

The *Mangkuk Tepen*: Enriching Students' Knowledge and Awareness Through Culturally Responsive Game Approach

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ABSTRACT

The purpose of this research is to design and develop a Culturally Responsive Game to raise awareness and enhance knowledge about Malaysian cuisine among secondary school students. This Culturally Responsive Game Approach helps sustain and disseminate knowledge among secondary school students about our local cuisine, especially the traditional desserts. By introducing The Mangkuk Tepen, students will be provided with information about Malaysian cuisine and its heritage. The Mangkuk Tepen is one of the initiatives for the young generation and society to be informed about the traditional desserts in Malaysia which are rarely found nowadays. It is mostly due to the lack of proper documentation and exposure; that this traditional food heritage is slowly being forgotten by the young generation. These traditional Malaysian cuisines should be preserved for future generations as they represent our culture and heritage uniqueness. The Mangkuk Tepen focuses on developing puzzle games or more specifically jigsaw puzzles with the concept of Malaysian cuisine and multicultural elements being incorporated into the games to increase student engagement in the learning process. Developing a creative design for teaching and learning could be one of the ways to capture students' attention and interest and be able to increase awareness among students towards multiculturalism. The Mangkuk Tepen serves as a teaching tool to promote culturally responsive pedagogy focusing on the culture and heritage of Malaysia which in turn can enhance the student's knowledge and awareness.

Keywords: Culturally Responsive Pedagogy, Malaysian Cuisine, Heritage

INTRODUCTION

Multiculturalism deals with cultural diversity, which includes ethnicities, beliefs, or cultural groups and is expressed in general actions, ethnic norms and ideals, good forms of thinking, and communication (Abacioglu, C. S., Volman, M., & Fischer, A. H., 2020). Multiculturalism is the opinion that cultural differences should be valued or even respected by sociologists. Sociologists use the idea of multiculturalism to label ways of applying cultural mixes in society (Vervae, 2018). For example, Malaysia is often described as a multicultural country in the world. While the majority of the three races, Malays, Indians, and Chinese are living under one roof, each race carries different cultural beliefs, norms, and practices. According to Maaruf, S. Z., Ahamed Kamal, A., Rahmat, M. K., Majid, S. M., & Swaramarinda, D. R. S. (2024) People have praised Malaysia as a diverse country, and the citizens should not disregard it because of its rich

socioeconomic and biological heritage. In Malaysia's education system, the regular classrooms normally accommodate students from all three races. Multiculturalism is important because it serves as a tool to establish cultural diversity and breaks down biases (Abdul Rahman, S. B., Maaruf, S. Z., & Abdul Rahman, S. B., 2018). Malaysia's cuisine is special, and a gateway to learning more about the richness of the country's history. It is a result of historical migrations, colonial rule, and foreign powers that have shaped the country's cuisine and its peoples. The combination of Malay, Chinese, and Indian culture has heavily influenced the lifestyle in Malaysia, and the food is no exception. Malaysia is a paradise for food lovers and Malaysians in general enjoy its multicultural society's diverse culinary heritage. Malaysia is most definitely one of Asia's well-known cultural melting pots. Although divided by belief, culture and creed, Malaysians are united in their love for the country's multicultural cuisine. Malaysia's common food symbolises the lives, culture, and heritage value of the country's multiracial community. There are many types of Malaysian cuisine, but the focus of this study is about Traditional Kuih. Adilah Md Ramli, Mohd Sallehuddin Mohd Zahari, Nurhasmilaalisa Abdul Halim, and Mohammed Haidrin Mohamed Aris (2016) mentioned that heritage food is divided into two categories: the first category refers to common foods which are part of everyday's life, but people often disregard their heritage value, and the second category refers to foods that represent our culture but are slowly dying out like halwa and a few other types of kuih. Due to the lack of proper documentation and exposure, this traditional food heritage is forgotten by the younger generation. These traditional foods should be preserved for future generations. The main purpose for this study is to sustain and enhance knowledge about the country's traditional cuisine especially the traditional kuih by introducing The Mangkuk Tepen that consists of information about Malaysia cuisine. According to Siti Zuraida Maaruf & Saedah Siraj (2013) and Abdul Rahman, S. B., Maaruf, S. Z., & Abdul Rahman, S. B. (2018) concluded that culturally responsive pedagogy is a learning and teaching development that supports the success of the students.

