVMA bidang automotif sekolah akademik harian di Malaysia. Kekurangan peruntukan kewangan bagi pembelian bahan mentah dan peralatan bengkel seiring dengan perkembangan teknologi untuk kegunaan amali menjadi satu cabaran yang serius bagi guru-guru untuk menjalankan proses pengajaran dan pembelajaran. Justeru itu seseoarang guru itu perlu kreatif berhadapan dengan masalah kekurangan peruntukan ini agar proses pengajaran dan pembelajaran masih dapat diteruskan. Artikel ini mencadangkan kajian lanjutan dijalankan bagi mengenalpasti kreativiti guru dalam menangani masalah kekurangan peruntukan geran perkapita bagi membolehkan proses pengajaran dan pembelajaran dapat diteruskan sebagaimana tercatat dalam kurikulum PVMA bidang automotif.

Kesimpulan

Melalui carian sorotan kajian dan perbincangan berkaitan dengan peruntukan geran perkapita yang kecil dan kemudahan peralatan bengkel yang tidak lengkap bagi PVMA bidang Automotif di Malaysia menunjukkan skop kajian ini kurang mendapat perhatian untuk dikaji sedangkan peruntukan geran perkapita menjadi titik tolak kepada tercapai atau tidaknya perlaksanaan kurikulum mata pelajaran bidang tersebut. Menurut Hankonen *et al.,* (2017), kecukupan peralatan dalam proses melaksanakan latihan amali adalah sangat perlu bagi memastikan pelajar menerima pengetahuan dan kemahiran yang tinggi.

Sekatan terhadap peruntukan proses pengajaran dan pembelajaran ini tidak seharusnya berlaku selagi ia membantu pelajar dalam proses pembelajarannya. Peralatan yang dibekalkan pula haruslah bersesuaian dengan kandungan sukatan pelajaran yang diajar, teknologi terkini dan mencukupi untuk pelajar. Menurut Erkoc (2013, penyediaan bengkel, kemudahan infrastruktur, peralatan yang bersesuaian dengan teknologi dan mencukupi setara dengan bilangan pelajar dapat meningkatkan kualiti pendidikan kemahiran dalam TVET. Kintu *et al.,* 2015 turut berpendapat tempat bekerja yang baik mempunyai peralatan yang lengkap dan berteknologi terkini. Peralatan yang tidak lengkap pula akan menyukarkan pelajar untuk belajar dengan baik (Lin *et al.*, 2012). Oleh yang demikian, peruntukan geran perkapita dan peralatan yang mencukupi bagi PVMA bidang automotif sangat penting bagi memastikan pelajar memperoleh pengetahuan yang maksimum dalam bidang kemahiran.

Bagi Negara-negara mundur dan sedang membangun, kekurangan sumber kewangan yang mencukupi memaksa guru menjadi kreatif dalam membuat perubahan agar pelajar tetap mendapat pengetahuan dan kemahiran yang sepatutnya (Hadawi dan Crabbe, 2018). Guru yang kreatif dalam mengatasi masalah pengajaran akan menjadikan pelajar juga kreatif (Varzaru, *et al.,* 2009).

Rujukan

Andoko, Wirawan, W.A. (2017) Needs analysis of automotive workshop equipment based on Indonesian national standards. University of Malang, Malang, Indonesia.

Erkoç, F.,Sepici-Dinçel, A.,Kayrin, L.,Özkan, Y.,Ekşioğlu, S.,Yüksel, M.,Haklar, G.,Yavuz, O. ,Çelik, H.,Konuk, M.,Kurban, S.,Uysal, H.,Kisa, U.,Bodur, E.,Selvi, M.,Akca, G. ,Şimşek, B. (2013) The multidisciplinary approach to biochemistry laboratory education.

Febiyani, A. Suhardi, dan B. Pujiyanto, E. (2018) Evaluation of thermal comfort room garment workshop in textile vocational school.

Hadawi, A. dan Crabbe, M.J.C (2018) Developing a mission for further education: changing culture using non-financial and intangible value.

Hankonen, N. Heino, M.T.J. Hynynen, S.-T. Laine, H. ,Araújo-Soares, V. Sniehotta, F.F. Vasankari, T. Sund, R. dan Haukkala, A. (2017). Randomised controlled feasibility study of a school-based multi-level intervention to increase physical activity and decrease sedentary behaviour among vocational school students.

Jimenez, Y.A., Thwaites, D.I, Juneja, P., dan Lewis, S.J. (2018) Interprofessional education: evaluation of a radiation therapy and medical physics student simulation workshop.

Kintu, D. ,Kyakula, M. dan Kikomeko, J. (2015) Occupational safety training and practices in selected vocational training institutions and workplaces in Kampala, Uganda.

Lin, F., Zhang, L., Zhang, T., Wang, J., dan Zhang, R.I (2012) Automotive education in additive manufacturing in China

Lugya, F.K (2018) User-friendly libraries for active teaching and learning: A case of business, technical and vocational education and training colleges in Uganda.

Sarimah Ismail dan Farawahida Yassin (2009) Kekangan Pelaksanaan Mata Pelajaran Vokasional Di Sekolah Menengah Negeri Johor, Fakulti Pendidikan, Universiti Teknologi Malaysia.

Varzaru, G. Plotog, I., Codreanu, N.D., dan Mihailescu, T. (2009). Train the trainers hands-on workshop.

Werner, T. Plowucha, W. Jakubiec, W., dan Weckenmann, A. (2010) Creating a web-based course on measurement uncertainty in international cooperation.

Keberkesanan Menggunakan Kad Integer Dalam Topik Nombor Nisbah: Satu Kajian Tindakan

Kalaiarasi a/p Nadarajan[1], Najua Syuhada Binti Ahmad Alhassora[2], Abdul Halim Bin Abdullah[3]
[1,2,3] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

E-mail: kalaiarasi.n@graduate.utm.my[1], najuasyuhada@utm.my[2], p-halim@utm.my[3]

Abstrak: Integer merupakan salah satu subtopik utama dalam tajuk nombor nisbah. Terdapat pelajar Tingkatan 1 yang mengalami kesukaran untuk memahami topik ini. Hal ini kerana mereka kurang mahir melakukan operasi menambah dan menolak integer dengan tepat. Oleh itu, kaedah permainan dengan menggunakan Kad Integer digunakan untuk membantu pelajar bagi mengatasi masalah ini. Reka bentuk kajian tindakan telah digunakan dalam kajian ini. Seramai 20 orang pelajar sekolah menengah di daerah Kluang terlibat sebagai responden. Tinjauan awal telah dibuat melalui ujian pra untuk menyaringkan pelajar yang lemah dalam memahami konsep menambah dan menolak Integer. Berdasarkan dapatan awal, hampir 70% pelajar tidak dapat menguasai konsep ini. Oleh itu, pelajar diuji semula dengan kaedah pembelajaran berasaskan permainan menggunakan Kad Integer untuk mengatasi masalah ini. Analisis ujian pasca mendapati bahawa pemahaman pelajar semakin meningkat. Pelajar didapati semakin berminat dan mahir melakukan operasi menambah dan menolak integer dengan tepat. Mereka juga menunjukkan sikap positif dan mempunyai keyakinan diri dalam melaksanakan aktiviti pembelajaran dan pengajaran di dalam bilik darjah. Kajian ini diharapkan dapat membantu pendidik yang ingin mengatasi masalah pelajar yang sama.

Kata Kunci: Integer, Kad integer, Pembelajaran Berasaskan Permainan

Pengenalan

Nombor memainkan peranan penting dalam bidang perniagaan, perdagangan, perbankan, kejuruteraan dan sebagainya. Integer merupakan salah satu unsur dalam nombor. Menurut Lamb dan Thanheiser (2006), Integer adalah subtopik yang sangat penting dalam Kurikulum Matematik Sekolah Menengah kerana ia melibatkan proses pertukaran pemikiran konkrit kepada abstrak. Sejajar dengan itu, Kementerian Pendidikan Malaysia telah menjadikan Integer sebagai salah satu subtopik utama dalam Matematik Tingkatan 1 yang terkandung dalam Kurikulum Standard Sekolah Menengah MatematiK (KPM, 2015, p. 30).

Berdasarkan kajian Stephan dan Akyuz (2012), Integer adalah jenis nombor pertama yang pelajar perlu belajar dan memerlukan pemikiran logik kerana mereka perlu mencari nombor yang kurang daripada sifar tanpa bahan konkrit. Pembelajaran nombor negatif sentiasa berkait dengan keperluan dan ciri pemikiran pelajar untuk membangunkan potensi dan pengetahuan tersendiri mereka untuk memahami integer melalui proses pemikiran abstrak (Suryadi, Fuadiah, & Turmudi, 2018). Pembelajaran berasaskan permainan dalam pengajaran dan pembelajaran dengan menggunakan Kad Integer boleh menarik minat pelajar untuk memahami lebih mendalam tentang konsep penambahan dan penolakan Integer. Kesimpulanya boleh dinyatakan bahawa pengetahuan tentang Integer adalah sangat penting kerana ia merentasi kebanyakkan tajuk dalam sukatan pelajaran Matematik seperti Kuasa Dua, Punca Kuasa Dua, Indeks, Persaman liner, Bentuk Piawai, Ungkapan Algebra dan lain-lain topik lagi.

Latar Belakang Masalah

Berdasarkan kajian yang dilakukan oleh Ural (2016), pelajar sering mempunyai masalah dalam penambahan dan penolakan melibatkan Integer. Hal ini terbukti apabila terdapat segelintir pelajar yang sukar memahami konsep penambahan dan penolakan Integer dengan tepat. Masalahnya bermula, apabila pelajar melibatkan bilangan negatif dalam operasi integer (Fuadiah, Suryadi, & Turmudi, 2017). Sekiranya pelajar tidak menguasai konsep nombor negatif dengan tepat maka mereka akan menghadapi kesukaran atau tidak dapat memahami tajuk berikutnya terutama yang berkaitan dengan konsep penambahan dan penolakan Integer.

Menurut Miller (2013), konsep wang dalam penambahan dan penolakan Integer merupakan konsep abstrak yang sukar untuk difahami oleh pelajar. Hal ini selari dengan kajian Bishop, Lamb, Philipp, Whitacre, dan Schappelle, (2014), iaitu penambahan dan penolakan Integer melibatkan beberapa proses pemikiran termasuklah perintah, magnitude, keperluan logik dan pengiraan. Seterusnya, penambahbaikan dalam kajian integer Bishop et al (2016) telah mengubah analogi kepada keperluan logik. Namun demikian, selepas guru mengajar keperluan logik dalam topik Integer terdapat segelintir pelajar masih kurang memahami konsep penambahan dan penolakan Integer. Selanjutnya kajian oleh Shahrill, Leong, Amilin Tengah, dan Lin Sen, (2017) pula menyarankan kaedah penggunakan bahan manipulatif dan kaedah pedagogi yang berbeza akan membantu meningkatkan pelajar memahami konsep penambahan dan penolakkan Integer dengan tepat. Justeru itu, pengkaji telah mencari alternatif lain untuk menyelesaikan masalah ini dengan memperkenalkan pembelajaran berasaskan permainan. Dapatan ini dikukuhkan lagi dengan kajian oleh Paul (2018), yang

menyatakan kaedah permainan merupakan satu strategi pengajaran yang lebih berkesan berbanding dengan kaedah traditional. Kaedah ini juga membantu guru untuk meningkatkan pencapaian akademik dan motivasi pelajar serta melibatkan pelajar secara lebih aktif dalam proses pembelajaran dan pemudahcaraan (PdPc).

Oleh itu, pengkaji memperkenalkan kaedah permainan 'Kad Integer' sebagai alat pedagogi dalam proses PdPc. Kaedah ini berguna untuk memudahkan pelajar memahami konsep penambahan dan penolakan Integer. Aktiviti permainan ini dimulakan dengan pelajar dibahagikan kepada 5 kumpulan dan setiap pelajar menerima 5 kepingan kad Integer. Salah seorang pelajar daripada setiap kumpulan akan membuka satu keping kad jawapan. Seterusnya, pelajar-pelajar di dalam kumpulan perlu cuba menambah atau menolak Integer yang ada pada mereka bagi mendapatkan nilai yang sama dengan kad jawapan. Pelajar yang berjaya mendapat nilai yang sama dengan kad jawapan boleh mengurangkan kad mereka. Sementara itu, pelajar yang tidak mendapat nilai yang sama dengan kad jawapan diminta untuk mengambil satu keping lagi kad tambahan. Pelajar yang berjaya menghabiskan kad di tangan mereka merupakan pemenang.

Metodologi

Kajian ini adalah kajian tindakan yang menggunakan kaedah kuantitatif dan kualitatif. Kaedah kuantitatif digunakan bertujuan untuk mendapatkan data analisis statistik. Kaedah kualitatif pula melibatkan temu bual yang direkodkan melalui pemerhatian. Selain itu, Model Kemmis dan McTaggart (1992) merupakan model yang menjadi asas bagi pelaksanaan kajian ini. Model Kemmis dan McTaggart (1992) ditunjukkan seperti dalam Rajah 1.
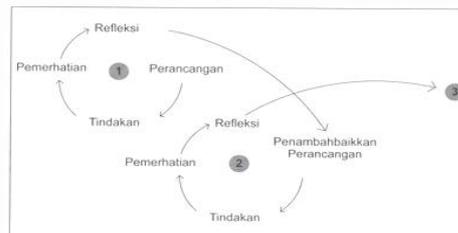
Rajah 1. Gelung Kajian Tindakan Stephen Kemmis (1992)

Kajian ini melibatkan seramai 20 orang responden yang merupakan pelajar Tingkatan 1. Responden-responden ini terdiri daripada pelajar yang mempunyai pencapaian rendah dalam ujian Matematik bulan Mac yang lalu. Selain itu, kajian ini menggunakan dua alat kajian iaitu ujian pra dan ujian pasca. Ujian pra diberikan kepada responden sebelum kaedah permainan diperkenalkan. Ujian pra dilakukan bagi menguji pengetahuan pelajar melalui pencapaian pelajar dalam mencari nilai bagi operasi penambahan atau penolakan Integer yang berbeza tanda. Soalan ujian pra mengandungi operasi tambah dan tolak integer beserta tanda '+' atau '-'. Pengkaji telah memberikan satu set ujian pra kepada semua pelajar yang terlibat. Manakala, ujian pasca pula diberikan kepada responden selepas mengikuti kaedah permainan 'Kad Integer' dalam menguasai konsep penambahan atau penolakan Integer yang berbeza tanda. Soalan ujian pasca berpandukan kepada soalan ujian pra tetapi telah diubahsuai untuk menjadikannya sebagai ujian yang baru sebagai langkah bagi mengatasi ancaman.

Dapatan dan Perbincangan

Dapatan kajian ini menunjukkan hasil analisis deskriptif bagi ujian pra dan pasca terhadap pelajar-pelajar Tingkatan 1. Kaedah traditional didapati tidak membantu pelajar untuk menguasai operasi penambahan dan penolakan Integer. Kebanyakan pelajar menganggap Matematik merupakan mata pelajaran yang kurang menarik dan membosankan. Di akhir aktiviti pengajaran dan pembelajaran, pengkaji memberikan satu set ujian pra kepada semua pelajar yang terlibat. Peratus pelajar mengikut gred ditunjukkan seperti dalam Jadual 1.

Jadual 1. Analisis Ujian Pra

Gred	Peratus	Frekuensi
A	10	2
B	5	1
C	15	3
D	5	1
E	65	13

Hasil dapatan daripada ujian pra menunjukkan hanya 2 orang pelajar (10%) sahaja mendapat gred A, seorang pelajar (5%) mendapat gredB,3 orang pelajar (15%)mendapat gred C dan seorang pelajar 5% mendapat gred D. Tetapi seramai 13 orang pelajar (65%)tidak mencapai tahap penguasaan yang dipelajari. Ini menunjukkan pelajar memang sangat lemah dalam tajuk ini. Pengkaji juga telah membuat pemerhatian dalam kelas 1 A3 semasa PdPc dijalankan dan melalui semakan buku latihan. Pengkaji mendapati pelajar tidak memahami bagaimana cara untuk menyelesaikan penambahan atau penolakan integer yang berbeza tanda dengan betul. Ekoran daripada ini pelajar tidak dapat menjawab soalan yang diberikan dengan tepat. Pengkaji telah

menemubual pelajar-pelajar yang tidak dapat menjawab soalan dengan betul, dan mereka menyatakan tidak tahu bagaimana hendak mencari nilai bagi penambahan atau penolakan integer yang berbeza tanda. Ujian pasca dijalankan setelah pelajar diberikan rawatan dengan kaedah permainan untuk memahami konsep penambahan dan penolakan Integer.

Hasil analisis menunjukkan bahawa pelajar-pelajar lebih yakin, seronok dan berminat dengan aktiviti permainan yang dijalankan. Kaedah permainan yang menggunakan Kad Integer juga didapati membantu pelajar untuk menguasai operasi penambahan dan penolakan Integer. Penggunaan kaedah permainan melalui Kad Integer telah dapat menarik minat, perhatian dan tumpuan pelajar terhadap mata pelajaran Matematik. Di akhir aktiviti pengajaran dan pembelajaran, pengkaji memberikan satu set ujian pasca kepada semua pelajar yang terlibat. Peratus pelajar mengikut gred ditunjukkan seperti dalam Jadual 2.

Jadual 2. Analisis Ujian Pasca

Gred	Peratus	Frekuensi
A	20	4
B	30	6
C	35	7
D	15	3
E	0	-

Jadual 2 menunjukkan peningkatan peratus mengikut gred dalam Ujian Pasca. Seramai 4 orang pelajar (20%) yang mendapat gred A, 6 orang pelajar (30%) mendapat gred B manakala 7 orang pelajar (35%) mendapat gred C. Sementara itu, 3 orang pelajar (15%) mendapat gred D dan tiada pelajar yang gagal. Kebanyakan pelajar boleh menjawab lebih banyak soalan dengan betul selepas kajian tindakan dilaksanakan.

Jadual 3. Perbandingan Ujian Pra dan Ujian Pasca

Gred	Ujian Pra Peratus	Frekuensi	Ujian Pos Peratus	Frekuensi
A	10	2	20	4
B	5	1	30	6
C	15	3	35	7
D	5	1	15	3
E	65	13	0	-
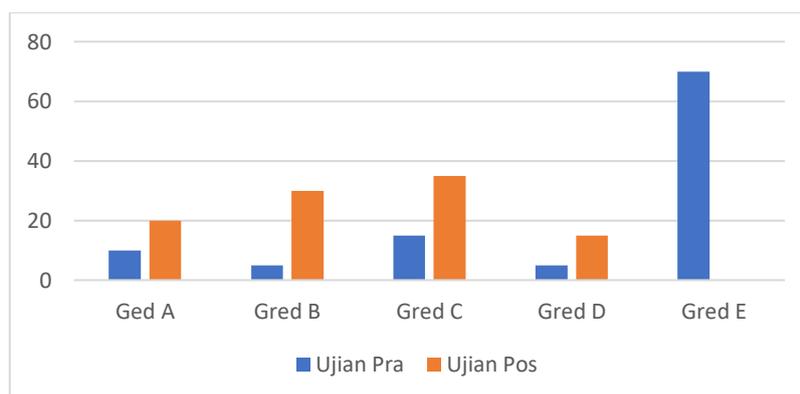
Rajah 2. Perbandingan Ujian Pra dan Ujian Pasca

Jadual 3 dan rajah 2 menunjukkan perbandingan pencapaian pelajar antara Ujian Pra dan Ujian Pasca. Seramai 4 orang pelajar (20%) yang mendapat gred A. Majoriti pelajar boleh menjawab lebih banyak soalan dengan betul selepas kajian tindakan dilaksanakan. Hasil kajian juga mendapati bahawa, tiada pelajar yang langsung tidak boleh menjawab soalan Integer. Hal ini membuktikan bahawa penggunaan kaedah permainan menggunakan Kad Integer dapat membantu pelajar menguasai operasi penambahan dan penolakan Integer.

Selain itu, satu sesi temu bual dengan kumpulan sasaran juga dilakukan. Berikut merupakan perbandingan dapatan sesi temu bual sebelum dan selepas kajian dijalankan.

