Title: THE USES OF PUZZLE TO ASSIST STUDENTS IN ENHANCING THEIR GROUP BRAINSTORMING SKILLS

MOHD IBRAHIM ADHAM, ABDUL MAJEED

UNIVERSITY OF TECHNOLOGY, MALAYSIA (UTM), SKUDAI, JOHOR

ibrahimmarkom@gmail.com / abu.mushab08@gmail.com

PROF. DR. MAHYUDDIN BIN ARSAT / PROF. DR. MUHAMMAD ABD HADI BIN BUNYAMIN

FACULTY OF EDUCATION, UNIVERSITY OF TECHNOLOGY, MALAYSIA (UTM), SKUDAI, JOHOR

Highlights:

"HISTORIA" is a puzzle type game that can assist in enhancing students' group brainstorming skills. There are several main objectives of the product. Firstly, the product aims to assist students in enhancing their group brainstorming skills. Second, it aims to promote cognitive thinking skills in students' learning process. Third, the puzzle aims to create learning environment that can contributes towards teamwork and group discussion. Fourth, it aims to provide fun and interactive learning lessons. Lastly, the product aims to teach students history and geography subjects at the same time.

Key words: puzzle; history; brainstorming

Introduction:

The problems that happening nowadays is that students feels they are forced to learn the subject and they only learn the lessons simply because they want to pass the exams. This is due to many factors related to the lack of interest for the history subject such as boring teaching methods and materials, teachers' centred approach in teaching rigid subject, lack of students-teachers connection in classroom, too much focus on memorization and etc. Therefore, our group has comes up with an innovative product that might help to reduce the lack of interest and memorization style in teaching and learning history subject. We have created a tool that assists students in enhancing their group brainstorming skills. We called it as "HISTORIA" which is a puzzle game incorporated into history subject learning materials.

This product has incorporated more than one sensory modality in learning and teaching processes. Researchers have shown that even tertiary-level students at university prefer to learn something through multiple sensory modalities according to Lujan & Di Carlo (2006). Moreover, our product focuses more on virtual-learning style which is suitable and appropriate for primary and secondary schools students. It also promotes creativity and there is a need to think outside of the box when they want to solve the puzzle pieces. This product also uses the similar concept of mind mapping and contains information in the form of pictures rather than words that helps students to have better understanding and challenging their minds at the same time.

Content:

1. Description of your innovation / product development / design / process.

"HISTORIA" is a puzzle type game that can assist in enhancing students' group brainstorming skills. It consists of several parts which are the puzzle pieces, flashcards and a container. The puzzle pieces can be combined together and form the shape of each state in Malaysia but the states do not have any significant relations towards the sub-topics provided.

Drawings on each of the puzzle pieces are based on the main point of sub-topics from chapter 1 form 3 history subjects. In order to complete the puzzles, each drawing must be converted from the main points in the form of words into pictures that have the similar meaning to the information provided.

The flashcards consist of a map of each state in Malaysia such as Johor, Selangor, Pahang and etc. This is also a clue for the students to compile the puzzle pieces once they collected all the puzzles that related to the main points provided from the flashcards. They have to combine the puzzle pieces into the shape of the state representing the sub-topic that they choose from the flashcard.

2. Please write any advantages of your innovation / product development / design / process towards education and community.

One of the advantages of HISTORIA is that it can enhance students group brainstorming skills. It also promotes cognitive thinking skills in students' learning process. This product can create a creative and interactive learning environment which really effective in teaching rigid subject such as history. It is also cheap, affordable and convenient for teachers to carry it around the school or to bring it to the classroom.

3. Please write the methodology and finding obtain from the pilot study conducted

The method we use in data collection is a qualitative approach and we used observation as our main instrument in the study. The product had been tested at Kids Learning Centre (KLC), Johor Bahru with a group of form 1 & forms 3 students. There are 8 form 1 students and 5 form 3 students in our product testing. We also have tested this product with 6 university students from Innovation in Learning & Teaching class. In total, there are 19 respondents selected in our product testing and each group was tested separately.

During the whole process of product testing, we observed several important criteria based on the research objectives of this study. The observation that we made were focused on the students' reactions, communication among themselves and feedback after they completed the task.

Based on the results of the product testing, students from secondary schools level finished faster compared to the university students from postgraduate level. This is due to their teamwork style which emphasis on distributing different tasks to each member in order to complete the task faster. This also shows their time efficiency and complete trust on each member. Contrast to the postgraduate students, where they prefer to work individually and didn't communicate every details of the work progress among themselves.