RESEARCH PROBLEM

Cuisine is a type of food that is cooked in a particular manner based on the ingredients, region, and traditions of a culture. Cuisines are also named after the specific areas or regions where they originate in. The ingredients that are available locally or through trade primarily influence a cuisine. Traditions, customs, and ingredients of regional food preparation frequently combine to produce dishes special to a certain region (Shiwani Thakur & Vinod Kumar, 2018). Climate, which largely defines the native raw materials available to the cook, is the key factor shaping a cuisine; economic conditions, which govern trade in delicacies and imported foodstuffs; and religious or sumptuary rules, by which certain foods are necessary or prohibited. According to Kocovski J., Risteski M. E., (2020) said the climate of the region, the trade between different countries, religious or sumptuary laws and the exchange of culinary culture are some factors that influence the cuisine of a region. The climate of the region, to a large extent, determines the native foods that are available. Moreover, climate affects the preservation of food. Why is creating awareness about Malaysian cuisine important among the younger generation especially secondary school students? It symbolizes and reflects the identity of a country and a nation. Malaysia is one of the countries that is rich with varieties of food and Malaysians in general enjoy the diverse culinary heritage of its multicultural society. In fact, food is one of the best medium to foster racial unity. According to Kamaruzaman (2020), knowledge about traditional kuih among the young generation is at a worrying level. Young generations are an important asset to preserve the heritage food from rapid globalization. This crucial problem needs to be solved by giving more exposure about traditional kuih to these students through implementation of culturally responsive pedagogy in class. Understanding culture and cultural diversity is important because different cultures offer different beliefs, values, and patterns that present their life meaning and structure. It helps individuals to work efficiently in their social and cultural setting within the different social groups they are a part of, which are constantly changing. Education is part of cultural experience; therefore, it cannot be reduced into disciplinary parameters but should include issues of power, history, and self-identity (Civitillo, S., Juang, L. P., Badra, M., & Schachner, M. K., 2019). Thus, this study is carried out to solve the problem by designing a product, which is a culturally responsive game for the purpose of introducing and promoting Malaysian cuisine among the young generation during teaching and learning process.

RESEARCH OBJECTIVE

The research objectives of this study are:

- a) To design and develop The Mangkuk Tepen game as an agent to enrich students' knowledge and awareness about multiculturalism.

METHODOLOGY

Design and Developmental Research Approach

This research adopts the Design and Development Method (Richey & Klein, 2007) that focuses on the development of Mangkuk Tepen game featuring puzzle games or more specifically jigsaw puzzles with the concept of Malaysian cuisine and multicultural elements being incorporated into the games as part of scaffolding to promote student engagement in the learning process. Developing a creative design for teaching and learning could be one of the ways to capture students' attention and interest and be able to increase awareness among students towards multiculturalism. The whole research has three phases which include Phase 1: Needs Analysis, Phase 2: Design and Development, and Phase 3: Implementation and Evaluation. However, this paper will only discuss findings from Phase 3 of the three phases involved in the entire research.

Design and Development Process

Phase 2 in this study involves the design and development of the Mangkuk Tepen game. Researchers have produced The Mangkuk Tepen by referring to Sustainable Development Goals (SDG). Out of the 17 goals listed in Sustainable Development Goals (SDG, researchers have chosen the quality education and the industry, innovation, and infrastructure as the guideline before producing the Mangkuk Tepen. According to Bebington and Unerman (2017), Sustainable Development Goals (SDG) is a linkage of global issues for creating a better biodiversity to organizational and specific issues. This study suggests that awareness on cultural responsiveness can be implemented in the form of Mangkuk Tepen with focus on puzzle games and be used for teaching and learning. This chapter will also explain the making of The Mangkuk Tepen. Thus, before beginning developing the Mangkuk Tepen, researchers have prepared a design work that consists of the elements of art and development of ideas for the puzzle games.