Jadual 4. Perbandingan Dapatan Sesi Temu Bual Sebelum dan Selepas Kajian Tindakan

Soalan Temubual	Jawapan	Peratus			
		Sebelum	Frekuensi	Selepas	Frekuensi
Adakah anda berminat terhadap mata pelajaran Matematik?	Minat	55	11	100	20
Anda tahu menambah dua integer positif ?	Ya	100	20	100	20
Anda tahu menambah integer positif dan negatif?	Tidak	70	14	85	17
Anda tahu menambah dua integer negatif?	Ya	80	16	100	20
Anda tahu menolak dua integer negatif?	Tidak	70	14	90	18
Tahukah anda kemahiran penambahan dan penolakan integer penting dan merupakan kemahiran asas yang perlu dikuasai?	Tahu	100	20	100	20

Hasil dapatan sebelum dan selepas kajian menunjukkan terdapat perubahan yang positif terhadap kumpulan sasaran. Pelajar berpendapat bahawa aktiviti permainan Kad Integer dapat mengukuhkan kemahiran mereka dalam operasi penolakan dan penambahan nombor Integer.

Kesimpulan

Secara keseluruhannya, dapatan kajian ini menunjukkan bahawa kaedah pembelajaran berasaskan permainan adalah sesuai untuk dilaksanakan semasa proses PdPc di dalam bilik darjah. Pelajar memerlukan satu kaedah yang ringkas bagi memudahkan mereka untuk memahami sesuatu topik pengajaran. Dengan menggunakan kaedah permainan Kad Integer, pelajar dapat meningkatkan lagi penguasaan mereka dalam topik Integer. Kaedah ini berkesan di mana pelajar boleh menguasai konsep penambahan dan penolakan integer secara perlahan dan berperingkat. Hal ini dapat dilihat apabila pelajar ingin mencuba dan yakin dengan jawapan mereka. Hal ini jelas membuktikan bahawa penglibatan pelajar dalam kaedah permainan dapat membimbing pelajar untuk menguasai kemahiran abad ke -21.

Rujukan

Bishop, J. P., Lamb, L. L., Philipp, R. A., Whitacre, I., & Schappelle, B. P. (2014). Using order to reason about negative numbers: The case of Violet. *Educational Studies in Mathematics*, 86(1), 39–59. https://doi.org/10.1007/s10649-013-9519-x

Bishop, J. P., Lamb, L. L., Philipp, R. A., Whitacre, I., & Schappelle, B. P. (2016). Leveraging Structure: Logical Necessity in the Context of Integer Arithmetic. *Mathematical Thinking and Learning*, 18(3), 209–232. https://doi.org/10.1080/10986065.2016.1183091

Fuadiah, N. F., Suryadi, D., & Turmudi, T. (2017). ANALYSIS OF DIDACTICAL CONTRACTS ON TEACHING MATHEMATICS: A DESIGN EXPERIMENT ON A LESSON OF NEGATIVE INTEGERS OPERATIONS. *Infinity Journal*. https://doi.org/10.22460/infinity.v6i2.p157-168

Kementerian Pendidikan Malaysia , Kurikulum Standard Sekolah Menegah .(2015). *Matematik Dokumen Standard Kurikulum dan Pentaksiran Tingkatan1*.Putra Jaya:Bahagian Pembangunan Kurikulum.

Lamb, L. C., & Thanheiser, E. (2006). Understanding Integers: Using Balloons and Weights Software. *Proceedings of the 28th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, 2(1999), 1999–2000.

Michelle Stephan, & Didem Akyuz. (2012). A Proposed Instructional Theory for Integer Addition and Subtraction. *Journal for Research in Mathematics Education*, 43(4), 428. https://doi.org/10.5951/jresematheduc.43.4.0428

Miller, J. L. (2013). A Curriculum Study : Teaching Integer Addition and Subtraction Using a Net Worth Concept.

Paul, S. M. K. S. (2018). Pembelajaran Berasaskan Permainan dalam Pendidikan STEM dan Penguasaan Kemahiran Abad Ke-21 Pendidikan STEM dalam Abad Ke-21, 3, 121–135.

Shahrill, M., Leong, E., AmilinTengah, K., & Lin Sen, G. (2017). Teaching and Learning of Integers Using Hands-on Versus Virtual Manipulatives, (April), 174–185. https://doi.org/10.17501/icedu.2017.3119

Suryadi, D., Fuadiah, N. F., & Turmudi, T. (2018). Teaching and Learning Activities in Classroom and Their Impact on Student Misunderstanding: A Case Study on Negative Integers. *International Journal of Instruction*, 12(1), 407–424. https://doi.org/10.29333/iji.2019.12127a

Ural, A. (2016). 7th Grade Students' Understandings of Negative Integer. *Journal of Studies in Education*, 6(2), 170. https://doi.org/10.5296/jse.v6i2.9075

Kepentingan Pengupayaan Dalam Kalangan Penolong Kanan Dalam Pengurusan Sekolah

Nadiah M Yusof[1], Jamilah Ahmad[2], Mahani Mokhtar[3]
[1,2,3] Sekolah Pendidikan, Fakulti Sains Sosial dan Kemanusiaan, Universiti Teknologi Malaysia

E-mail: nadiah64@graduate.utm.my[1], jamilah_ahmad@utm.my[2], p-mahani@utm.my[3]

Abstrak: Kajian kuantitatif ini bertujuan untuk melihat tahap pengupayaan penolong kanan dalam pengurusan sekolah untuk memastikan pentadbiran di sekolah lebih berkesan dan efisien. Sejumlah enam puluh tiga sampel terlibat dalam kajian ini. Dimensi pengupayaan guru seperti Membuat Keputusan, Pembangunan Profesional, Status, Kecekapan Diri, Autonomi dan Impak berdasarkan instrumen soal selidik Skala Pengupayaan Peserta Sekolah (SPES) yang telah diuji kebolehpercayaannya (Alpha Cronbach = .99). Kesemua item soal selidik telah diterjemah ke Bahasa Melayu tanpa mengubah maksud asal. Penggunaan skala lima mata telah diaplikasikan dalam mencari tahap pengupayaan penolong kanan di sekolah menengah. Melalui kajian ini, pengkaji telah membuat rumusan bahawa tahap pengupayaan para penolong kanan mengikut dimensi pengupayaan guru adalah tinggi (Min = 4.12; Sisihan Piawai) = .55).

Kata Kunci: Penolong kanan, pengupayaan guru, pengurusan sekolah

Pengenalan

Definisi istilah pengupayaan secara operasional ialah sebagai satu delegasi autoriti yang diberikan kepada seseorang individu untuk melakukan sesuatu. Maka, dalam kajian ini, ia berkaitan pemberian autonomi dalam mengupayakan penolong kanan dalam memastikan keberkesanan kepimpinan sekolah secara efisyen. Penolong kanan bertanggungjawab membantu pengetua dan harus bekerjaama antara sesama mereka selain daripada tugas hakiki iaitu mengajar (Omardin, 1996). Penolong kanan juga bertindak sebagai penyelaras, pengawal, perancang, dan pelaksana sewaktu ketiadaan pengetua. Seorang pengetua yang mengupayakan penolong kanannya dapat memberi manfaat dalam pengurusan sekolah yang efisyen. Keadaan ini dapat mengurangkan tekanan dan beban kerja para pengurus sekolah (Hussein, 1993; Abdul Ghani, Tang, & Abdullah, 2005). Kepimpinan di sekolah bukan sahaja dilakukan oleh pengetua malah kepimpinan tersebut juga digalas oleh mereka yang memegang jawatan yang lebih tinggi di sekolah (Devos, Tuytens, & Hulpia, 2014). Seterusnya pengupayaan dalam kalangan guru adalah penglibatan mereka untuk membuat keputusan dalam organisasi (Keith & Girling, 1991). Keperluan pengupayaan kepada penolong kanan jelas dinyatakan dalam laporan kajian Mohd Izham & Norzian (2015) yang menyatakan pengetahuan pengetua yang terhad di dalam bidang- bidang tertentu, mneyebabkan pengetua menyerahkan tugas tersebut kepada penolong kanan yang bertanggungjawab. Seperti contoh, di dalam bidang sukan atau ko- kurikulum di mana beliau menjadi sebagai pemerhati. Batson (2004) menerangkan akauntabiliti sebagai kesanggupan dalam membuat keputusan, tanggungjawab seseorang pekerja atau staf, persembahan kerja secara kolektif. dan juga petunjuk bahawa pekerja atau staf itu berjaya memupuk akauntibiliti atau sikap bertanggungjawab di dalam dirinya dapat ditonjolkan melalui komitmen dan dedikasi mereka terhadap kerjaya dan tugas.

Latar Belakang Masalah

Hartzell (1993) menyatakan penolong kanan adalah mereka yang kurang memberi impak kepada sekolah. Berdasarkan pembentangan kertas berkaitan dengan penolong kanan, N. Mertz (2000) menyokong Hartzell bahawa jawatan penolong kanan ini kurang diberi perhatian. Walau bagaimanapun, pembangunan pendidikan yang pantas dan pesat memberi cabaran kepada pengetua dan guru besar untuk akur dengan perubahan semasa sektor pendidikan. Seiring perubahan- perubahan ini, didapati banyak tugas yang perlu digalas dan dilaksanakan oleh mereka. Maka, di sini terlihat perlunya pengupayaan dalam kalangan penolong kanan ini untuk membantu pengetua dan guru besar dalam memastikan pengurusan sekolah berjalan lancar. Contoh dalam konteks ini, pengetua atau guru besar memberi kepercayaan kepada penolong kanannya untuk melakukan tugas- tugas pengurusan tertentu terutama apabila mereka tiada di sekolah.. Konsep pengupayaan yang utama adalah memberi kepercayaan dan saling percaya dan ia merupakan satu usaha yang berterusan yang melibatkan perkongsian informasi bersama rakan sekerja (Hussein, 1997). Informasi yang dikongsi memupuk sikap saling percaya antara satu sama lain. Apabila sudah ada kepercayaan dalam kalangan mereka, kualiti pengurusan dapat dipertingkatkan (Sarah K, 2011). Short (1992) melaporkan bahawa pengupayaan membolehkan pengetua menggunakan masa beliau dengan lebih efisyen serta dapat memaksimumkan penggunaan sumber sedia ada untuk melicinkan struktur dan sistem pentadbiran sekolah.. Justeru kajian pengupayaan ke atas penolong kanan ini berdasarkan dimensi pengupayaan guru seperti membuat keputusan (decision making), pembangunan profesional (professional growth), status (status), kecekapan diri (self- efficacy), autonomi (autonomy), dan Impak (impact). Dimensi pengupayaan inilah yang telah diberi fokus di dalam kajian ini.

Metodologi

Reka bentuk kajian yang telah dipilih oleh penyelidik ialah kuantitatif di mana kajian telah dijalankan untuk mengetahui tahap pengupayaan dalam kalangan penolong kanan. Ia dilakukan untuk melihat tahap pengupayaan penolong kanan menurut bidang tugas seperti Pentadbiran, Hal Ehwal Murid, dan Ko- kurikulum. Data dikumpulkan melalui instrumen soal selidik yang diadaptasi, diterjemah, dan ditambah mengikut kesesuaian populasi sampel berdasarkan 34 item daripada *School Participants Empowerment Scale* (SPES). Data diperolehi dan dikutip daripada populasi sampel kajian berdasarkan item soal selidik yang diedarkan kepada setiap penolong kanan yang terlibat. Dalam kajian ini populasi dan sampel kajian terdiri daripada semua penolong kanan sekolah menengah di satu daerah di Johor. Sejumlah 63 orang penolong kanan berkhidmat di sekolah menengah di daerah tersebut. Penolong kanan tersebut adalah mereka yang memegang jawatan dalam Pentadbiran (PKP), Hal Ehwal Murid (PK HEM), dan Ko-kurikulum (PK Ko-kurikulum). Kajian ini memfokuskan kepada pengupayaan penolong kanan dalam pengurusan dan pentadbiran sekolah. Sampel bagi kajian ini adalah semua PKP, PK HEM, dan PK Ko- Kurikulum di sebuah daerah di Johor yang berjumlah 63 orang. Oleh sebab itu, sampel bagi kajian ini adalah populasi keseluruhan penolong kanan yang memegang jawatan seperti dinyatakan di atas. Pensampelan populasi keseluruhan adalah sejenis teknik pensampelan *purposive* yang melibatkan kajian keseluruhan populasi yang mempunyai set ciri tertentu seperti ciri, sifat, pengetahuan, dan kemahiran.

Item instrumen soal selidik telah ditadbir dan distruktur berdasarkan enam dimensi yang terdiri daripada aspek membuat keputusan, latihan dan pembangunan dalam perkhidmatan, status, kecekapan peribadi, autonomi, dan impak. Soal selidik ini juga terdiri daripada dua bahagian iaitu bahagian A yang berkaitan dengan demografi responden kajian dan bahagian B adalah kosntruk item berbentuk pernyataan. Setiap pernyataan disediakan skala lima mata tingkat persetujuan (*a five- point- agreement- scale*). Soal selidik telah diberikan kepada penolong kanan yang terlibat. Instrumen ini telah ditambah, diterjemahkan, dan diadaptasi daripada instrumen soal selidik *School Participant Empowerment Scale* (SPES) yang asal yang telah dibangunkan oleh Short dan Rineheart (1992). Instrumen di dalam kajian ini juga telah disediakan dalam bentuk skala lima mata berdasarkan tingkat persetujuan iaitu Sangat Tidak Setuju (STS), Tidak Setuju (TS), Kurang Setuju (KS), Setuju (S), dan kepada Sangat Setuju (SS). Analisis data bagi Soal Selidik Skala Lima Mata dibuat menggunakan perisian GNU PSPP 1.0.1. Sebanyak 34 item soal selidik telah disediakan dan dijawab oleh sampel kajian. Data telah dianalisis berdasarkan statistik deskriptif melalui ujian deskriptif untuk melihat peratus, min, dan sisihan piawai.

Dapatan dan Perbincangan

Analisis data bagi Soal Selidik Skala Lima Mata dibuat menggunakan perisian GNU PSPP versi 1.0.1. dan hasilnya ditunjukkan dalam bentuk frekuensi, peratus, min, sisihan piawai, dan perbezaan signifikan bagi setiap item dalam setiap dimensi. Disamping itu, pengupayaan dikira melalui julat untuk menentukan tahap pengupayaan setiap item dan dimensi itu tinggi, sederhana, atau rendah. Berdasarkan skala lima mata, tahap pengupayaan tinggi adalah dari skor min 3.67 sehingga 5.0, tahap pengupayaan sederhana adalah dari skor min 2.34 sehingga 3.66, dan tahap pengupayaan rendah adalah skor min 1.00 sehingga 2.33. Oleh sebab itu, penyelidik menggunakan batasan ini untuk melihat tahap pengupayaan.

Jadual 1. Rumusan Keseluruhan Skor Min Dan Tahap Pengupayaan Setiap Dimensi

Dimensi	Skor Min	Sisihan Piawai	Tahap Pengupayaan
Membuat Keputusan	4.22	0.66	Tinggi
Pembangunan Profesional	4.38	.47	Tinggi
Status	3.97	.60	Tinggi
Kecekapan Diri	4.22	.60	Tinggi
Autonomi	3.48	0.66	Sederhana
Impak	4.43	0.46	Tinggi
Skor Keseluruhan	**4.12**	**0.55**	**Tinggi**

Nota: Tahap pengupayaan 1.00- 2.33 Rendah, 2.34- 3.66, Sederhana, 3.67- 5 Tinggi

Jadual 1 menunjukkan rumusan keseluruhan skor min beserta tahap pengupayaan. Skor min keseluruhan (M= 4.12) telah menunjukkan tahap pengupayaan keseluruhan penolong kanan di daerah tersebut adalah tinggi dengan sisihan piawai ysng hampir dengan skor min pengupayaan (SD= 0.55).

Penemuan mengenai cara enam dimensi pengupayaan guru adalah konsisten dengan kajian terdahulu. Contohnya, kajian Wall & Rinehart (1998) mendapati Dimensi Status mempunyai min 4. 14 dengan sisihan piawai

0.51, manakala Dimensi Kecekapan Diri, Impak, Pertumbuhan Profesional, Autonomi dan Membuat Keputusan mempunyai min 2.94 dengan sisihan piawai 0.72. Begitu juga dalam kajian Bogler & Somech (2004) yang mendapat keputusan yang serupa. Dimensi Status mempunyai nilai min di tahap tinggi iaitu 4.10 dengan sisihan piawai 0.62. Manakala Dimensi Pembangunan Profesional, Impak, Kecekapan Diri, Mengambil Keputusan dan Autonomi mempunyai tahap min sederhana iaitu 3.06 dengan sisihan piawai 0.73. Dapatan data berkenaan Dimensi Autonomi dalam pengupayaan penolong kanan juga mendapat keputusan yang serupa iaitu nilai tahap min adalah ditahap sederhana.

Pengupayaan harus dilakukan ke atas penolong kanan supaya mereka lebih berupaya melaksanakan tanggungjawab dengan lebih efektif. Dalam kalangan penolong kanan, wujud ketidakikhlasan dalam melaksanakan tugas kerana mereka memikul jawatan itu disebabkan senioriti, bukan atas kerelaan sendiri. Marshall (2006) menyatakan dalam bukunya penolong kanan biasanya dipilih kerana kewibawaan dan kejayaan mereka sebagai guru, ketua jabatan, kaunselor, atau pelatih pentadbiran. Begitu juga, calon pentadbiran yang mematuhi keperluan kerja mungkin akan dipilih untuk dinaikkan pangkat. Namun, dalam proses tersebut, banyak pemimpin pendidikan berbakat dan inovatif ditolak permohonan untuk menjadi penolong kanan kerana antara dalam kalangan mereka memiliki kreativiti dan kelebihan lain yang istimewa menolak jawatan yang ditawarkan kerana merasakan mereka tidak terlatih untuk memenuhi kriteria sebagai penolong kanan di sekolah.

Latihan kepimpinan dan pengupayaan penolong kanan harus diberi kerana kebanyakan latihan guru adalah berkaitan dengan bidang pedagogi dan amalan di dalam bilik darjah. Amat kurang latihan dan kursus diberikan kepada kelompok penolong kanan terutama dalam aspek pengupayaan untuk mereka menerima dengan terbuka akan pengalaman baru sebagai pengurus pertengahan di dalam sistem sekolah. Latihan yang cukup akan menggilap pengetahuan sedia ada dan pengalaman baru serta mempertingkat kemahiran kepimpinan dalam melancarkan pengurusan dan pentadbiran sekolah. Menurut Marshall (2006), Di samping memberi perhatian khusus kepada latihan dan pengambilan penolong kanan, pembuat dasar boleh mempengaruhi bekalan dan kualiti kepimpinan pendidikan masa depan. Kebanyakan pembantu akan menerima perhatian sedemikian.

Kesimpulan

Kesimpulannya, pengupayaan dalam kalangan penolong kanan di sekolah menengah di daerah ini adalah berada di tahap tinggi. Namun begitu, jawatan penolong kanan lebih ramai di sandang oleh guru lelaki berbanding perempuan. Perihal demografi pengalaman pula menunjukkan guru- guru senior kebanyakannya dilantik memegang jawatan sebagai penolong kanan. Jumlah penempatan penolong kanan ke setiap sekolah menengah berdasarkan penjawatan sebagai PKP, PK HEM, dan PK- Ko-kurikulum di daerah adalah sama. Setiap sekolah mempunyai seorang penolong kanan pentadbiran, penolong HEM dan penolong kanan ko- kurikulum, samada di bandar mahupun luar bandar. Sejumlah besar penolong kanan bersetuju bahawa pengupayaan wujud dan berlaku di sekolah.

Walau bagaimana pun, pentadbir harus proaktif dalam menyediakan pengalaman dan persekitaran untuk semua penolong kanan maju sebagai pemimpin. Dalam ekonomi hari ini dan dengan dana yang terhad untuk menyediakan mereka dengan pembangunan profesional, pentadbir harus kreatif dan terbuka kepada pelbagai pilihan untuk prodiktiviti individu dan sekolah. Produktiviti dan komitmen terhadap karier mereka akan meningkat sekiranya mereka diberi autonomi dan kepercayaan. Marshall (2006) melaporkan bahawa isu pengambilan dan mengekalkan penolong kanan di jawatan yang selalunya diabaikan kerana lebih tumpuan diberikan kepada guru dan pengetua. Cadangan akhir dari kajian ini adalah bahawa pemimpin sekolah perlu mempertimbangkan strategi supaya penolong kanan diberikan kelebihan autonomi. Mereka juga harus meneroka penggunaan amalan kepimpinan yang diedarkan. Sejajar dengan itu, matlamat dan misi organisasi akan turut dilaksana dengan jaya kerana penolong kanan yang diupaya mempunyai kelebihan dalam membuat keputusan, peningkatan kecekapan diri, dan status beliau.

Rujukan

Abdul Ghani, Tang, & (2005) dalam Rajoo Arokiasamy (2013). Pengaruh kepimpinan distributif sebagai moderator terhadap hubungan antara penglibatan guru dalam membuat keputusan dan efikasi kendiri guru. *Dlm Tesis Yang Diserahkan Untuk Memenuhi Keperluan Bagi Ijazah Doktor Falsafah.*USM, Julai.,

Batson. V (2004). Shared governance in an integrated health care network. *AORN Journal,* v80, n3, p493-514

Bogler, R., & Somech, A. (2004). Influence of Teacher Empowerment on Teachers Organizational Commitment, Professional Commitment and Organizational Citizenship Behavior in Schools. Teaching and Teacher Education, 20, 277-289.

Devos, Geert; Tuytens, Melissa; Hulpia, Hester (2014). Teachers' Organizational Commitment: Examining the Mediating Effects of Distributed Leadership. *American Journal of Education*, v120 n2 p205-231

Hussein Mahmod, (1993). Kepimpinan dan keberkesanan sekolah. Kuala Lumpur : Dewan Bahasa dan Pustaka.

Keith, S. & Girling, R. H. (1991). Education, management, and participation: New directions in educational administration. London: Allyn and Bacon.

Marshall (2006). What is special about assistant principals Petikan buku. Bab 1.

Mertz, Norma T (2000). Contextualizing the position of assistant principal.; *Paper presented at the Annual Meeting of the University Council for Educational Administration (14th*, Albuquerque, NM, November 3-5, 2000).

Mohd Izham Mohd Hamzah & Norziana Ayob (2015). Peranan pengetua dalam pengurusan kokurikulum dari perspektif guru sekolah menengah kebangsaan zon keramat. *Jurnal Pendidikan Malaysia 40*(2)(2015): 129-138

N. Hartzell, Gary. (1993). The Assistant Principal: Neglected Actor in Practitioner Leadership Literature. Journal of School Leadership.

Omardin Ashaari (1996). Kepimpinan sekolah. Kuala Lumpur: Utusan Publications Sdn. Bhd

Omardin Ashaari (1996). Peranan, tugas dan tanggungjawab guru di sekolah. Kuala Lumpur: Utusan Publications Sdn. Bhd.

Sarah K (2011).Knowledge sharing: Leveraging trust and leadership to increase team performance. Northwestern School of Education and Social Policy. Northwestern University, Illinois, USA

Short, P. M. (1992). Dimensions of teacher empowerment. Pennsylvania State University, Program in Educational Administration.

Short, P. M., & Rinehart, J. S. (1992). School participant empowerment scale: Assessment of level of empowerment within the school environment. Educational and Psychological Measurement

Short, P. M., Greer, J. T., & Melvin, W. M. (1994). Creating empowered schools: Lessons in change. *Journal of Educational Administration, 32*(4), 38-52

Tahap Kesedaran Autisme Dalam Kalangan Guru-Guru Tabika Perpaduan Negeri Johor

Dayana Farzeeha Ali[1], Muhammad Khair Noordin[2], Nurul Farhana Jumaat[3], Norazrena Abu Samah[4], Zakiah Mohamad Ashari[5]
[1,2,3,4,5] Sekolah Pendidikan, Fakulti Sains Sosial dan Kemanusiaan, Universiti Teknologi Malaysia

E-mail: dayanafarzeeha@utm.my[1], mdkhair@utm.my[2], nfarhana@utm.my[3], norazrena@utm.my[4], zakiahma@utm.my[5]

Abstrak: Kajian ini dijalankan untuk melihat tahap kesedaran guru-guru Tabika Perpaduan di Negeri Johor terhadap autisme. Tujuan utama ini kajian ini adalah untuk mendapatkan lebih banyak maklumat mengenai pengetahuan, kesedaran dan sikap guru-guru tentang tentang autisme. Seramai 115 orang responden dari semua daerah di Negeri Johor terlibat dalam kajian ini. Data dari soal selidik dianalisis dengan statistik deskriptif untuk memahami sikap, kepercayaan, dan pemikiran guru-guru dan membuat tafsiran untuk meningkatkan kualiti dasar pendidikan dan program-program berbentuk latihan kepada guru-guru. Dapatan kajian menunjukkan bahawa tahap kesedaran guru-guru Tabika Perpaduan Negeri Johor masih berada di tahap rendah. Kajian ini menunjukkan perlunya pembentukan program dan latihan kepada guru-guru dalam meningkatkan pengetahuan mereka berkaitan dengan autisme.

Kata kunci: autisme, tahap kesedaran, sikap, pengetahuan
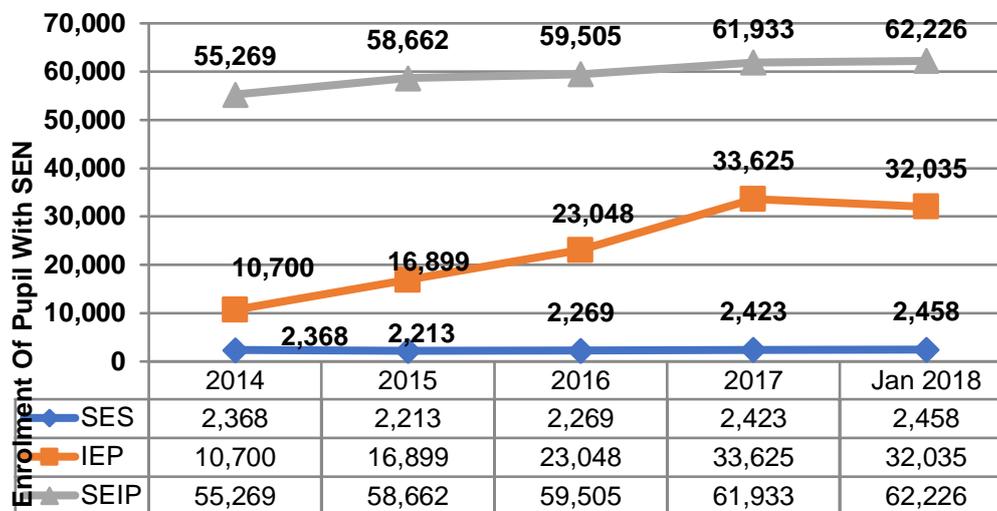
Pengenalan

"Autism Spectrum Disorder" (ASD) merujuk kepada satu gejala atau ketidakupayaan seseorang individu yang berkaitan dengan masalah tertentu termasuk masalah pembangunan interaksi sosial, kemahiran komunikasi lisan, bukan lisan dan tingkahlaku (Levy, Mandell & Schultz, 2009). Berdasarkan statistik yang dikeluarkan oleh Jabatan Pendidikan Khas, Kementerian Pendidikan Khas (2018) seramai hampir 8504 orang pelajar yang mendaftar di bawah kategori masalah pembelajaran autism di peringkat sekolah rendah dan peringkat sekolah menengah. Jadual 1 menunjukkan taburan statistik pelajar autisme mengikut negeri di seluruh Malaysia bagi tahun 2018.

Jadual 1. statistik pelajar autisme mengikut negeri di Malaysia

NEGERI	SEKOLAH PENIDIKAN KHAS	PROGRAM INTEGRASI PENDIDIKAN KHAS	PROGRAM PENDIDIKAN INKLUSIF
JOHOR	12	959	40
KEDAH	14	399	28
KELANTAN	3	228	12
MELAKA	-	298	16
NEGERI SEMBILAN	-	261	19
PAHANG	6	352	20
PERAK	5	724	25
PERLIS	6	41	1
PULAU PINANG	19	445	65
SABAH	-	649	46
SARAWAK	3	672	39
SELANGOR	7	1911	152
TERENGGANU	2	136	9
WP KUALA LUMPUR	-	693	34
WP LABUAN	-	43	4
WP PUTRAJAYA	-	100	6
TOTAL	77	7,911	516
JUMLAH		**8,504**	

(**Sumber:** Kementerian Pendidikan Malaysia, 2018)

Berdasarkan jadual 1, Negeri Selangor mencatatkan bilangan pelajar autism yang tertinggi iaitu seramai 2070 orang pelajar dan iikuti oleh negeri Johor yang mencatat bilangan seramai 1011 orang pelajar. Wilayah Persekutuan Labuan pula menunjukkan bilangan pelajar terendah iaitu seramai 47 orang sahaja. Statistik yang dikeluarkan ini bukanlah bilangan yang tepat bagi semua kanak-kanak yang menghidapi autism. Data ini terpakai hanya untuk kanak-kanak yang berdaftar dengan Kementerian Pendidikan Malaysia. Menurut kajian, lebih daripada 30,000 kanak-kanak yang menghidap autism tidak didaftarkan di bawah mana-mana kementerian, persatuan atau agensi. Rajah 1 pula menunjukkan statistik bilangan pelajar autism yang mendaftar dengan Kementerian Pendidikan Malaysia dari tahun 2014 sehingga 2018.

	2014	2015	2016	2017	Jan 2018
SES	2,368	2,213	2,269	2,423	2,458
IEP	10,700	16,899	23,048	33,625	32,035
SEIP	55,269	58,662	59,505	61,933	62,226

Rajah 1. Statistik kanak-kanak autism dari tahun 2014-2018

(**Sumber:** Kementerian Pendidikan Malaysia, 2018)

Berdasarkan rajah 1, bilangan kanak-kanak autism yang mendaftar meningkat setiap tahun. Oleh itu, kesedaran dan pengetahuan kepada guru berkaitan dengan autisme di Malaysia dilihat sangat penting dalam meningkatkan kualiti Pendidikan kanak-kanak autisme (Yasar & Cronin, 2014). Pengetahuan, kesedaran dan sikap guru-guru tentang tentang autism memberi kesan kepada pelajar dimana pengetahuan dan sikap guru yang positif menyumbang kepada kejayaan pelajar autisme. Selain itu, guru-guru yang mempunyai pengetahuan tinggi dapat membantu mengesan lebih awal simpton-simpton autisme dalam kalangan pelajar dan seterusnya memberi khidmat nasihat kepada ibu bapa untuk mencari kaedah terapi yang baik terhadap anak mereka. Apabila guru mempunyai pengetahuan dan kemahiran dalam autisme, keberkesan pengajaran akan meningkat dan guru akan rasa lebih yakin dan positif terhadap pelajar mereka (Siu & Ho, 2010). Oleh itu, kajian ini dijalankan untuk melihat tahap kesedaran guru dan seterusnya program-program berbentuk kemahiran dapat dijalankan untuk membantu mempertingkatkan lagi pengetahuan dan kesedaran berkaitan dengan pendidikan autism.

Objektif kajian

Objektif kajian ini adalah untuk melihat tahap pengetahuan, kesedaran, sikap guru-guru Tabika Perpaduan Negeri Johor terhadap autisme. Persoalan kajian adalah seperti berikut:

1. Mengenal pasti pengetahuan guru-guru tahu tentang autism.
2. Mengenal pasti tahap pengetahuan guru-guru terhadap aspek Pendidikan autism.
3. Mengenal pasti tahap kesedian guru untuk mengajar kanak-kanak autistik dalam kelas mereka.

Metodologi Kajian

Kajian ini melibatkan seramai 115 orang guru daripada 9 daerah di Negeri Johor dan dipilih secara rawak. Kajian ini menggunakan instrumen soal selidik dan akan dianalisis secara diskriptif. Instrumen ini menggunakan skala likert seperti yang ditunjukkan dalam jadual di 2.

Jadual 2. Jadual Skala Likert

PILIHAN	SKALA
Sangat tidak setuju	1
Tidak setuju	2
Tidak pasti	3
Setuju	4
Sangat setuju	5

Dapatan kajian

Jadual 3 menunjukkan statistik deskriptif bagi setiap penyataan.

Jadual 3. Statistik diskriptif bagi setiap pernyataan

BIL	PERNYATAAN	MEAN	SD
1.	Autisme adalah masalah perkembangan yang boleh dipertingkatkan melalui pendidikan	4.01	1.16
2.	Saya tahu seseorang (saudara, kawan, pelajar) yang mempunyai autisme.	2.61	1.64
3.	Saya memerlukan sekurang-kurangnya 1 hari latihan untuk menguasai ilmu berkaitan dengan autisme	3.07	1.60
4.	Saya mampu memahami dan mengenalpasti kriteria autism.	3.45	1.18
5.	Saya mempunyai pengalaman dalam mengajar kanak-kanak autisme.	1.99	1.33
6.	Saya mampu memberikan maklumat berkaitan dengan autisme jika ibu bapa bertanya kepada saya	3.21	1.37
7.	Pelajar autisme perlu diletakkan di dalam kelas inklusif	3.68	1.25
8.	Pelajar autisme perlu mendapatkan sokongan komunikasi	4.24	1.06
9.	Pelajar autisme perlu mendapatkan sokongan tingkahlaku	4.21	1.09
10.	Pelajar autism perlu mendapatkan sokongan untuk meningkatkan kemahiran sosial	4.32	0.98
11.	Saya berupaya untuk menyediakan pelan pengajaran yang bersesuaian dengan kanak-kanak autism	2.81	1.25
12.	Saya pernah menerima latihan/kursus berkaitan dengan Pendidikan autisme	2.55	1.41
13.	Sama mampu untuk mengintegrasi pengajaran dan pembelajaran di dalam kelas yang mempunyai pelajar autisme	2.68	1.21
14.	Saya mampu mengawal isu-isu pengurusan di dalam kelas yang mempunyai pelajar autisme.	2.81	1.16
15.	Pelajar autism perlu diletakan di dalam kelas Pendidikan khas	3.79	1.27
16.	Sokongan visual mampu membantu pelajar autisme	4.19	1.09
17.	Pelajar autism perlu dimasukkan di dalam aliran perdana	3.16	1.38
18.	Saya telah menerima pendidikan autisme yang mencukupi	2.38	1.26
19.	Perlu lebih banyak latihan dan program pendidikan autism dijalankan untuk membantu guru meningkatkan pengetahuan dan kemahiran mereka dalam autisme.	3.89	1.31
20.	Kementerian Pendidikan telah memperuntukkan bajet bagi tujuan Pendidikan dan latihan guru dan kanak-kanak autisme.	2.21	1.50

Perbincangan

Autism Spectrum Disorder (ASD) dikategorikan dalam masalah pembelajaran di bawah Pendidikan Khas di Malaysia. Kanak-kanak yang mempunyai autisme mempunyai pelbagai tahap mengikut kriteria ketidakupayaan yang dihadapi. Oleh itu, mereka memerlukan banyak sokongan dari pelbagai aspek terutamanya dari aspek pendidikan dan sokongan daripada guru. Dapatan kajian ini menunjukkan bahawa tahap kesedaran guru terhadap autism masih berada pada tahap sederhana. Kurangnya pendedahan dan pengalaman secara langsung dengan kanak-kanak autism mempengaruhi tahap kesedaran autisme guru-guru. Daripada aspek pengetahuan, guru-guru perlu melengkapkan diri mereka dengan aspek pengetahuan yang tinggi bagi membolehkan mereka mengenalpasti masalah autism, menyediakan pelan pengajaran yang sesuai, kaedah pengurusan kanak-kanak autisme dan juga strategi pengajaran dan pembelajaran yang sesuai. Guru-guru dilihat kurang pasti berkaitan dengan masalah autisme yang melibatkan aspek visual, sosial dan komunikasi dimana dapatan kajian menunjukkan tahap item in berada pada tahap yang rendah. Dari aspek kesediaan, dapatan kajian juga menunjukkan bahawa guru-guru merasai bahawa mereka belum menguasai pendidikan autisme dengan cukup bagi membolehkan mereka untuk mendidik kanak-kanak autisme dengan sempurna. Guru-guru perlu bersedia dari aspek fizikal dan mental untuk menerima kanak-kanak autisme di dalam kelas mereka.

Penutup

Secara kesimpulannya, program-program berbentuk kesedaran dan pendidikan kepada guru-guru perlu *diperbanyakkan* dan diperluaskan lagi bagi memberi latihan yang menckupi kepada guru dalam menangani dan mendidik kanak-kanak autisme. Pihak-pihak yang bertanggungjawab seperti kementerian pendidikan, insitutusi penyelidikan, pusat latihan perlu mengambil inisiatif dalam menyediakan perlu latihan dan kemahiran kepada guru dalam memastikan kanak-kanak autisme mendapatk kualiti pendidikan yang sama taraf dengan pelajar-pelajar yang berada dalam aliran perdana.

Penghargaan

Rujukan

Kementerian Pendidikan Malaysia. (2018). Education Challenges in Autism. Johor Autism Summit

Levy, S. E., Mandell, D. S. & Schultz, R. T. (2009). Autism. *The Lancet, 374*, (9701), 1627–1638.

Mukaddes Sakalli Demirok, Basak Baglama. (2014). Perspectives of Faculty of Education Students on Autism Spectrum Disorders in North Cyprus. 2nd GLOBAL CONFERENCE on PSYCHOLOGY RESEARCHES, 28-29, November 2014.

Yasar, Pinar; Cronin, Kathleen A. (2014). Perspectives of College of Education Students in Turkey on Autism Spectrum Disorder. *International Journal of Special Education*, v29 n1 p61-75

Angela F.Y. Siu, Evita L.S. Ho. (2010). Relations between Commitment to a Treatment Orientation and Self-efficacy among Teachers Working with Children with Autism. International Journal of Early Childhood Special Education (INT-JECSE), December 2010, 2: 3

Tahap Pemahaman Guru Sekolah Rendah Terhadap Strategi Gamifikasi dalam Pengajaran dan Pemudahcaraan

Mohd Faruze Iberahim[1], Norah Md Noor[2], Nurul Faizah Rozali[3]
[1] Jabatan Pendidikan Negeri Johor, Kementerian Pendidikan Malaysia
[2,3] Sekolah Pendidikan, Fakulti Sains Sosial dan Kemanusiaan, Universiti Teknologi Malaysia

E-mail: faruze.btpnjoh@gmail.com[1], norah@utm.my[2], nfaizah38@live.utm.my[3]

Abstrak: Gamifikasi merupakan salah satu strategi pembelajaran yang menggunakan elemen-elemen permainan bertujuan memberi motivasi dan menarik minat murid kepada pengajaran guru di dalam kelas. Kajian ini dijalankan untuk mengkaji tahap pemahaman gamifikasi dalam kalangan guru-guru sekolah rendah di negeri Johor. Responden dipilih dengan persampelan rawak mudah bertujuan melibatkan 377 guru sekolah rendah di negeri Johor. Penyelidikan menggunakan kaedah kuantitatif. Data yang dikumpul dengan menggunakan soal selidik di analisis secara deskriptif merujuk kepada peratusan dan kekerapan menggunakan IBM SPSS versi 22.0. Hasil kajian menunjukkan bahawa tahap pemahaman guru-guru sekolah rendah di negeri Johor terhadap strategi gamifikasi berada ditahap sederhana (59.68% responden menjawab dengan tepat). Kajian diharap dapat membantu pihak sekolah, daerah, negeri dan Kementerian Pendidikan Malaysia khususnya untuk menambah baik program latihan dalam perkhidmatan bagi membimbing guru seiring dengan perkembangan dalam teknologi pendidikan.

Kata Kunci: gamifikasi; FROG VLE; motivasi.