PS Tools Sakichi Tayoda's 5 Whys Technique in Research Workbook (RWB)

a. PS Tools Sakichi Tayoda's 5 Whys Technique

It is important to identify issues that are prominent in classroom to develop a justification for studying them and suggest solutions for the problems. In this study, researchers adopted the PS Tools Sakichi Tayoda's 5 Whys Technique. Sakichi Toyoda, the Japanese industrialist, inventor, and founder of Toyota Industries, developed the 5 Whys technique in the 1930s. It became popular in the 1970s, and Toyota still uses it to solve problems today. The lack of awareness about Malaysian cuisine among the younger generation especially secondary school students has prompted researcher to employ the PS Tools Sakichi Tayoda's 5 Whys Technique to trace the root cause of the problem. This 5 whys analysis makes it relatively simple to find out what the real cause of the problem is. Besides, the researchers have produced The Mangkuk Tepen with help of PS Tools Sakichi Tayoda's 5 Whys Technique. This is important as the researchers wanted to create a product based on the analysis and problem statement so that the product reaches the targeted group.

b. Idea Development

Before building or creating a product, suitable method, media, and materials should be laid out. This is important in producing something that is safe and lasts long. Failure of choosing the best media and material may lead to unsafe and short-lived products. Thus, the product was designed and formed in a proper and systematic manner. In this study, researchers did some research on how to keep the items such as the jigsaw

puzzle, and the information card. The ideas were roughly sketched and from the sketches, the researcher decided to make something that are related to the food. Nowadays, people pack or store their food in containers such as food containers or tiffin. It is easier to carry food everywhere. From that, researchers have concluded to use the tiffin idea to make one of the products for the game and store the jigsaw puzzle inside it.

c. Rough sketches of ideation

Researchers also used other media to create the games with a new look of jigsaw puzzle. Usually, we see jigsaw puzzles in square or rectangle shape. However, researchers decided to use other shapes of jigsaw puzzles which are in circle shape for the games. We rarely see or play jigsaw puzzles in circle shape, so it is one of the uniqueness of the games. Plus, one of the reasons why researchers use circle shape is because it also wants to be related with the Malaysian cuisine which is Traditional kuih. As we know, food is usually served on a plate. Therefore, researchers use circle shape to represent the plate so that while students are playing the games, they can imagine that traditional kuih was served on the plate. Researchers also did some research about traditional kuih that are rarely seen and may have been forgotten due to lack of exposure and documentation.



Figure 2: Sketches of ideation on the packaging of the Mangkuk Tepen Game in Research Workbook (RWB).



Figure 3: Sketches of ideation on the selected Traditional Kuih of the Mangkuk Tepen Game in Research Workbook (RWB).

d. Process of making the product

After doing some ideation and research about the product, the researcher proceeded to the next step which was the process of making the product. In this process there are several types of material and media used for this game. Adobe Illustrator was used while doing the editing of images. The Mangkuk Tepen consist of the packaging, the jigsaw puzzle, plate for the jigsaw puzzle and the information card that serves as a guideline for students or user.

- **Jigsaw puzzle**



Figure 4: Screenshot of editing images in Adobe Illustrator

- **Plate for the puzzle**

For the jigsaw puzzle, there were a few steps before getting the final product of the jigsaw puzzle. Firstly, the images were edited in Adobe Illustrator to get the shape that the researcher wants. Next, the images were printed into the transfer paper because researchers wanted to do image transfer to make it easier. But due to unsuitable material of paper, the researcher changed the transfer paper into stickers. Then, the images were cut nicely according to the puzzle.



Figure 5: Outcome of jigsaw puzzle and plate for the puzzle.

- **Information card**

The process was further resumed with the plate for the puzzle by using Adobe Illustrator. Researchers created a floral image that would suit the theme and elements of traditional Malaysian cuisine. Then, the same technique with the puzzle was applied to this plate. As a guideline for the students and other users, this product also comes with a stack of information cards that consists of the traditional kuih. The information cards provide information about the ingredients, and from which state the kuih is. Researchers prepared and designed the information card for the users so that while playing, they get to know the name, ingredients, and origin of the kuih. In addition, an actual image of the kuih is displayed at the back of the information card.