Pengenalan

Gamifikasi merupakan istilah yang dipinjam dari bahasa Inggeris iaitu gamification. Menurut Deterding, et al. (2011), gamifikasi ditakrifkan sebagai penggunaan permainan yang mempunyai unsur-unsur reka bentuk dalam konteks bukan permainan. Dalam konteks pendidikan, pendekatan gamifikasi yang menggunakan elemen permainan dapat meransang dan memberikan motivasi kepada pengamalnya agar pengajaran dapat diintegrasi dalam bentuk permainan (Hussain, Tan & Idris, 2014). Istilah gamifikasi mula dicetuskan pada tahun 2002 oleh pencipta permainan warga Britain bernama Nick Pelling dan ia makin banyak digunakan pada tahun 2010 (Kamasheva, et al., 2015). Pendekatan pengajaran yang menggunakan kaedah gamifkasi dalam proses pengajaran dan pemudahcara (PdPc) akan lebih menarik serta berinteraktif, selain menjadikan aktiviti yang pada asalnya bukan permainan sebagai satu aktiviti bermain yang formal dan serius (Cugelman, 2013).

Salah satu teknik dalam amalan Gamifikasi adalah ganjaran seperti ganjaran mata, lencana pencapaian atau tahap pengisian bar kemajuan. Teknik menyediakan ganjaran ini dapat menggalakkan pengguna untuk bersaing (Glover, 2013).

Rohwati (2012) telah menjalankan kajian berkaitan penggunaan permainan gamifikasi bagi mata pelajaran Biologi yang berkonsepkan klasifikasi makhluk hidup. Beliau mendapati murid adalah lebih mudah untuk mencapai peningkatan pencapaian kefahaman dan menghasilkan penguasaan mata pelajaran dengan lebih baik berbanding kaedah lain. Manakala menurut Farozi (2016) dalam kajiannya, beliau telah menggunakan gamifikasi dalam pembelajaran melalui pembangunan aplikasi gamifikasi Pendidikan Islam. Di dalam kajian Farozi (2016) juga mendapati perancangan aktiviti pengajaran menggunakan aplikasi gamifikasi lebih mudah difahami dan dikuasai pelajar. Prasetyo, Destya & Rizky (2016) penerapan konsep gamifikasi dalam pembelajaran ini juga telah digunakan oleh dalam kajiannya bagi perancangan aplikasi pembelajaran Al-Quran. Prasetyo, Destya & Rizky (2016) mendapati kaedah ini dapat secara positifnya dapat membantu mengatasi salah satu masalah pembelajaran Al-Quran. Dapatan hasil tiga pengkaji tersebut yang telah menjalankan penggunaan kaedah gamifikasi dalam pengajaran dan pembelajaran secara tidak langsung menyokong pendekatan gamifikasi ini dalam usaha membantu pengajaran guru-guru sekolah rendah di negeri Johor.

Kajian-kajian lepas menunjukkan bahawa pendekatan Gamifikasi mempunyai potensi yang besar dalam bidang pendidikan (Lee & Hammer, 2012). Hal ini kerana, gamifikasi dapat memberi ruang kepada penghasilan pembelajaran yang lebih inovatif dan fleksibel (Hsin-Yuan Huang & Soman, 2013).

Latarbelakang Masalah

Kementerian Pendidikan Malaysia telah melaksanakan Anjakan ke-7 dalam Pelan Pembangunan Pendidikan Pendidikan Malaysia 2013-2025, iaitu memanfaatkan *Information and Communications Technology* (ICT) bagi meningkatkan kualiti pembelajaran. Jika dilihat dalam masa beberapa tahun sejak 2012, semua murid telah mempunyai akses kepada rangkaian 4G di sekolah masing-masing yang mana sekolah menyediakan landasan untuk pelaksanaan pembelajaran secara atas talian interaktif sepenuhnya.

Kementerian Pendidikan Malaysia (KPM) juga telah menyediakan pelantar pembelajaran maya Frog VLE sebagai bahan bantu pengajaran yang sememangnya dapat membantu proses dan perkembangan pembelajaran pelajar. Selain buku teks, KPM telah turut mengambil inisiatif membekalkan bahan bahan bantu pengajaran tambahan dan bahan berbentuk digital yang interaktif seperti FrogPlay dan FrogBoost bentuk gamifikasi yang telah dibangunkan dan disediakan untuk menjayakan anjakan PPPM 2013-2025.

Namun, berdasarkan laporan Sektor Pengurusan ICT dan Maklumat Jabatan Pendidikan Negeri Johor walaupun hampir 907 buah sekolah rendah di negeri Johor Bahru mempunyai akses internet 4G disekolah; namun, penggunaan gamifikasi dalam pengajaran seperti aplikasi FrogPlay, Quizizz dan Kahoot didalam Virtual Learning Environtment (VLE) masih ditahap rendah (Heni Jusuf 2016). Justeru itu kajian ini bertujuan untuk melihat sejauh mana pemahaman guru terhadap gamifikasi dalam kalangan guru-guru sebuah sekolah rendah di negeri Johor Bahru.

Objektif Kajian

Kajian ini adalah dijalankan bagi mengenalpasti tahap pemahaman guru sekolah rendah terhadap strategi gamifikasi dalam pengajaran dan pemudahcaraan.

Metodologi Kajian

Kajian ini adalah kajian kuantitatif menerusi kaedah tinjauan menggunakan soal selidik. Melalui kaedah ini satu set borang soal selidik atas talian digunakan untuk dijawab oleh responden. Di samping itu juga kaedah soal selidik jenis soalan terbuka juga turut digunakan sebagai menyokong dapatan-dapatan daripada soal selidik berbentuk soalan tertutup.

Populasi berdasarkan data yang diambil daripada Sektor Pengurusan Maklumat dan ICT, Jabatan Pendidikan Negeri Johor guru sekolah rendah di sekolah rendah di negeri Johor adalah seramai 28 102 orang. Merujuk kepada jadual Krejcik & Morgan (1970), jumlah sampel yang diperlukan adalah seramai 377 orang.

Instrumen kajian yang digunakan ialah Borang Soal Selidik yang dibina merangkumi dua bahagian iaitu mengenal pasti tahap kefahaman dan maklumat latar belakang atau demografi responden. Soalan yang disediakan dalam soalselidik adalah berbentuk Ya/Tidak dan soalan terbuka.

Dapatan dan Perbincangan

Dapatan daripada soalselidik yang diedarkan, seramai 305 orang responden menyatakan pernah menggunakan aplikasi gamifikasi didalam pengajaran dan pembelajaran yang mana mewakili 80.9% daripada jumlah responden.

Responden juga diminta untuk memlilih jenis-jenis aplikasi gamifikasi yang diketahui yang sedia digunakan oleh guru-guru untuk pengajaran dan pembelajaran. Antara jenis aplikasi gamifikasi yang disenaraikan pengkaji untuk menilai sejauh mana responden mengenali aplikasi gamifikasi yang sedia ada sama ada disediakan oleh Kementerian Pendidikan Malaysia atau secara sumber terbuka ialah seperti FrogPlay, FrogBoost, Quizizz dan Kahoot.

Jadual 1. Jadual penggunaan aplikasi gamifikasi dalam pengajaran dan pembelajaran

Jenis Aplikasi yang Diketahui	Kekerapan Terkumpul	Peratus
FrogPlay	277	73.47%
FrogBoost	110	29.18%
Quizizz	228	60.48%
Kahoot	220	58.36%
Lain-lain	11	2.91%

Seterusnya bagi mendapatkan data berkaitan sejauh mana pengetahuan responden guru terhadap konsep gamifikasi. Pengkaji telah menyediakan item terbuka untuk memberi jawapan bebas responden berdasarkan fahaman konsep gamifikasi. Berdasarkan dapatan data bagi item terbuka maka pengkaji membuat 3 pecahan kategori jawapan responden iaitu berkaitan konsep gamifikasi yang difahami guru terdiri daripada betul, tidak pasti dan salah. Bagi kategori betul sekurangnya jawapan terbuka responden guru mempunyai salah satu elemen gamifikasi, manakala bagi kategori tidak responden memberi jawapan kebaikan gamifikasi berbanding elemen gamifkasi dan kategori terakhir pula salah di mana langsung tidak berkaitan konsep mahupun elemen gamifikasi. Jadual 2 adalah jadual kategori jawapan terbuka responden.

Jadual 2. Jadual kategori jawapan terbuka berkaitan konsep fahaman konsep gamifikasi

Kategori Jawapan Kefahaman Konsep Gamifikasi	Kekerapan Terkumpul	Peratus
Betul (Memilik sekurang-sekuangnya satu elemen gamifikasi)	225	59.68%
Tidak Pasti (Hanya menyatakan kebaikan gamifikasi)	126	33.42%
Salah (Jawapan tidak berkaitan gamifikasi)	26	6.90%

Jadual 2 menunjukkan kekerapan terkumpul jawapan bagi item terbuka 377 responden guru yang telah dibahagikan kepada tiga bahagian iaitu betul, tidak pasti dan salah berikatan pemahaman konsep gamifikasi berdasarkan pengetahuan sedia ada responden. Bagi jawapan kategori betul ialah seramai 225 responden yang mewakili 59.68% jumlah responden. Bagi kategori jawapan tidak pasti seramai 126 responden iaitu 33.42%. Bagi kategori ini jawapan tidak menjurus kepada konsep gamifikasi tetapi lebih kepada kebaikan dan faedah gamifikasi yang digunakan. Kategori terakhir ialah kategori salah dimana jawapan yang diberikan responden langsung tiada kaitan dengan konsep gamifkasi. Dapatan data ialah 26 responden dengan 6.90%.

Contoh jawapan yang tepat berkaitan Konsep Kefahaman Gamifikasi yang diserikan oleh responden adalah sebagaimana berikut:

Responden 1 : *"Menggunakan aplikasi yang mempunyai elemen permainan contohnya aplikasi yang terdapat diatas talian dalam pengajaran dan pemudahcaraan."*

Responden 2 : *"Pembelajaran berasaskan gamifikasi yang saya tahu ialah proses pengajaran dan pembelajaran yang berbentuk permainan untuk menarik minat pelajar"*

Responden 3 : *"Pembelajaran secara permainan kepada murid dengan menggunakan aplikasi alam maya iaitu internet"*

Manakala contoh jawapan yang tidak tepat berkaitan Konsep Kefahaman Gamifikasi yang diserikan oleh responden adalah sebagaimana berikut:

Responden 1 : *"Menguji murid-murid dengan menjawab soalan."*
Responden 2 : *"Bengkel Frog VLE"*
Responden 3 : *"Apa benda tu?"*

Kesimpulan

Berdasarkan jadual analisis data mendapati tahap pengetahuan guru-guru sekolah rendah negeri Johor terhadap konsep gamifikasi adalah berada pada tahap sederhana. Namun begitu hal ini bertentangan dengan tahap penggunaan aplikasi gamifikasi guru-guru sekolah rendah negeri Johor yang tinggi dalam pengajaran mereka (80.90%). Keadaan ini mungkin disebabkan oleh guru sekolah di negeri Johor tidak memahami konsep gamifikasi secara tepat atau mengetahui elemen-elemen gamifikasi itu sendiri namun tetap menganggap mereka telah menggunakan pengajaran gamifikasi (Farber, 2017). Kebanyakan guru mengaitkan gamifikasi dengan perisian aplikasi berbanding memahami sebenar-benarnya definisi gamifikasi dan bagaimana ia boleh digunakan secara efektif dalam pengajaran dan pembelajaran. Pemilihan strategi gamifikasi dalam pengajaran guru-guru ini adalah lebih kepada kepercayaan mereka bahawa pendekatan ini benar-benar mampu menarik minat, untuk menjadikan pelajar mereka aktif dan memberi tumpuan kepada pembelajaran. Malah, jika dilihat pada 33.42% jawapan guru yang tidak pasti apakah sebenarnya konsep gamifikasi namun mereka tetap memberikan jawapan yang positif dengan memberikan jawapan merujuk kepada kebaikan gamifikasi dalam pengajaran dan pemudahcaraan. Oleh itu, pengajaran dengan menggunakan amalan gamifikasi sangat disyorkan dalam pembelajaran bagi semua guru di negeri Johor dan Malaysia amnya. Adalah dicadangkan agar sekolah dan Kementerian Pendidikan Malaysia menambah latihan dalam perkhidmatan bagi memberikan pemahaman yang lebih mendalam terhadap amalan gamifikasi ini supaya guru-guru bukan sekadar menggunakannya sahaja, tetapi juga tahu pelaksanaan yang terbaik untuk kesan yang optima terhadap perkembangan pengetahuan pelajar.

Rujukan

Cugelman, B. (2013). Gamification: what it is and why it matters to digital health behavior change developers. *JMIR Serious Games*, 1(1), e3.

Deterding, S., Sicart, M., Nacke, L., O'Hara, K., & Dixon, D. (2011). Gamification. using game-design elements in non-gaming contexts. *In Proceedings of CHI '11 Extended Abstracts on Human Factors in Computing Systems* (pp. 2425–2428). New York, USA: ACMPress. doi:10.1145/1979742.1979575

Farber, M. (2017). Gamify Your Classroom: A Field Guide to Game-Based Learning. *New Literacies and Digital Epistemologies(ed.)*. New York: Peter Lang Publishing Inc.

Farozi, M. (2016). "Rancang Bangun Website Gamifikasi Sebagai Strategi Pembelajaran dan Evaluasi Hasil Belajar Mahasiswa" AMIK Lembah Dempo Pagar Alam, Sumatera Selatan

Glover, I. (2013). Play As You Learn: Gamification as a Technique for Motivating Learners. In J. Herrington, A. Couros & V. Irvine (Eds.), Proceedings of EdMedia 2013--World Conference on Educational Media and Technology (pp. 1999-2008). Victoria, Canada: Association for the Advancement of Computing in Education (AACE). Retrieved March 19, 2019 from https://www.learntechlib.org/primary/p/112246/.

Heni Jusuf (2016). Penggunaan Gamifikasi dalam Proses Pembelajaran. Jurnal TICom, 4(3).

Hsin-Yuan Huang, W., & Soman, D. (2013). A practitioner's guide to gamification of education. Toronto, ON, Canada: Rotman school of management.

Hussain, S. Y. S., Tan, W. H., & Idris, M. Z. (2014). Digital game-based learning for remedial mathematics students: A new teaching and learning approach In Malaysia. International Journal of Multimedia Ubiquitous Engineering, 9(11), 325-338.

Kamasheva, A. V., Valeev, E. R., Yagudin, R. K., & Maksimova, K. R. (2015). Usage of gamification theory for increase motivation of employees. Mediterranean Journal of Social Sciences, 6(1 S3), 77.

Kementerian Pendidikan Malaysia (2013), "Pelan pembangunan pendidikan Malaysia 2013-2025." Online)(www. moe. gov. my).

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.

Lee J. J., & Hammer J. (2011) Gamification in education: what, how, why bother? *Academic Exchance Quarterly* 15(2):1–5

Prasetyo, I. A., Destya, S. dan Rizky (2016). Penerapan Konsep Gamifikasi pada Perancangan Aplikasi PembelajaranAl-Quran. STMIK AMIKOM Yogjakarta. *Seminar Nasional Teknologi Informasi dan Multimedia*: ISSN: 2302-3805

Rohwati, M. (2012). Penggunaan Education Game untuk Meningkatkan Hasil Belajar IPA Biologi Konsep Klasifikasi Makhluk Hidup. *Jurnal Pendidikan IPA Indonesia*. Jawa Tengah,Indonesia: SMP Negeri 1 Wonosobo

Meneroka Pemikiran Pelajar Semasa Menyelesaikan Masalah Fizik Menggunakan *Think Aloud Protocol*: Satu Garis Panduan Penyelidikan

Mazlena Binti Murshed[1], Fatin Aliah Phang[2], Muhammad Abd Hadi Bin Bunyamin[3]

[1,3] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Johor, Malaysia

[2] Centre for Engineering Education, Universiti Teknologi Malaysia, Johor, Malaysia

E-mail: enn7997@yahoo.co.uk[1], p-fatin@utm.my[2], mabhadi@utm.my[3]

Abstrak: Penyelesaian masalah telah diberi perhatian yang lebih dalam kurikulum fizik dan ia turut menjadi salah satu topik yang paling banyak dikaji dalam bidang pendidikan fizik. Kajian terdahulu telah melaporkan bahawa membangunkan kemahiran menyelesaikan masalah pelajar meningkatkan pemahaman mereka tentang isi kandungan fizik. Oleh itu, tumpuan diberikan untuk menyiasat proses pemikiran pelajar semasa menyelesaikan masalah. Proses ini dianalisis menggunakan teknik pengukuran di mana data dikumpulkan secara lisan. Salah satu teknik menggunakan data lisan ialah secara "*think aloud*". Proses berfikir secara *think aloud* yang dijalani oleh setiap pelajar akan direkodkan dan ditranskripsikan. Data transkripsi yang dikumpulkan akan dikodkan dan dikategorikan. Berdasarkan kod yang dikategorikan, penyelidik dapat melihat corak proses pemikiran pelajar semasa mereka menyelesaikan masalah fizik.

Kata Kunci: *think aloud protocol* (TAP); proses pemikiran; penyelesaian masalah fizik; data verbal kaedah; kognitif.

Pengenalan

Penyelesaian masalah telah menjadi salah satu bidang penyiasatan yang paling penting dalam pendidikan sains, terutamanya fizik. Malangnya kajian lepas mendapati bahawa ramai pelajar melakukan manipulasi algoritma dengan menghafal rumus tanpa pemahaman asas terhadap konsep tertentu (Madsen, McKagan, & Sayre, 2017; Sherin, 2000) . Penyelesaian masalah adalah proses kognitif yang sangat rumit berkenaan perkara yang tidak diketahui. Justeru, tenaga pengajar harus memahami dengan lebih mendalam mengenai keluasan dan kekompleksan proses penyelesaian masalah untuk terlibat sama dan menyokong para pelajar dengan berkesan (van Merriënboer, 2013). Penerokaan proses pemikiran pelajar semasa menjalankan penyelesaian masalah fizik adalah penting untuk memahami kriteria-kriteria proses penyelesaian masalah tersebut. Penerokaan proses pemikiran pelajar ini dapat dijalankan melalui *Think Aloud Protocol* (TAP).

TAP ini merujuk kepada jenis data penyelidikan yang digunakan dalam proses penyelidikan terjemahan empirikal. *Think-aloud* adalah suatu kaedah kajian, di mana responden diminta untuk menyuarakan kata-kata di dalam fikiran mereka ketika menyelesaikan pelbagai masalah, seperti persamaan matematik, teka-teki visual atau kefahaman membaca. Menurut Charters (2003),kaedah kajian *think-aloud* mempunyai teori asas yang kukuh dan mempunyai sumber data yang sah tentang pemikiran responden. Teori ini didasari dengan perbezaan antara memori kerja (*Short Term Memory*), di mana penaakulan berlaku serentak dalam bentuk lisan, dan ingatan jangka panjang (*Long Term Memory*), di mana beberapa idea dari memori kerja (*Short Term Memory*) akhirnya disimpan (Ericsson & Simon, 1980).

Kaedah *think aloud* adalah salah satu cara yang paling berkesan untuk menilai proses pemikiran peringkat tinggi (yang melibatkan memori kerja) dan ia juga boleh digunakan untuk mempelajari perbezaan individu dalam melakukan tugas yang sama(Charters, 2003) . Tambahan lagi, Ericsson & Simon (1980) turut menyatakan bahawa data *think aloud* adalah maklumat yang boleh dipercayai sepenuhnya berkenaan proses pemikiran. Pengkaji lain turut menggunakan kaedah TAP untuk menyiasat proses pemikiran pelajar dalam pelbagai konteks (Flanders, 2014; Maries, Lin, & Singh, 2017). Bollen, Van Kampen, Baily, Kelly, & De Cock, (2017), Magana & Balachandran, (2017) dan Rosengrant, Heuvelen, & Etkina(2009) pula menggunakan kaedah think aloud untuk meneliti aspek kualitatif ke dalam kajian mereka.

Pemilihan Responden

Responden yang terlibat dalam *think aloud protocol* (TAP) dipilih berdasarkan kriteria yang ditetapkan oleh pengkaji mengikut persoalan kajian masing-masing (Flanders, 2014). Menurut Patton(2002) pula, responden kajian perlu dipelbagaikan untuk memberi maklumat yang lebih luas. Bilangan responden TAP dari kajian terdahulu yang telah diteliti, adalah tiga orang (Bollen et al., 2017) paling sedikit dan sembilan orang (Magana & Balachandran, 2017) paling ramai. Walau bagaimanapun, pengkaji harus meneliti semula bilangan ini bergantung pada ketepuan data. Hal ini disebabkan oleh mengumpul data dengan menggunakan kaedah *think aloud* dan analisis seterusnya adalah merupakan tugasan yang sangat intensif dan memerlukan masa yang lama (Eseryel et al., 2013). Apabila melakukan TAP, pengkaji perlu peka dengan apa yang dituturkan oleh responden ketika menyelesaikan masalah tersebut (Flanders, 2014).

Kesahan dan Kajian Awalan

Kesahan merupakan suatu aspek yang sangat penting bagi memastikan instrumen atau alat kajian adalah bersesuaian dengan matlamat yang hendak dicapai. Sebelum kajian awalan ini dijalankan pengkaji akan mendapatkan kesahan bagi *think aloud protocol* (TAP). Pengkaji akan mengenal pasti pakar-pakar bagi menentukan kesahan instrumen ini dari bidang fizik yang sangat memahami dan mendalami sub-bidang penyelesaian masalah. Kesahan ini adalah untuk memastikan soalan-soalan dalam protokol ini mampu mencapai objektif kajian dan bertepatan dengan konsep dan strategi penyelesaian masalah fizik. Hal ini kerana, protokol digunakan untuk menentukan sejauh mana pelajar dapat menyelesaikan masalah tersebut.

Kajian awalan pula adalah satu pra kajian yang dijalankan dalam saiz yang kecil (Creswell, 2012). Tujuan kajian awalan ini adalah untuk mengenal pasti masalah yang mungkin wujud dalam protokol dan memberi peluang kepada pengkaji untuk berlatih menjalankan prosedur *think aloud*. Kajian awalan dijalankan bagi TAP untuk memastikan instrumen ini mampu memberi maklum balas yang diharapkan dari responden. Bagi kajian kecil ini, pengkaji akan memilih seorang pelajar yang mempunyai kriteria yang sama dengan responden kajian sebenar sebagai perintis. Pelajar ini bukanlah dari responden kajian sebenar. Melalui kajian ini, pengkaji dapat memperbaiki prosedur TAP serta mendapatkan kebolehpercayaan protokol.

Sebelum menjalankan TAP yang sebenar, pengkaji akan menjalankan kajian awalan atau percubaan terhadap responden dengan penyelesaian masalah. Langkah ini diambil selari dengan cadangan sarjana (Fatin Aliah Phang, 2009; Flanders, 2014) bagi membolehkan responden berlatih menjalani TAP dan berasa selesa dengan kehadiran pengkaji semasa sesi tersebut. Pelajar akan diberi panduan dan bimbingan untuk menjalani TAP bagi memahirkan mereka untuk bertutur semasa berfikir dalam menyelesaikan masalah fizik.

Dapatan kajian awalan ini akan memberi maklumat yang tepat bagi peruntukan masa yang sesuai untuk kajian sebenar nanti. Di samping itu, pengkaji turut akan mendapat maklum balas berkenaan masalah yang mungkin timbul, keperluan-keperluan lain untuk mentadbir protokol dan aspek-aspek etika yang perlu diberi perhatian oleh pengkaji. Maklumat ini termasuklah persekitaran kajian, keyakinan , kemahiran menjalankan protokol dan persediaan mental untuk melaksanakan protokol dengan lebih berkesan (Cohen, Manion, & Morrison, 2007). Selain itu, pengkaji juga perlu mendapatkan maklum balas berkenaan laras bahasa yang sesuai dengan tahap pelajar, kefahaman terhadap masalah yang dikemukakan dan aspek-aspek teknikal pelaksanaan protokol seperti tetapan perakam suara dan perakam video. Seterusnya, pengkaji akan memperbaiki kualiti instrumen sebelum kajian sebenar dijalankan.

Kaedah Pelaksanaan

TAP dimulakan dengan responden diminta untuk menyelesaikan masalah dengan sebaik mungkin tanpa gangguan kecuali ketika responden menjadi senyap dalam jangka masa yang panjang. Jika, keadaan ini berlaku, pengkaji perlu meminta responden untuk menuturkan pemikirannya. Tidak ada had masa yang diberikan untuk responden untuk menjawab soalan, namun jika responden menunjukkan kebuntuan dalam kerja mereka, mereka menyarankan agar mereka berpindah ke soalan seterusnya. Walau bagaimana pun, pengkaji boleh menganggarkan masa yang diperlukan berdasarkan latihan TAP yang telah dijalankan sebelum ini. Selain itu, pengkaji hendaklah membuat catatan lapangan bagi memudahkan mentafsir setiap tingkah laku semasa TAP sedang berlangsung. Perkara ini sangat membantu dalam memahami proses pemikiran dan mentranskripsikan data TAP. Dalam pada itu, setiap sesi TAP para responden perlu direkodkan menggunakan perakam video dan perakam suara.

Dapatan dari TAP adalah terdiri daripada data pertama adalah jawapan bertulis daripada masalah yang diberi dan data kedua adalah transkripsi dari TAP. Selepas responden menyelesaikan masalah dengan keupayaan yang terbaik, responden ditanya untuk memberi penjelasan jika alasan pada satu perkara tidak jelas. Responden juga ditanya tentang perkara yang berkaitan dengan aspek spesifik lain dalam temu bual retrospektif. Tindakan ini selari dengan kajian yang dijalankan oleh Fatin Aliah Phang, (2009) dan Maries, (2014) untuk mengelakkan kehilangan maklumat semasa sesi TAP.

Kaedah Analisis Data

Kaedah analisis data dalam penyelidikan kualitatif dikenali dengan penggabungan analisis dan tafsiran melalui penggabungan pengumpulan data dengan analisis data (Cohen, Manion, & Morrison, 2011). Pendekatan ini mempunyai kekuatan untuk memahami data-data, menganalisis, memahami dan seterusnya membina model (Thomas, 2003) proses pemikiran yang dititikberatkan dalam kajian ini.

Memandangkan data yang dikumpul dari kajian ini adalah berbentuk rakaman video TAP maka pengkaji perlu menjalankan proses mentranskripsikan data mentah tersebut. Setiap dialog dan perbuatan perlu ditulis semula (Miles & Huberman, 1994). Proses ini memerlukan tempoh yang panjang, kerana menurut Cohen et al. (2011), bagi satu rakaman video berdurasi satu jam memerlukan sehingga lima hingga enam jam untuk ditranskripsikan. Walau bagaimanapun, kebolehpercayaan data yang ditranskripsikan itu bergantung pada kecekapan mentranskripsikan suara tersebut. Justeru itu, pengkaji perlu mendengar dan menonton rakaman secara keseluruhan dan menyemak data yang telah ditranskripsikan untuk meningkatkan kualiti dan kebolehpercayaan data.

Dalam menganalisis data kualitatif, pengkaji perlu menetapkan tujuan data ini dianalisis (Cohen et al., 2011). Pada peringkat teoretikal, Cohen et al. (2011) menasihatkan agar pengkaji untuk memadankan, membezakan, membandingkan dan menyusun nota yang dibuat di lapangan. Tujuannya adalah untuk mengubah dari penyataan kepada penjelasan berkenaan data kajian. Pada peringkat praktikal pula, Miles dan Huberman (1994) menasihati pengkaji untuk menulis dan menganalisis dengan lebih awal dan kerap dan bukannya menunggu sehingga pengumpulan data selesai.

Kesimpulan

Think Aloud boleh menyumbang kepada pemahaman mengenai proses penaakulan yang digunakan untuk menyelesaikan masalah dalam pelbagai situasi. Data TAP yang diperoleh serentak dari pemikiran dan ditambah pula dengan data dari pemikiran susulan yang diperoleh dari temu bual retrospektif, memberikan penerangan tentang proses pemikiran responden secara lengkap dan terperinci semasa tugas menyelesaikan masalah dijalankan. Berdasarkan data yang diperoleh pengkaji dapat mentafsir dan membentuk corak pemikiran pelajar semasa menyelesaikan masalah fizik dengan teliti.

Kertas kajian ini berupa satu garis panduan dalam pengkajian penyelesaian masalah fizik pelajar sekolah menengah menggunakan pendekatan *think aloud*. Analisis akan dilakukan bagi mendapatkan penemuan kajian. Penemuan yang dijangkakan ialah corak penyelesaian masalah pelajar, strategi penyelesaian masalah yang pelajar gunakan, kesukaran yang dihadapi pelajar, jenis-jenis perwakilan yang digunakan dan transformasi perwakilan pelbagai yang dilakukan dalam penyelesaian masalah. Justeru, penemuan sebenar kelak dijangka dapat menyumbang kepada percambahan bidang ilmu penyelesaian masalah fizik dan penambahbaikan kepada amalan biasa penyelesaian masalah fizik.

Rujukan

Bollen, L., Van Kampen, P., Baily, C., Kelly, M., & De Cock, M. (2017). Student difficulties regarding symbolic and graphical representations of vector fields. *Physical Review Physics Education Research*, *13*(2). https://doi.org/10.1103/PhysRevPhysEducRes.13.020109

Charters, E. (2003). The use of think-aloud methods in qualitative research: An Introduction to think-aloud methods. *Brock Education*, *12*(2), 68–82. https://doi.org/10.1080/02602938.2010.496532

Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education* (sixth edit). New York: Routledge.

Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in Education* (7th Editio). Oxon: Routledge.

Creswell, J. (2012). *Educational Research* (Fourth edi). Boston, MA: Pearson.

Ericsson, K. A., & Simon, H. A. (1980). Verbal reports as data. *Psychological Review*, *87*(3), 215–251. https://doi.org/10.1037/0033-295X.87.3.215

Eseryel, D., Ifenthaler, D., Ge, X., Eseryel, D., Ifenthaler, Á. D., Ge, Á. X., & Ifenthaler, D. (2013). Validation study of a method for assessing complex ill-structured problem solving by using causal representations. *Education Tech Research Dev*, *61*, 443–463. https://doi.org/10.1007/s11423-013-9297-2

Fatin Aliah Phang, A. (2009). *The Patterns of Physics Problem-Solving from the Perspective of Metacognition*. University of Cambridge.

Flanders, S. T. (2014). *INVESTIGATING FLEXIBILITY, REVERSIBILITY, AND MULTIPLE REPRESENTATIONS IN A CALCULUS ENVIRONMENT*. University of Pittsburgh.

Madsen, A., McKagan, S. B., & Sayre, E. C. (2017). Best Practices for Administering Concept Inventories. *The Physics Teacher*, *55*(9), 530–536. https://doi.org/10.1119/1.5011826

Magana, A. J., & Balachandran, S. (2017). Students' Development of Representational Competence Through the Sense of Touch. *Journal of Science Education and Technology*, *26*(3), 332–346. https://doi.org/10.1007/s10956-016-9682-9

Maries, A. (2014). *Role of Multiple Representations in Physics Problem Solving*. University of Pittsburgh. https://doi.org/10.1017/CBO9781107415324.004

Maries, A., Lin, S. Y., & Singh, C. (2017). Challenges in designing appropriate scaffolding to improve students' representational consistency: The case of a Gauss's law problem. *Physical Review Physics Education Research*, *13*(2), 1–17. https://doi.org/10.1103/PhysRevPhysEducRes.13.020103

Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: A Sourcebook of New Methods*. Baverly Hills: SAGE Publication.

Patton, M. Q. (2002). *Qualiative Research & Evaluation Methods* (3rd ed.). California: SAGE Publications, Inc.

Rosengrant, D., Heuvelen, A. Van, & Etkina, E. (2009). How Do Students Use Different Representations when Solving Physics Problems?

Sherin, B. L. (2000). How students invent representations of motion. *The Journal of Mathematical Behavior*, *19*(4), 399–441. https://doi.org/10.1016/S0732-3123(01)00052-9

Thomas, D. (2003). A general inductive approach for qualitative data analysis, 11.

van Merriënboer, J. J. G. (2013). Perspectives on problem solving and instruction. *Computers and Education*, *64*, 153–160. https://doi.org/10.1016/j.compedu.2012.11.025

Persepsi Terhadap Impak Penyertaan Pelajar dalam Aktiviti Kesukarelawanan Melalui Pembelajaran Servis di Universiti

Nurul Shafika Huda Binti Zulaimi[1], Dr. Nornazira Binti Suhairom[2], Mahani Mokhtar[3], Yusri Kamin[4], Nur Husna Abd Wahid[5], Mahyuddin Arsat[6]
[1,2,3,4,5,6] School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia

E-mail: shafikahudazulaimi74@gmail.com[1], p-nazira@utm.my[2], p-mahani@utm.my[3], p-yusri@utm.my[4], husna@utm.my[5], mahyudin@utm.my[6]

Abstrak: Kajian ini bertujuan untuk mengkaji persepsi terhadap impak penyertaan pelajar dalam aktiviti kesukarelawanan melalui program pembelajaran servis di universiti. Terdapat empat objektif kajian yang telah dibina bagi keseluruhan penyelidikan ini. Antaranya ialah untuk mengenalpasti persepsi terhadap konsep kesukarelawanan melalui pembelajaran servis, mengenalpasti persepsi terhadap impak penyertaan pelajar dalam aktiviti kesukarelawanan melalui pembelajaran servis di universiti terhadap kemahiran, mengenalpasti persepsi terhadap impak penyertaan pelajar dalam aktiviti kesukarelawanan melalui pembelajaran servis di universiti terhadap masyarakat dan mengenalpasti persepsi terhadap impak penyertaan pelajar dalam aktiviti kesukarelawanan melalui pembelajaran servis di universiti terhadap diri sendiri. Kajian telah menggunakan rekabentuk kajian kualitatif dengan melibatkan kajian kes temubual. Kajian rintis telah dijalankan ke atas dua orang pelajar tahun akhir bagi menguji ketekalan item serta mengukur tempoh bagi sebuah temubual yang lengkap. Kajian kes telah melibatkan lapan orang pelajar tahun akhir melalui sampel bertujuan daripada Universiti Teknologi Malaysia (UTM) bagi mengumpul sebanyak mungkin maklumat daripada responden untuk dapatan kajian. Data kajian kes telah dikumpul melalui kaedah temubual. Kesemua data kajian kes telah dianalisis menggunakan kaedah analisis tematik. Data kualitatif yang diperolehi melalui kaedah temubual digunakan untuk memperoleh pola ketepuan data bagi menjawab semua empat persoalan utama yang dikaji. Hasil kajian menunjukkan majoriti pelajar tahun akhir bersetuju dapat meningkatkan persepsi terhadap impak penyertaan pelajar terhadap aspek kemahiran teknikal, kemahiran insaniah, tanggungjawab sosial dan penghargaan kendiri. Justeru itu, aktiviti kesukarelawanan melalui pembelajaran servis ini mampu untuk meningkatkan kemahiran teknikal, kemahiran insaniah, tanggungjawab sosial, serta penghargaan kendiri pelajar universiti.

Kata Kunci: persepsi; impak penyertaan; aktiviti kesukarelawanan; pembelajaran servis;

Pengenalan

Terdapat beberapa objektif utama bagi pembangunan New Academia Learning Innovation (NALI) antaranya ialah untuk menyelaraskan model pengajaran dan pembelajaran Universiti Teknologi Malaysia (UTM), aktiviti, bahan, persekitaran dan sistem dengan Pelan Strategik Pengajian Tinggi Malaysia, keperluan majikan dan keperluan badan akreditasi. Kedua, adalah untuk meniru amalan pengajaran dan pembelajaran yang terbaik dari universiti-universiti terbaik dunia. Ketiga, adalah untuk membangunkan identiti sendiri UTM yang berkaitan dengan model pengajaran dan pembelajaran, aktiviti, bahan, persekitaran dan sistem. Keempat adalah untuk mewujudkan aktiviti pembelajaran yang bermakna dan interaktif, bahan, persekitaran dan sistem yang bersesuaian.

Pembelajaran Berasaskan Servis merupakan salah satu aspek dalam mod Pedagogi atau Andragogi yang memerlukan pembelajaran secara bersemuka. Pembelajaran servis diterap dan diamalkan oleh Universiti Teknologi Malaysia (UTM) melalui kursus setiap semester yang diambil oleh pelajar ataupun melalui kurikulum dan kokurikulum yang telah ditetapkan oleh universiti dimana pelajar perlu menyertai kelab dan persatuan sebagai salah satu syarat bagi memenuhi kriteria sebelum menamatkan pengajian di universiti. Pembelajaran servis di universiti mampu membentuk pelajar dalam memupuk semangat kesukarelawanan dalam diri pelajar. Pelajar dapat mengaplikasikan pembelajaran di dalam kelas kepada aktiviti luar kelas seperti pembelajaran servis dan aktiviti kesukarelawanan. Menurut Azam (2007), pengetahuan yang dipelajari semasa di dalam kelas sahaja tidak mencukupi jika tidak diseiringkan dengan pengetahuan-pengetahuan umum seperti kemahiran komunikasi, kerja berpasukan, kreativiti, keyakinan diri, berfikir secara kreatif dan kritis dan sebagainya.

Aktiviti kesukarelawanan atau khidmat masyarakat biasanya sinonim dengan pelajar universiti yang gemarkan aktiviti bermanfaat bagi mengisi masa lapang mereka secara tidak langsung, aktiviti seperti ini juga meningkatkan kesedaran mahasiswa dalam pentingnya konsep bantu-membantu dalam kehidupan bermasyarakat. Menurut Tuan Pah (2016), semangat kesukarelawanan dalam kalangan pelajar universiti kini sememangnya dituntut oleh negara memandangkan ianya merupakan nilai murni atau jati diri sebagai individu yang bertanggungjawab terhadap masyarakat dan negara. Mahasiswa merupakan golongan berpendidikan tinggi yang mampu menjadi contoh terbaik kepada masyarakat. Program kesukarelawanan dalam kalangan mahasiswa mampu melahirkan seseorang mahasiswa yang bertanggungjawab terhadap isu-isu sosial yang wujud

dalam kalangan masyarakat dimana mereka perlu melibatkan diri secara langsung bagi membantu masyarakat sekeliling.

Penyataan Masalah

Pendekatan pembelajaran servis dalam proses pembelajaran memberikan banyak kelebihan. Antaranya pelajar mendapati ilmu pengetahuan ataupun teori yang mereka telah pelajari dalam dewan kuliah relevan dan dapat diaplikasikan dalam pengalaman harian sebenar. Pelajar yang melalui pengalaman pembelajaran melalui pendekatan ini mendapati mereka mendapat pertambahan pengetahuan dan pengalaman sebenar terutamanya mereka menjalankan aktiviti secara berpasukan. Pendekatan ini juga menuntut pelajar mengaplikasikan kemampuan mereka berfikir secara kritikal dan logik dalam mencari solusi dan ketika berhadapan dengan cabaran (Mary Prentice & Gail Robinson 2010). Oleh itu, dengan kemahiran yang telah dimiliki oleh pelajar yang sedang menuntut di universiti serta kepakaran pengkhususan mengikut kursus masing-masing melalui pembelajaran servis mampu untuk membantu masyarakat dengan menyertai aktiviti kesukarelawanan melalui pembelajaran servis pada waktu lapang mereka bagi menjalankan tanggungjawab terhadap masyarakat yang sedang dilanda masalah ataupun bencana. Aktiviti kesukarelawanan juga mampu untuk meningkatkan kemahiran komunikasi pelajar sekaligus dapat membina keyakinan pelajar semasa menyertai aktiviti kesukarelawanan. Dengan kemahiran yang dimiliki pelajar mampu untuk membantu meringankan beban masyarakat sekeliling. Setiap pelajar mestilah mempunyai kesedaran untuk menyumbang tenaga dengan kemahiran yang telah dimiliki atau dipelajari di universiti. Oleh itu, antara peluang terbaik untuk berjasa kepada masyarakat ialah semasa di universiti.

Metodologi

Kajian ini merupakan kajian yang berbentuk kualitatif kerana pengkaji ingin memahami persepsi terhadap impak penyertaan pelajar dalam aktiviti kesukarelawanan melalui program pembelajaran servis di universiti. Kaedah kualitatif merupakan kaedah pengumpulan maklumat yang tidak berangka seperti kaedah pemerhatian, transkrip rekod dan kaedah wawancara (McLeod, 2008).

Dapatan dan Perbincangan

1. Analisis Deskriptif Persepsi Terhadap Konsep Kesukarelawanan Melalui Pembelajaran Servis

**Rajah 1.** Kesukarelawanan   **Rajah 2.** Pembelajaran Servis
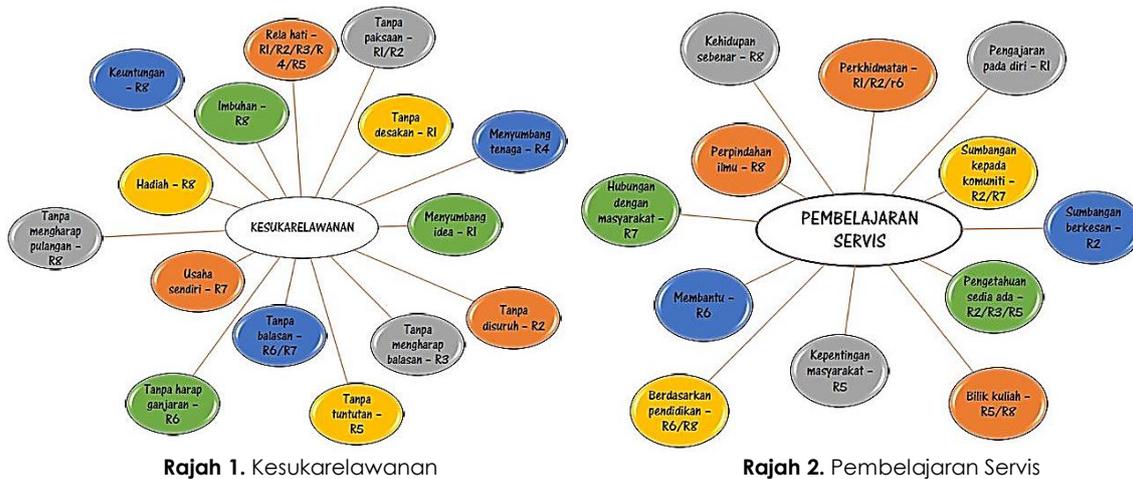
Analisis terhadap persepsi konsep mendapati responden mempunyai pengetahuan yang berbeza. Hal ini dapat dikenalpasti daripada hasil temubual yang telah dijalankan ke atas setiap responden dan tema yang dilihat adalah seperti rajah di atas. Responden berpendapat bahawa kesukarelawanan merupakan perkhidmatan yang diberikan kepada masyarakat dengan rela hati dan tanpa mengharapkan sebarang balasan. Manakala, pembelajaran servis pula merupakan perkongsian ilmu, perpindahan ilmu serta perkhidmatan yang berunsur pendidikan dan memberi kesan kepada masyarakat.

2. Analisis Deskriptif Persepsi Terhadap Impak Penyertaan Pelajar Dalam Aktiviti Kesukarelawanan Melalui Pembelajaran Servis Di Universiti Terhadap Kemahiran
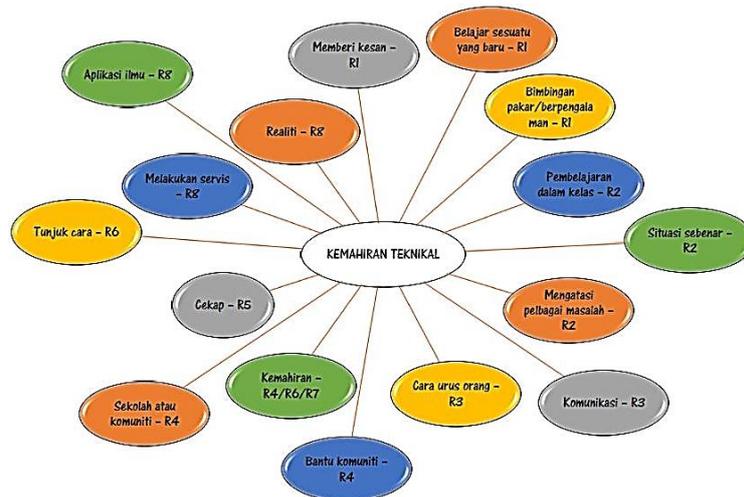
Rajah 3. Kemahiran Teknikal

Responden menyatakan bahawa kemahiran teknikal dapat ditingkatkan melalui pembelajaran servis kerana dapat memberikan pelajar suasana sebenar agar lebih bersedia dan dapat mengaplikasikan kemahiran teknikal yang telah dipelajari di dalam bilik kuliah ataupun bengkel.
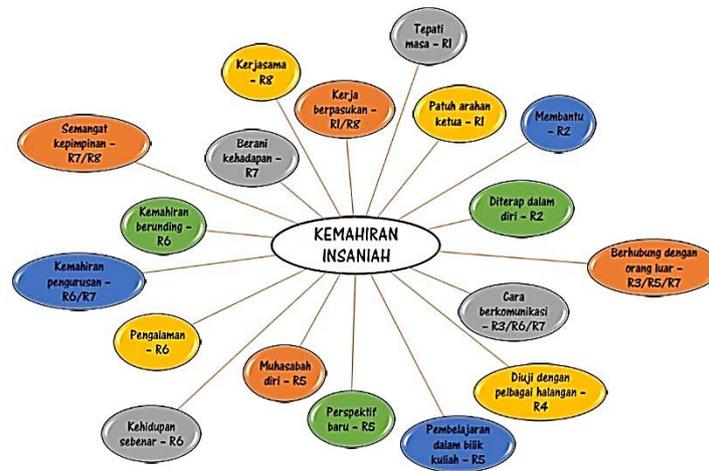
Rajah 4. Kemahiran Insaniah

Hasil dapatan kajian mendapati bahawa terdapat peningkatan dalam kemahiran insaniah melalui pembelajaran servis kerana responden berpendapat bahawa kemahiran insaniah sering dipupuk melalui aktiviti di luar bilik kuliah. Responden menyatakan bahawa kemahiran komunikasi dapat dipupuk dan pelajar akan mendapat pendedahan awal untuk berhubung dengan pihak luar, industri atau komuniti. Pelajar juga dapat meningkatkan kemahiran pengurusan seperti pengurusan masa, pengurusan bahan dan kemahiran berunding untuk mencapai persetujuan kedua belah pihak. Responden juga menyatakan pembelajaran servis dapat membina semangat kepimpinan, berani kehadapan, semangat kerja berpasukan serta lebih berkeyakinan tinggi.

3. Analisis Deskriptif Persepsi Terhadap Impak Penyertaan Pelajar Dalam Aktiviti Kesukarelawanan Melalui Pembelajaran Servis Di Universiti Terhadap Masyarakat
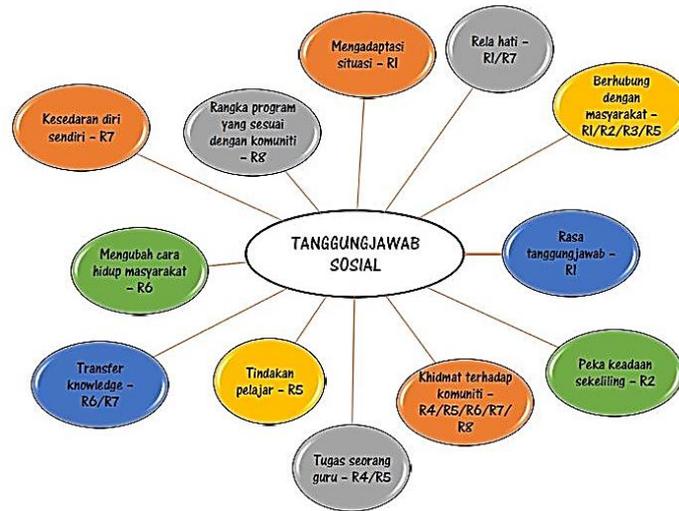
Rajah 5. Tanggungjawab Sosial

Responden menyatakan bahawa tanggungjawab sosial membuatkan pelajar lebih peka dengan keadaan dan keperluan oleh komuniti dan masyarakat sekeliling. Responden juga berpendapat bahawa duduk dalam linkungan masyarakat melalui pembelajaran servis dapat membantu pelajar untuk memikul tanggungjawab sebagai guru kelak kerana akan lebih bersedia dengan cabaran-cabaran yang dihadapi serta membantu masyarakat dengan bantuan yang dirasakan sesuai dan perlu. Responden juga menyatakan bahawa bantuan yang diberikan melalui 'transfer knowledge' dipercayai dapat mengubah cara hidup masyarakat walaupun bukan mudah namun usaha yang dilakukan melalui pembelajaran servis sedikit sebanyak memberi kesan baik terhadap masyarakat serta responden bersetuju bahawa pembelajaran servis mampu untuk meningkatkan tanggungjawab sosial pelajar.

4. Analisis Deskriptif Perspsi Terhadap Impak Penyertaan Pelajar Dalam Aktiviti Kesukarelawanan Melalui Pembelajaran Servis Di Universiti Terhadap Diri Sendiri

Rajah 6. Penghargaan Kendiri

Responden menyatakan bahawa penghargaan kendiri dapat ditingkatkan melalui pembelajaran servis kerana dapat mematangkan serta membuatkan pelajar lebih menghargai situasi diri apabila melihat keadaan yang lebih sukar selain dapat berbakti dengan melakukan perkara berfaedah kepada masyarakat. Responden juga menyatakan bahawa dengan pembelajaran servis dapat meningkatkan kepercayaan terhadap diri dan sedar tahap kemampuan diri untuk melakukan program pembelajaran servis tanpa berharap bantuan orang lain serta menyatakan bahawa kepuasan diri juga merupakan nilai dalam penghargaan kendiri. Responden juga menyatakan bahawa terdapat peningkatan penghargaan kendiri terhadap pelajar universiti.

Kesimpulan

Kesimpulannya, kajian persepsi terhadap impak penyertaan pelajar dalam aktiviti kesukarelawanan melalui pembelajaran servis di universiti dapat memberi impak terhadap kemahiran teknikal, kemahiran insaniah, tanggungjawab sosial dan penghargaan kendiri yang telah ditetapkan oleh pengkaji.

Rujukan

Alzbeta, Zuzana & Katarina. (2016). The Impact of Service-Learning on Students' Key Competences. Matej Bel University, Banská Bystrica,
        Slovakia.
Abdul Rahman, M. A & Abdul Wahab, M. Z. (2000). Pengetahuan dan Pengamalan Keselamatan Bengkel di kalangan Pelajar di Sebuah
        Institut Kemahiran Belia Negara di Negeri Terengganu. Universiti Teknologi Malaysia.
Azam Bin Awang. (2007). Tahap Penerapan Kemahiran Generik Dalam Pengajaran Guru Kejuruteraan Di Sekolah Menengah Teknik Di
        Negeri Kelantan Dan Negeri Terengganu. Universiti Teknologi Malaysia.
Azrina Mazlin Alias & Vishalache Balakrishnan. (2016). Impak Kesukarelawanan Dalam Kalangan Belia Di Kuala Lumpur: Satu Kajian. Jurnal
        Kepimpinan Pendidikan: Universiti Malaya.
Brewis, G., Hill, M., & Stevens, D. (2010). Valuing Volunteer Management. London: Institute for Volunteering Research.
Cnaan, R. A., Handy, F. Wadsworth, M. (1996). Defining Who Is A Volunteer: Conceptual and Empirical Considerations, Nonprofit and
        Voluntary. Sector Quarterly 3: 364–383.
Clary, E. G., Snyder, M., & Stukas (1996). Volunteers Motivations. Nonprofit and Voluntary Sector Quarterly 25: 485–505.
Creswell, J. W. (2008). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. Englewood Cliffs,
        NJ: Pearson.
Cohen, L., Mario, L., and Morrison, K. (2000). Research Methods in Education. 5th edition. London: RoutLedge/Falmer.
Dukes, S. (1984). Phenomenological methodology in the human sciences. Journal of Religion And Health, 23(3), 197-203.
Eyler J & Giles D. (1999). Where is The Learning in Service Learning? San Francisco: Jossey-Bass.
Finkelstein, M. A. & Brannick, M. T. (2007). Applying theories of institutional helping to informal volunteering: Motives, role identity and
        prosocial personality. Social Behavior and Personality, 35, 101-114
Faezah Yunus. (2006). Khidmat sosial di Malaysia. Kuala Lumpur: Penerbit Universiti Malaya.
Fauziah Ibrahim, Aizan Sofia Amin & Tharshini A/P Sivabalan. (2015). Penglibatan Dan Motivasi Kesukarelawanan: Ke Arah Memupuk
        Semangat Kesukarelawan Dalam Kalangan Mahasiswa. Journal of Social Sciences and Humanities.
Furco A & Billig S. (2002). Service Learning; The Essence of The Pedagogy. United States of America: Information Age Publishing Inc.
Kemp, S. (2002). Volunteers Learning in the Olympics. Journal of European Industrial Training, 26: 109-116.
Kementerian Pelajaran Tinggi Malaysia (2006). Pelan Induk Pembangunan Pendidikan 2006-2010. Putrajaya: Kementerian Pelajaran
        Malaysia
Kaye C. B. (2004). The Complete Guide to Service Learning: Proven, Practical Ways to Engage Students in Civic Responsibility, Academic
        Curriculum, & Social Action. United States of America: Free Spirit Publishing Inc.
Khalid Johari. (2003). Penyelidikan Dalam Pendidikan Konsep & Prosedur. Petaling Jaya: Prentice Hall.
Kerlinger, F.N. & Lee, H.B. (2000). Foundations of Behavioural Research. 4th Edition. Holt, NY: Harcourt College Publishers.
Krippendorff, K. (2004). Content Analysis: An introduction to its methodology. (2nd Ed.) Thousand Oaks, CA: Sage.
Mary Prentice and Gail Robinson. (2010). Improving Student Learning Outcomes with Service Learning. Washington: American Association
        of Community Colleges.
Mellor, Hayashi and Stokes. (2009). Volunteering and Its Relationship with Personal And Neighborhood Well-Being, Nonprofit And Voluntary.
        Sector Quarterly: 144–159
Musick, Marc, and John Wilson. (2008). Volunteers: A Social Profile. Indianapolis: Indiana University Press
Musick, M. and Wilson J. (2003) Volunteering and Depression: The Role of Psychological and Social Resources in Different Age Groups. Social
        Science and Medicine, 56(2): 259-269.
Mohd Yahya Mohamed Ariffin (2007). Pegawai Perhubungan Awam. Kuala Lumpur: Utusan Publications.
Mohd Fathi Adnan, Azlan Abdul Latib, Shahrin Hashim dan Noor Syafafwati Mamat. (2013). Impak Kursus UTM dan Khidmat Komuniti
        Terhadap Pembangunan KI Pelajar Universiti Teknologi Malaysia. Prosiding 2nd International Seminar on Quality and
        Affordabale Education. hlm. 406-410.
Mohamad Zaid Mustafa, Ali Suradin, Badaruddin Ibrahim, Suffian Mastor, Kahirol Mohd Salleh, Ahmad Rizal Madar dan Nor Lisa Sulaiman
        (2008). Penguasaan Kemahiran Berpasukan Menerusi Penyertaan Di Dalam Kokurikulum: Satu Tinjauan Di Universiti Tun
        Hussein Onn Malaysia. Persidangan Pembangunan Pelajar Peringkat Kebangsaan 2008. Universiti Teknologi Malaysia.
Mohamad Najib Abdul Ghafar (1999). Penyelidikan Pendidikan. Skudai, Johor: Universiti Teknologi Malaysia.
Mohd Majid Konting (2005). Kaedah Penyelidikan Pendidikan. Kuala Lumpur: Dewan Bahasa Dan Pustaka
Mohamad Najib Abdul Ghafar. (2003). Reka Bentuk Tinjauan Soal Selidik Pendidikan. Skudai: Penerbit UTM.
Mohd Majid Konting. (2000). Kaedah Penyelidikan Pendidikan. Kuala Lumpur: Dewan Bahasa dan Pustaka.
Mok, S. S. (2003). Psikologi Pendidikan, Kumpulan Pendidikan Budiman Sdn.Bhd. Subangjaya.
Nichols, G, King. (1999). Redefining the Recruitment Niche for the Guide Association In The UK. Leisure Sciences. 21: 307-320.
Najah Nadiah Amran, Maznah Ibrahim, Rosilah Hassan & Khaidzir Ismail. (2016).
Pendekatan Service-Learning Dalam Kursus Kemahiran Insaniah: Transformasi Positif Dalam Kalangan Pelajar Perubatan UKM-UNPAD. Jurnal
        Personalia Pelajar 19 (1) (2016): 11-21
Sufean Bin Hussin (2005). Pentadbiran Dalam Pembangunan Pendidikan. Kuala Lumpur: PTS Professional.
Shweiki & Mauck. (1993). Volunteering In Cross-National Perspective: Initial Comparisons. Civil Society Working Paper 10. London: London
        School Of Economics, Centre For Civil Society.
Saifuddin Abdullah. (2001). Gerakan kesukarelaan menjana perubahan bermakna. Kuala Lumpur: Majlis Belia Malaysia.
SCANS (1991): Secretary's Commission on Achieving Necessary Skills, U.S. Dept. of Labor INNOVATIVE PROGRAMS

Tuan Pah Rokiah Syed Hussain. (2016). Belia dan Pembudayaan Semangat Sukarelawan di Malaysia: Suatu Pemerhatian Konseptual. Malaysian Journal of Society and Space. Universiti Utara Malaysia: GEOGRAFIA Online.

The National Youth Agency. (2006). Young people's volunteering and skills development. [Electronic Version]. Retrieved on 5 June 2015 from
http://dera.ioe.ac.uk/6643/1/RW103.pdf

Tee Tiam Chai, Hamdan Said, Norashuha Tajuddin, Nguyen Thuy Van, Ros Ilyani Rosdi, M ohd Rustam Mohd Rameli, Noriadah Abdul Karim.
(2013). The Role Of Academic Advisor In Motivating Students To Perform Service-Learning. Universiti Teknologi Malaysia.

Verma, G. K., & Mallick, K. (1999). Researching education. Perspectives and techniques. London, UK: Falmer Press.

Walker, V. N. (2003). Office of Co-Curricular Life. Sweet Briar: Sweet Briar College. http://sbc.edu/cocurricular/about/

Yeop Hussin Bidin (2006). Kerja Berpasukan. Kuala Lumpur: PTS Professional.

Yahya Buntat, Rozita Sanapi. (2003). Tahap penghayatan nilai-nilai murni di kalangan pelajar-pelajar sarjana muda teknologi serta pendidikan semasa menjalankan kerja amali bengkel. Jurnal Teknologi. 39: 63-76.

Yahya Buntat dan Muhammad Rashid Rajuddin. (2004). Aspek-aspek penting dalam kemahiran employability. Buletin Fakulti Pendidikan
Universiti Teknologi Malaysia.

Yahya Bin Buntat & Muhamad Shahabudin Bin Hassan. (2009). Kemahiran Komunikasi Dalam Meningkatkan Keyakinan Diri Pelajar. Satu
Tinjauan Di Kalangan Ahli Jawatankuasa Kolej Mahasiswa, Universiti Teknologi Malaysia. Universiti Teknologi Malaysia.

Zainuddin Zakaria & Ziadatul Hidayah Zakaria (2006). Kemahiran Memimpin. Kuala Lumpur: PTS Professional.

Pelaksanaan *Outcome-Based Education* (OBE) di Kolej Vokasional

Nurul Akmal Ainie Abdul Razak[1], Sanitah Mohd Yusof[2]

[1,2] Fakulti Sains Sosial Dan Kemanusiaan, Sekolah Pendidikan, Univesiti Teknologi Malaysia

E-mail: akmal7razak@gmail.com[1], p-sanitah@utm.my[2]

Abstrak: *Kurikulum dan komponen kurikulum adalah sentiasa berubah iaitu tidak statik, mengikut keperluan dan peredaran zaman. Seiring dengan perubahan pada abad ke-21 pelaksanaan pembelajaran juga turut berubah dan ianya mengubah ladskap pendidikan di Malaysia. Melalui Pelan Pembangunan Pendidikan Malaysia (PPPM) pendidikan Malaysia kini bergerak kearah matlamat yang dinyatakan. Pendidikan TVET juga turut ditambahbaik melalui Rancangan Malaysia kesebelas (RMK-11) iaiu mentransformasi TVET untuk memenuhi permintaan industri disamping menambahbaik kualiti sistem pendidikan bagi peningkatan keberhasilan pelajar (outcome). Impak dari transformasi ini Kolej Vokasional (KV) yang dahulunya dikenali sebagai Sekolah Menengah Vokasional mengalami perubahan besar dalam sistem pendidikan yang lebih berfokus kepada peperiksaan. Melalui pematuhan kepada standard pembelajaran yang digariskan oleh Malaysian Qualification Agency (MQA), pelaksanaan Outcome-Based Education (OBE) telah diterapkan dalam kurikulum Kolej Vokasional yang mana hasil pembelajaran dinyatakan dengan jelas dan akan diterjemahkan melalui kandungan pelajaran, kaedah pengajaran dan pembelajaran, proses penilaian, suasana pembelajaran berdasarkan matlamat yang telah dinyatakan. Transformasi yang besar ini sememangnya memerlukan komitmen dan keterbukaan dari tenaga pengajar di Kolej Vokasional untuk berubah dan menambahbaik kaedah pengajaran dan penilaian dari sistem yang dahulu.*

Kata Kunci: *Outcome-Based Education* (OBE), Kolej Vokasional (KV), *Malaysian Qualification Agency* (MQA)

Pengenalan

Dalam usaha negara untuk mencapai status negara maju, pendidikan dan latihan vokasional merupakan salah satu usaha untuk melahirkan modal insan berkemahiran yang diperlukan ynag dilengkapkan dengan nilai tambah untuk menjadi masyarakat yang dapat menyumbang secara postif kepada keperluan pasaran kerja selain menyumbang kepada usaha negara menghasilkan pekerja industry yang berpendapatan tinggi .Di dalam era dunia tanpa sempadan, cabaran yang dihadapi oleh para graduan kini menjadi lebih sengit di pasaran kerja di dalam mahupun luar negara. Kolej Vokasional yang dahulunya dikenali sebagai Sekolah Menengah Vokasional atau Sekolah Menengah Teknik turut terlibat dalam transformasi pendidikan selaras dengan apa yang dibentangkan dalam Rancangan Malaysia Kesebelas (RMK-11) iaitu mentransformasi TVET untuk memenuhi permintaan industri, memperkukuh pembelajaran sepanjang hayat untuk peningkatan kemahiran dan menambah baik kualiti sistem pendidikan bagi peningkatan *outcome* pelajar dan kecemerlangan institusi(Economic Planning Unit (EPU) Malaysia, 2015). Kolej Vokasional yang juga merupakan Penyedia Pengajian Tinggi (PPT) menawarkan program diploma dan kriteria ini perlu mematuhi Kerangka Kelayakan Malaysia atau Malaysian Qualifications Framework yang menghuraikan tahap kelayakan diploma menyeimbangkan teori dan amalan atau praktikal dan menekankan pemupukan nilai, etika sikap supaya pelajar boleh mencapai lapan (8) domain hasil pembelajaran yang ditetapkan. (Malaysian Qualifications Agency, 2009)

Persoalan yang perlu dijawab adakah graduan Kolej Vokasional sudah dilengkapkan dengan ilmu pengetahuan , kemahiran praktikal , kemahiran insaniah serta semaian sikap yang cukup bagi membolehkan mereka menghadapi persaingan di dunia pekerjaan. Rosdi (2015) menyatakan bahawa Kementerian Pendidikan Malaysia (KPM) melalui Bahagian Pendidikan Teknik dan Vokasional (BPTV) juga berpadu tenaga dalam usaha mencapai hasrat wawasan negara. Perubahan demi perubahan dalam kurikulum dengan menerapkan komponen-komponen yang baru selaras dengan perkembangan dunia semasa yang berlaku dengan pantas bagi memastikan perubahan kurikulum yang dilakukan adalah relevan.

Ini adalah selaras dengan kajian oleh Bunning (2006) dalam penulisan beliau menyatakan bahawa segala apa usaha yang dicurahkan oleh pihak kerajaan dalam usaha mendidik komuniti pada akhirnya diharapkan berlaku perubahan sikap. Sikap graduan yang dapat menjadi masyarakat yang lebih bertimbangrasa dan berpengetahuan tidak akan dapat dicapai hanya melalui penerapan pelbagai program baru sahaja, tetapi lebih tertumpu kepada bagaimana ahli akademik memikirkan dan melaksanakan tugas atau kerja mereka bagi penerapan sikap. Dalam melaksanakan sesuatu pendekatan pendidikan, objektif memainkan peranan utama. Merujuk kepada Ornstein&Hunkins (2018) menjelaskan objektif terdiri daripada *Behavioral Objectives* yang menekankan kepada pencapaian yang boleh diukur melalui kemahiran dan pengetahuan yang dilakukan itu mencapai standard yang ditetapkan dan *Nonbehavioral Objectives* yang tidak menunjukkan objektif yang terlalu spesifik kerana ianya membataskan pembelajaran kepada pencapaian yang boleh diukur sahaja. Beliau menambah dalam penulisan tersebut bahawa dalam penetapan objektif, pendidik perlu mengambilkira semua domain pembelajaran: kognitif, psikomotor dan afektif. Inilah yang dilaksanakan dalam kurikulum pengajian tinggi negara berdasarkan Jabatan Pengajian Tinggi & Kementerian Pengajian Tinggi (2012) yang menyatakan bahawa

Pendidikan Berasaskan Hasil (PBH) atau *Outcome Based-Education* (OBE) adalah merupakan konsep utama yang menjadi asas pelaksanaan kurikulum pengajian tinggi negara.

Outcome-Based Education (OBE)

Menurut Spady (1994) mendefinisikan *Outcome-Based Education* (OBE) sebagai *"means clearly focusing and organizing everything in an educational system around what is essential for all students to be able to do successfully at the end of their learning experiences.* Dalam ertikata lain OBE adalah apa yang pelajar boleh lakukan pada akhir pembelajaran. Abdul Halim et al (2012) mendefinasikan *Outcome Based Education* sebagai kaedah dalam perancangan dan pengajaran yang berfokus kepada apa yang pelajar dapat lakukan selepas pengajaran dimana proses pengajaran dan pembelajaran berfokus kepada pembelajaran berpusatkan pelajar (*Student-Centred Learning (SCL)*).

Kaedah pembelajaran berpusatkan pelajar terdiri dari beberapa pendekatan iaitu *Active Learning, Case studies, Collaborative Learning, Cooperative Learning, Project-based Learning dan Problem-based Learning.* Ia dijelaskan lagi melalui definisi oleh Harden, Crosby, & Davis (1999) OBE adalah pendekatan dalam pendidikan bahawa keputusan berdasarkan oleh hasil yang pelajar dapat lakukan di akhir sesuatu kursus. Pendekatan ini melihat hasil atau produk adalah proses yang diperolehi oleh pelajar. Berdasarkan Akta 679 - Akta Agensi Kelayakan Malaysia (2007) mendefinisikan hasil pembelajaran sebagai standard yang hendak dicapai melalui pendidikan atau program latihan kemahiran atau kelayakan sebagaimana yang ditentukan oleh Kerangka Kelayakan Malaysia. Melalui pematuhan kepada standard pembelajaran yang digariskan oleh Malaysian Qualification Agency (MQA), pelaksanaan *Outcome-Based Education* (OBE) telah diterapkan dalam kurikulum Kolej Vokasional yang mana hasil pembelajaran dinyatakan dengan jelas dan akan diterjemahkan melalui kandungan pelajaran, kaedah pengajaran dan pembelajaran, proses penilaian, suasana pembelajaran berdasarkan matlamat yang telah dinyatakan.

Pendekatan OBE diaplikasi di KV adalah kerana ia menekankan mengenai hasil pembelajaran dan ini adalah seiring dengan apa yang dinyatakan oleh Glatthorn et al (2012) yang mendefinisikan kurikulum sebagai pengalaman pembelajaran yang dirancang dan diarahkan oleh sekolah untuk mencapai matlamat pendidikan. Menurut Siti Zakiah & Hazira (2012) menyatakan bahawa kurikulum yang dibentuk mestilah memberi lebih tumpuan kepada pembelajaran masteri dan berlandaskan hasil (outcomes). Merujuk kepada kajian oleh Frank JR et al. (2010), kompetensi adalah satu tahap kecekapan yang menggabungkan pelbagai komponen seperti pengetahuan, kemahiran, nilai dan sikap. Ianya merupakan sesuatu kebolehan yang boleh diperhatikan, diukur dan dinilai.

Pernyataan Masalah (Kolej Vokasional)

Dalam konsep Kolej Vokasional, 10 buah SMT akan meneruskan program Teknikal SPM seperti sedia kala. Terdapat 81 buah Kolej Vokasional yang menawarkan 34 program sijil yang akan diikuti selama 2 tahun dan 36 program diploma juga memakan masa 2 tahun. Pengambilan pelajar kesemuanya ialah pelajar Pendidikan Menengah Rendah lepasan Pentaksiran Tingkatan Tiga (PT3). Pemberatan pentaksiran bagi penilaian sijil dengan nisbah Penilaian Berterusan (PB) kepada Penilaian Akhir (PA) adalah 70:30 dan bagi program diploma dengan nisbah 60:40 dan pelajar akan dianugerahkan Diploma Kolej Vokasional dan Sijil Kemahiran Malaysia (SKM) Tahap 3. Ini adalah kerana Kurikulum Kolej Vokasional telah dipetakan dengan Standard Kemahiran Pekerjaan Malaysia (SKPK) atau *National Occupational Skill Standard* (NOSS) bagi melayakkan pelajar Kolej Vokasional dianugerahkan SKM dari Jabatan Pembangunan Kemahiran. Kurikulum awal Kolej Vokasional dikenali sebagai Kurikulum Standard Kolej Vokasional (KSKV) adalah suatu kurikulum baru pendidikan vokasional yang telah dikuatkuasakan bermula pada tahun 2011.

Menurut Abdullah (2014) ia mempunyai spesifikasi dan standard yang diiktiraf oleh pelbagai agensi dalam dan luar negara. KSKV digubal dengan menambahbaikan kurikulum yang sedia ada dengan berpandukan kepada Standard Kemahiran Pekerjaan Kebangsaan (NOSS), Jabatan Pembangunan Kemahiran, kurikulum ini bersifat modular, berasaskan kecekapan, mengutamakan aspek amali dan anjal.

Kurikulum Kolej Vokasional pada awal acuannya adalah mengikut NOSS dan berdasarkan Laporan Sementara Akreditasi (2014) terhadap Program Seni Kulinari menghendaki semakan dan pembetulan dibuat agar mematuhi Standard Program bagi Program Hospitaliti dan Pelancongan Bil.3/2012 sebagai garis panduan. Pemurnian dan penambahbaikan dilakukan dan Kurikulum Standard Kolej Vokasional (KSKV) dibangunkan oleh BPTV KPM selari dengan Transformasi Pendidikan Vokasional dan Pembangunan Pendidikan Malaysia (PPPM). Merujuk kepada (Malaysian Qualification Agency (MQA), 2016) mendapati Kerangka Konsep KSKV direka bentuk berdasarkan input yang diterima dari Panel Industri dan Panel Akademik dalam bidang dan diselia oleh BPTV. Kurikulum dibangunkan oleh staf akademik dari Kolej Vokasional dan staf akademik pakar dari Institusi Pengajian Tinggi Awam yang dilantik oleh BPTV sebagai Jawatankuasa Penggubal Kurikulum Program Pengajian Kolej Vokasional

Bagi melaksanakan *Outcome-Based Education* (OBE), Kolej Vokasional melalui Jurulatih Utama membina kurikulum berdasarkan Visi Bahagian Pendidikan Teknik dan Vokasional (BPTV) untuk menjadi peneraju pendidikan teknikal dan vokasional yang unggul dengan misi memperkasa pendidikan teknikal dan vokasional melalui pelaksanaan program yang berkualiti melalui Rangka Pendidikan Vokasional yang berhasrat melahirkan 70% tenaga mahir 20% melanjutkan pelajaran dan 10% menjadi usahawan. Berdasarkan objektif ini, *Program Education*

Outcome (PEO) telah dibina yang kemudiannya diterjemah kepada *Program Learning Outcome (PLO)* dengan mengikut standard program yang dikeluarkan oleh *Malaysian Qualification Agency (MQA)* dan diperincikan melalui *Course Learning Outcome (CLO)* bagi setiap kursus dalam program yang ditawarkan.

Menurut Embi (2010) setiap objektif-obkjektif program dan hasil-hasil pembelajaran program harus dijadikan titik rujukan untuk dihubungkait kepada kurikulum dan proses pengajaran dan pembelajaran. Pihak penyedia pengajian tinggi perlu menyediakan staf akademik yang benar-benar berkelayakan dalam bidang untuk mengajar kursus yang ditawarkan terutama bagi kursus teras bidang program. Proses pengajaran dan pembelajaran pensyarah sangat dititikberatkan demi memastikan setiap pelajar mencapai hasil yang ditetapkan dan memperoleh pengalaman pembelajaran yang maksimum. Ini adalah seiring dengan Ornstein dan Hunkins (2018) yang merujuk kepada Model Tyler yang menyatakan bahawa melalui penetapan pengalaman pembelajaran akan mencapai objektif yang ditetapkan dan perlu disusun secara sistematik agar menghasilkan impak maksimum.

Berdasarkan kajian oleh (Zakaria & Mhd Noor Asmara, 2010) menegaskan bahawa cabaran utama adalah mendapatkan guru yang berpengalaman dan berkelayakan untuk mengajar program agar Pendidikan Teknik dan Vokasional (PTV) dapat dilaksanakan dengan lebih berkesan. Ini adalah seiring dengan dapatan (Malaysian Qualification Agency (MQA), 2016) bagi pihak Penyedian Pengajian Tinggi (PPT) iaitu Kolej Vokasional perlu memastikan bahawa staf akademik yang benar-benar berkelayakan dalam bidang untuk mengajar kursus yang ditawarkan terutama bagi kursus teras bidang selain mempertingkatkan kelulusan kelayakan staf akademik sebenar yang diperlukan agar penyampaian proses pengajaran dan pembelajaran mencapai matlamat seperti mana yang dirancang.

Merujuk kepada Rancangan Malaysia Kesebelas yang telah dikeluarkan oleh Unit Pembangunan Ekonomi menggariskan enam (6) teras strategik dan enam (6) pemacu perubahan yang kritikal bagi menjadi negara maju. Di dalam teras strategik ketiga bermatlamat untuk memberi tumpuan kepada meningkatkan pembangunan modal insan untuk negara maju yang terdiri dari empat (4) bidang fokus utama iaitu Bidang Fokus A; menambah baik kecekapan pasaran buruh bagi meningkatkan pertumbuhan ekonomi, Bidang Fokus B; mentransformasi TVET untuk memenuhi permintaan industry, Bidang Fokus C; Memperkukuh pembelajaran sepanjang hayat untuk peningkatan kemahiran dan Bidang fokus D; menambah baik kualiti. Dalam bidang fokus B untuk mentransformasi TVET menjelaskan bahawa kementerian akan terus bekerjasama dengan kementerian dan agensi lain untuk menyeragamkan rangka kerja kelayakan dan standard TVET kepada satu sistem akreditasi dan pengiktirafan program TVET. (Economic Planning Unit (EPU) Malaysia, 2015).

Perancangan tersebut menjadi asas kepada perubahan kurikulum Kolej Vokasional. Apabila pelaksanaan kohort pertama pelajar diploma Kolej Vokasional pada tahun 2012. Penjenamaan semula KV melibatkan pengenalan kurikulum baru yang telah digunakan di semua Kolej Vokasional. Pembinaan ini adalah bagi mematuhi keperluan Standard Kemahiran Pekerjaan Kebangsaan Akta 679 bagi memastikan sijil atau diploma yang ditawarkan adalah setaraf dengan sijil atau diploma dari Kolej Vokasional.

Berdasarkan kajian oleh Ahmad, Jalani, & Hasmori (2015) menyatakan dengan transfromasi pendidikan aliran vokasional yang telah dilancarkan suatu bentuk kerangka perlu bagi menepati kehendak pasaran kerja di bidang industri. Langkah ini adalah perlu untuk mengurangkan jurang kesepadanan program-program pengajian dengan keperluan industri. Akreditasi oleh dua badan utama iaitu Jabatan Pembanguan Kemahiran (JPK) berdasarkan Standard Kemahiran Pekerjaan Kebangsaan (NOSS) dan Agensi Kelayakan Malaysia (MQA) perlu diperkemas agar seiring bagi meyakinkan pihak industri dan juga institusi TVET.

Berdasarkan perubahan- perubahan yang telah diterangkan, pensyarah di Kolej Vokasional juga perlu melakukan pelbagai perubahan bagi mengadaptasi transformasi dan penambahbaikan kepada kurikulum Kolej Vokasional. Kesediaan dari aspek pengetahuan dan kemahiran perlu diambilberat seperti dapatan kajian oleh Zakaria & Mhd Noor Asmara (2010)yang mendapati permasalahan yang dihadapi oleh guru dalam mengendalikan pengajaran Kursus Seni Kulinari perlu diberi perhatian dengan aspek peralatan serta pengetahuan dan kemahiran guru dilihat sebagai masalah yang dikenalpasti berada pada tahap yang tinggi. Dapatan kajian dari (Siti Syahirah, 2011) mendapati tidak semua guru-guru Matapelajaran Asas Vokaional (MPAV) terutamanya di sekolah vokasional berpengalaman dalam bidang kemahiran. Guru-guru di sekolah vokasional mempunyai sejarah latar belakang akademik yang berbeza dan terdapat dari kalangan mereka yang berpengalaman mengajar di sekolah harian biasa. Keadaan ini sememangnya memberi kesan kepada tahap implementasi *Outcome Based Education* di kalangan tenaga pengajar selain dari penguasaan pengetahuan dan kemahiran kursus yang diajar. Ini diperakui oleh Bakar (2018) yang mengaitkan profesionalisma guru sebagai satu perkara yang perlu diambilkira dalam mempertingkatkan pencapaian pelajar.

Metodologi

Tujuan kajian ini adalah untuk mengenalpasti implementasi *Outcome-Based Education (OBE)* dalam Pendidikan Teknikal dan Vokasional (TVET). Oleh itu, pangkalan data dalam talian UTM dari laman web perpustakaan UTM telah digunakan untuk mencari artikel-artikel yang diterbitkan. Walaubagaimanapun, kajian hanya memberikan tumpuan kepada pelaksanaan *Outcome-Based Education* dalam TVET.

Dapatan kajian

Berdasarkan tinjauan literatur, kajian-kajian lepas menunjukkan OBE yang diimplementasi oleh Institut Pengajian Tinggi dan Kolej memberi impak positif terhadap pencapaian pelajar dalam aspek pengetahuan dan kemahiran. Ini berdasarkan pendekatan dan kaedah pengajaran dan pembelajaran yang digunakan oleh pensyarah selain dari pembelajaran interaktif . Semua kajian yang ditinjau diperlihatkan dalam Jadual 1

Jadual 1. Meta Analisis Pelaksanaan Outcome Based Education dalam Program Teknik dan Vokasional

Kajian	Metodologi	Penguasaan Pengajar	Dapatan (Pelaksanaan OBE)
Transformational Model for Engineering Education from Content-Based to Outcome-Based Education (Manzoor, Aziz, Hussain, Wasim, & Jahanzaib, 2017)	Bentuk: Survey Instrumen: Soal selidik	Latihan untuk pengajaran menggunakan OBE adalah berguna; dapat mengintegrasi kajian projek dengan kursus yang diajar. CLO perlu dijelaskan kepada pelajar diawal sesi pembelajaran.	Transformasi dari *Content Based Education* kepada OBE memberi impak positif kepada pembelajaran pelajar.
A Historical Study of The Contributions of Dr.William G.Spady to Education Reform (Thomas, 2013)	Kaedah: Kualitatif Instrumen: Protokal interview	Warga pendidik mendapatkan ilmu untuk pembangunan professional, menilai semula pendekatan pengajaran dan penilaian.	Pihak pengurusan perlu fokus kepada matlamat pendidikan bagi memastikan pencapaian pelajar terhadap hasil yang diharapkan lebih ditekankan berbanding pelajar menghabiskan masa di dalam kelas sahaja.
Tahap Implementasi Outcome Based Education Dalam Proses Pembelajaran dan Pengajaran di kalangan Pensyarah Politeknik (Othman, Salleh, & Awang, 2017)	Kaedah: Kuantitatif Bentuk: Kajian Tinjauan Instrumen: Soal selidik	Pensyarah mengamalkan konsep OBE pada tahap sederhana. Pensyarah dapat mengenal pasti strategi P&P dan pentaksiran yang sesuai dengan kehendak PLO dan CLO dan aplikasi pengetahuan dalam bentuk praktis dalam kelas.	Amalan pentaksiran akan bertambah baik apabila pengetahuan dimensi ini meningkat dan hubungan itu kuat
Transformasi Pendidikan Teknik dan Vokasional (PTV): Kesediaan Guru Vokasional dalam Pelaksanaan Pengajaran Kursus Seni Kulinari Kolej Vokasional (Zakaria & Mhd Noor Asmara, 2010)	Kaedah: Deskriptif Kuantitatif Bentuk: Kajian tinjauan Instrumen: Soal selidik	Kurang penerapan penggunaan teknologi selain kepelbagaian pedagogi adalah mengikut pemahaman sendiri dan intelektual guru.	Tajuk dalam kursus diploma masih belum dikuasai sepenuhnya oleh guru terutama kepada sukatan kursus yang semakin sukar mengikut semester.
Administrators' Perceptions of Outcome-Based Education: A Case Study (Furman, 2014)	Kaedah: Kualitatif Instrumen: Temubual	Pendekatan OBE memberi kesan yang positif melalui peningkatan profesionalisma dan kerjasama dalam kumpulan.	OBE menyediakan standard dalam tugasan tenaga pengajar yang mana ianya lebih konkrit jika dibandingkan dengan matlamat pendidikan yang sukar diukur.
The Influence of Professional Teachers on Padang Vocational School Students' Achievement (Bakar, 2018)	Quantitative Descriptive Correlation Approach Instrumen: Soal selidik	Pencapaian pelajar dalam aspek kognitif, afektif dan psikomotor berada pada tahap yang baik kerana didapati profesionalisma guru memberi kesan kepada pencapaian pelajar.	Penilaian terhadap guru dalam aspek kompetensi pedagogi, kompetensi profesionalisma, kompetensi sosial adalah baik selain dari guru mempunyai kelayakan yang sesuai.

A New Outcome-Based Curriculum: Its Impact on Student Core Competence (Chan & Chan, 2009)	Kaedah: Kualitatif Instrumen: Interview	Implementasi OBE mengubah pendekatan guru untuk leboh memberi penekanan kepada pengurusan kelas dan kedalaman pengajaran terhadap pelajar. Penerimaan dan pedapat guru mengenai OBE adalah bercampur (bersetuju dan tidak).	Terdapat sesetengah guru yang kurang pengetahuan tentang OBE yang memerlukan ruang untuk penambahbaikan. Walaubagaimanapun terdapat peningkatan sikap positif pelajar apabila OBE dilaksanakan.
Designing Outcome-Based Curriculum for Industry Relevant Courses In Engineering Education: Integrating Social Networking, Information And Communication Technology, Modified Bloom's Taxonomy, And Student Personality Types (Chickerur & Kumar M, 2012)	Kaedah: Kualitatif Instrumen: Soal selidik	Pensyarah yang terlibat dalam membangunkan kursus dapat meningkatkan kaedah pengajaran dan suasana pembelajaran disamping memotivasikan pelajar untuk mendapatkan maklumat melalui penggunaan teknologi. Penggunaan teknologi dalam pedagogi akan memberi kesan yang baik kepada kurikulum berasaskan hasil.	Pelajar memberi maklumbalas positif dan menunjukkan peningkatan dalam pembelajaran melalui pendekatan pengajaran yang digunakan dan pengintegrasian pengajaran berasaskan internet (*Internet-based Web tools*)
Refining teaching and assessment methods in fulfilling the needs of employment: A Malaysian perspective (Singh, Narasuman, & Thambusamy, 2012)	Article history	Seiring dengan perubahan pantas scenario sosio-ekonomik global, kaedah pengajaran di universiti dilaksanakan berdasarkan pendekatan baru yang berfokuskan hasil pembelajaran (*learning outcome*) yang meliputi kedalaman dan keluasan (*breadth and depth*) kitaran pengajaran dan pembelajaran.	Semua Universiti Awam di Malaysia telah mengorganisasi kurikulum mengikut kriteria yang telah ditetapkan mengikut *Outcome -Based Education* (OBE) dan *Student Centered Learning* (SCL). Kurikulum yang disediakan turut fokus kepada kaedah pembelajaran interaktif bagi meningkatkan capaian hasil pembelajaran.

Kelebihan *Outcome-Based Education (OBE)*

Berdasarkan dapatan yang ditunjukkan dalam Jadual 1, perbincangan mendapati pendekatan OBE memberi kesan positif kepada pelajar. Selain itu, ia turut menyentuh mengenai kesediaan dan tahap penguasaan guru terhadap kaedah pengajaran berasaskan OBE. Secara keseluruhannya mendapati pendekatan pengajaran melalui OBE memberi impak positif terhadap pengajar dan pelajar. Implementasi OBE yang kukuh adalah apabila guru terlibat dalam membangunkan kursus dapat meningkatkan kaedah pengajaran selain dari meningkatkan motivasi terhadap pelajar (Chickerur & Kumar M, 2012). Menurut Furman (2014) mendapati OBE menggariskan standard yang perlu dicapai dalam setiap pembelajaran dan ini memberi panduan yang jelas kepada pengajar mengenai hasil yang pelru dicapai dalam pengajaran dan pembelajaran yang dilaksanakan.

Selain itu, motivasi pelajar semakin meningkat kerana hasil pembelajaran yang akan dipelajari pelajar telah dijelaskan pada permulaan sesi pembelajaran (Manzoor et al., 2017). Ini menjadikan pelajar lebih bersedia dengan apa yang bakal dipelajari selain pendekatan pengajaran pensyarah turut menyokong pendekatan pengajaran OBE kerana perubahan pendekatan pengajaran dari *Content-Based Education* (CBE) kepada *Outcome-Based Education* (OBE)

Dalam pada itu, melalui pendekatan OBE pensyarah dapat mengenal pasti strategi P&P dan pentaksiran yang sesuai dengan kehendak PLO dan CLO dan aplikasi pengetahuan dalam bentuk praktis dalam kelas sebagaimana dalam kajian oleh Othman et al. (2017). Melalui OBE, didapati pensyarah lebih terpandu dalam merancang dan melakasanakan proses dan kaedah pengajaran dan pembelajaran. Ini adalah seiring dengan penyataan dari Brady (2011) bahawa pelbagai kaedah pengajaran dan strategi penilaian boleh diterapkan untuk dilaksanakan kepada setiap pelajar. Beliau turut mendapati OBE dapat mengelakkan kegagalan kerana pelajar-pelajar yang pada mulanya tidak mencapai hasil mengikut standard yang ditetapkan boleh melakukannya atau kompeten melalui pemulihan yang sesuai.

Kekurangan *Outcome-Based Education* (OBE)

Dalam melalui perubahan pendidikan, terdapat juga pengajar yang sukar untuk menerima perubahan kepada OBE seperti yang dinyatakan oleh Chan & Chan(2009) kerana dikatakan menambah beban tugasan sediaada kepada mereka. Ini diakui oleh (Singh et al., 2012) pensyarah perlu menghabiskan silibus pengajaran selain dari penambahan tugasan akademik yang pada akhirnya ramai daripada pensyarah menjuruskan kaedah pengajaran berpusatkan pensyarah berbanding kaedah yang lebih interaktif dan berpusatkan pelajar. Tidak dinafikan tekanan dan permintaan yang pelbagai dari pihak pengurusan dan keperluan institusi pendidikan

menjadikan pensyarah terbeban dengan tugasan yang pada akhirnya menjadikan tugas utama untuk melaksanakan pengajaran dan pembelajaran sedikit terabai. Menurut Ornstein& Hunkins (2018) menyatakan perubahan menjadikan guru yang merasa selesa dalam keadaan semasa akan sukar untuk berubah kerana mereka tidak memahami perubahan yang dilaksanakan dan tidak dapat membayangkannya. Disebabkan perubahan yang berlaku adalah pantas, ini turut menyebabkan kesukaran untuk berubah kerana ketidakpastian mencetuskan rasa tidak selamat atau *uncertainty foster insecurity*.

Abdul Halim (2012) menyatakan bahawa pelaksanaan OBE adalah tugas yang mencabar. Halangan utama yang perlu dihadapi adalah kerana kelemahan manusia, proses dan juga kertas kerja. Setiap pihak perlu bekerjasama bagi mencapai hasil yang diharapkan. Ini dibuktikan melalui kajian oleh Chan & Chan (2009) yang menyatakan bahawa terdapat pensyarah yang kurang menguasai OBE yang menyebabkan ianya tidak dapat dilaksanakan secara efektif. Sebaiknya pensyarah perlu disediakan dengan pengetahuan dan kemahiran yang secukupnya bagi membantu melancarkan pelaksanaan OBE agar dapat mencapai matlamat yang diharapkan.

Brady (2011) mengkritik OBE kerana mengurangkan dimensi afektif dalam pendidikan kerana kesukaran untuk menilai hasil bagi dimensi afektif yang akhirnya ia mungkin diabaikan. Elemen humanistik perlu diterapkan dalam pengajan dan pembelajaran sepertimana yang dinyatakan oleh Jabatan Pengajian Tinggi & Kementerian Pengajian Tinggi (2012) bahawa pendekatan ini menanam rasa bangga dan *self-esteem* pelajar dengan membantu setiap individu untuk mencapai potensi yang termampu. Teori Hirarki Keperluan Maslow menunjukkan bahawa sebelum pembelajaran boleh berlaku dengan berkesan, keperluan asas pelajar seperti keperluan fisiologi, keselamatan, kasih sayang dan keperluan, penghargaan diri, kognitif, estatik dan kesempurnaan kendiri perlu dipenuhi. Ini juga adalah bagi memastikan graduan yang lahir dari Kolej Vokasional adalah individu yang seimbang dari tiga domain pembelajaran seperti yang dinyatakan sebelum ini.

Kesimpulan

Melalui transformasi dan penambahbaikan berterusan yang dilaksanakan oleh BPTV melalui KPM, diharapkan dapat menyediakan modal insan yang seimbang, dilengkapi ilmu pengetahuan dan kemahiran agar dapat menyumbang kepada pembangunan negara. Pengiktirafan dan penambahbaikan pendidikan TVET memberi peluang kepada pelajar yang dikategorikan sebagai sederhana pencapaian untuk meneroka peluang pekerjaan yang sesuai dengan kelebihan mereka dalam bidang kemahiran. Ini dibuktikan oleh Yusop (2014) dalam kajiannnya mendapati keputusan yang telah dikeluarkan oleh pihak kolej dan disahkan oleh pihak Lembaga Peperiksaan Malaysia (LPM), keputusan pelajar KV tergolong dalam keputusan kepujian dan cemerlang sedangkan kebanyakkan pelajar yang memasuki KV adalah pelajar pertengahan dalam Peperiksaan Menengah Rendah (PMR). Ini jelas menunjukkan bahawa sekiranya pelajar diberi pendedahan dan pendekatan pengajaran yang sesuai, adalah tidak mustahil pelajar yang dilabel sederhana dan lemah akademiknya akan mendapat suntikan baru bagi meluaskan potensi dan bakat mereka dalam bidang kemahiran yang dipilih.

Implementasi OBE memerlukan semua aspek dalam pendidikan adalah konsisten dalam mencapai hasil dari pendidikan, pengajaran dan aktiviti pembelajaran dan kaedah penilaian (Jonathan, 2017). Keberhasilan pendidikan bukan dilihat dari aspek hasil selepas penilaian sahaja tetapi proses pembelajaran yang disulam disebalik pencapaian memberi pengalaman pembelajaran yang terbaik buat pelajar. Dalam melihat kepada hasil atau standard yang dicapai pelajar, elemen humanistik perlu bergerak seiring agar dapat melahirkan modal insan yang seimbang dari aspek ilmu pengetahuan, kemahiran dan sahsiah diri.

Ini seiring dengan Chen & Schmidtke (2017)mendapati bahawa walaupun unsur kemanusiaan yang sebahagian besarnya tidak wujud dari amalan pendidikan pendidikan pasca menengah teknikal, mereka tidak akan menjejaskan pencapaian objektif pendidikan yang telah dinyatakan. Selain itu dapatan kajian tersebut menunjukkan bahawa dengan memasukkan unsur kemanusiaan dalam amalan pendidikan akan membolehkan tenaga pengajar menjadi lebih efektif dalam membantu pelajar untuk membangunkan kemahiran dalam kerja berpasukan, menyelesaikan masalah, penambahbaikan sistem, pembelajaran sepanjang hayat dan bahagian lain yang menjadi semakin penting bagi memastikan seseorang itu untuk berjaya di tempat kerja.

Rujukan

Abdullah, F. bin. (2014). Tahap Kecekapan Pensyarah Teknologi Automotif Dalam Melaksanakan Kurikulum Standard Kolej Vokasional Di Negeri Pahang. *Expert Opinion on Investigational Drugs*, 7(5), 803–809. https://doi.org/10.1007/s13398-014-0173-7.2

Ahmad, M. J., Jalani, N. H., & Hasmori, A. A. (2015). TEVT di Malaysia : Cabaran dan harapan. *Seminar Kebangsaan Majlis Dekan-Dekan Pendidikan Awam*, (October), 340–346.

Akta 679 - Akta Agensi Kelayakan Malaysia. Akta 679 - Akta Agensi Kelayakan Malaysia (2007). Malaysia.

Bakar, R. (2018). The influence of professional teachers on Padang vocational school students' achievement. *Kasetsart Journal of Social Sciences*, 39(1), 67–72. https://doi.org/10.1016/j.kjss.2017.12.017

Brady, L. (2011). Outcome-based education: a critique. *Curriculum Journal*, 7(1), 5–16. https://doi.org/10.1080/0958517960070102

Chan, A., & Chan, C. H. (2009). A new outcome-based curriculum: its impact on student core competence. *Journal of Applied Research in Higher Education*, 1(2), 24–32. https://doi.org/10.1108/17581184200900011

Chen, P., & Schmidtke, C. (2017). Humanistic Elements in the Educational Practice at a United States Sub-Baccalaureate Technical College. *International Journal for Research in Vocational Education and Training*, 4(2), 117–145. https://doi.org/10.13152/IJRVET.4.2.2

Chickerur, S., & Kumar M, A. (2012). *Designing outcome-based curriculum for industryrelevant courses in engineering education: Integrating social networking, information and communication technology, modified bloom's taxonomy, and student personality types. Cutting-Edge Technologies in Higher Education* (Vol. 6). Emerald Group Publishing Ltd.

https://doi.org/10.1108/S2044-9968(2012)000006B008

Economic Planning Unit (EPU) Malaysia. (2015). *Rancangan Malaysia ke-11 (2016-2020)*. *Unit Perancang Ekonomi, Jabatan Perdana Menteri*. Kuala Lumpur: Percetakan Nasional Malaysia Berhad.

FRANK BÜNNING. (2006). *No TitleTHE TRANSFORMATION OF VOCATIONAL EDUCATION AND TRAINING (VET) IN THE BALTIC STATES - SURVEY OF REFORMS AND DEVELOPMENTS*. The Netherlands: Springer.

Furman, G. C. (2014). Administrators ' perceptions of outcome-based education : a case study.

Harden, R. M., Crosby, J. R., & Davis, M. H. (1999). Outcome-based education: Part 1-An introduction to outcome-based education. *Medical Teacher*, *21*(1), 7–14. Retrieved from http://www.informaworld.com/smpp/ftinterface~content=a713686386~fulltext=713240930

Jabatan Pengajian Tinggi, & Kementerian Pengajian Tinggi. (2012). *Asas Pembelajaran dan Pengajaran Pensyarah Institusi Pengajian Tinggi*. Retrieved from http://penerbit.uthm.edu.my/

Jonathan, V. M. (2017). Implementing Outcome-Based Education (OBE) Framework : Implications for Assessment of Students ' Performance. *Educational Measurement and Evaluation Review (2017)*, *8*(1).

Malaysian Qualification Agency (MQA). (2016). *Laporan Penilaian Perakuan Akreditasi Penuh*. Kuala Lumpur.

Malaysian Qualifications Agency, M. (2009). Kerangka Kelayakan Malaysia. Retrieved from http://www.cqa.upm.edu.my/dokumen/10137_KERANGKA_KELAYAKAN_MALAYSIA_2011_BM.pdf

Manzoor, A., Aziz, H., Hussain, S., Wasim, A., & Jahanzaib, M. (2017). Transformational model for engineering education from content-based to outcome-based education. *International Journal of Continuing Engineering Education and Life-Long Learning*, *27*(4), 266. https://doi.org/10.1504/ijceell.2017.087136

Othman, R., Salleh, M. F. M., & Awang, M. I. (2017). Pentaksiran Dalam Kelas Melalui Pendekatan Outcome Based Education (Obe): Satu Analisis Terhadap Pengetahuan Dan Amalan Pensyarah. *Proceedings of the ICECRS*, *1*(1), 59–68. https://doi.org/10.21070/picecrs.v1i1.576

Rosdi, N. S. B. R. @ R. (2015). i TRANSFORMASI KURIKULUM KOLEJ VOKASIONAL DALAM KESEDIAAN MELAHIRKAN K-WORKER : SATU KAJIAN KES KOLEJ VOKASIONAL KLUANG . NOR SYUHADA BINTI RUSDI @ ROSDI Laporan projek ini dikemukakan sebagai memenuhi sebahagian daripada syarat penganugerahan Ijazah Sarj.

Singh, P., Narasuman, S., & Thambusamy, R. X. (2012). Refining teaching and assessment methods in fulfilling the needs of employment: A Malaysian perspective. *Futures*, *44*(2), 136–147. https://doi.org/10.1016/j.futures.2011.09.006

Siti Syahirah, A. Z. (2011). Transformasi PTV:Kesediaan guru-guru vokasional terhadap pelaksanaan koleh vokasional KPM dari aspek tahap kemahiran. *Persidangan Kebangsaan Penyelidikan Dan Inovasi Dalam Pendidikan Dan Latihan Teknik Dan Vokasional*, 10. https://doi.org/10.1017/CBO9781107415324.004

Siti Zakiah, A. B., & Hazira, S. (2012). *Understanding And Implementing OBE - Student Centered Learning : The Experience In Commerce Department*. *Koleksi Penulisan Amalan Terbaik Pemantapan Pendidikan Berasaskan Hasil, Politeknik Melaka*.

Spady, W. G. (1994). *Outcome-Based Education: Critical Issues and Answers*. *American Association of School Administrators*. Retrieved from http://files.eric.ed.gov/fulltext/ED380910.pdf

Thomas, Y. . (2013). A Historical Study of The Contributions of Dr.William G.Sapdy to Education Reform.

Yusop, W. M. F. B. W. (2014). Faktor Yang Mendorong Pencapaian Akademik Pelajar Dalam Program Kimpalan di KOlej Vokasional. *Nippon NÅ• geikagaku Kaishi*, *25*(10), 553–556. https://doi.org/10.1271/nogeikagaku1924.25.553

Zakaria, A., & Mhd Noor Asmara, N. A. (2010). Transformasi Pendidikan Teknik dan Vokasional (PTV) : Kesediaan Guru Vokasional dalam Pelaksanaan Pengajaran Kursus Seni Kulinari Kolej Vokasional. *World Literature Today*, *76*(1), 222. https://doi.org/10.2307/40157223