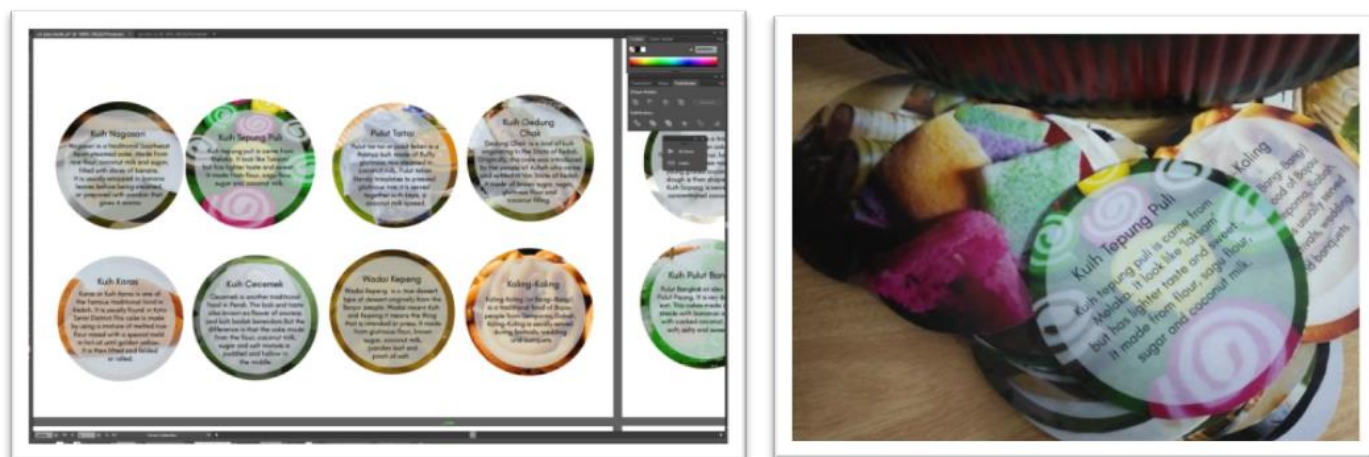


Figure 6 & 7: Screenshot of editing information card and the final outlook of the information cards.

- **Bakul Siah**

Lastly, for the Bakul Siah as the packaging to keep and store the other items of the product such as the puzzle, plate of the puzzle and the information card. Researcher has used, manipulated, and modified the rice container into the look of Bakul Siah.



Figure 9: Material in making Bakul Siah

- **Final Product**

After some upgrades and development, The Mangkuk Tepen is upgraded into more safety with the ensel lock to ensure the other games parts are all inside it and prevent it from falling.



Figure 10: Outcome of Bakul Siah and rename it as The Mangkuk Tepen.

FINDINGS, DISCUSSION AND RECOMMENDATIONS

The findings reveal that “The Mangkuk Tepen” effectively engages students in learning about Malaysian traditional kuih while fostering cultural awareness. The incorporation of culturally responsive pedagogy creates a meaningful connection between students and their heritage. The game’s interactive nature enhances student engagement and motivates learning by combining education with entertainment. Furthermore, the use of circular jigsaw puzzles and informational cards ensures that students gain both cognitive and cultural insights. However, challenges remain in implementing such an approach in diverse educational settings. Limited access to resources and the need for teachers to be well-versed in cultural contexts are significant barriers. The findings also highlight the difficulty of measuring cultural awareness through traditional assessments, suggesting the need for more holistic evaluation methods. Despite these challenges, the game’s ability to bridge cultural gaps and enrich students’ understanding of multiculturalism demonstrates its potential as an educational tool. To maximize the effectiveness of “The Mangkuk Tepen,” several recommendations are proposed. Firstly, developing a structured curriculum is essential to integrate the game with clear educational objectives, linking it to subjects such as mathematics, social studies, and language arts. Secondly, professional development programs should be offered to teachers to enhance their understanding of culturally responsive pedagogy and equip them with strategies to effectively implement game-based learning. Thirdly, leveraging technology can extend the reach and impact of the game. Digital applications and multimedia resources could complement the physical game, providing additional avenues for learning. Collaboration with local communities is also recommended to ensure the authenticity of cultural content and enrich students’ experiences. Lastly, adopting holistic assessment methods, such as learning portfolios, will enable educators to evaluate students’ progress in cultural awareness, critical thinking, and

social skills. These measures will not only enhance the educational value of the game but also contribute to the broader goal of preserving Malaysia's rich cultural heritage.

CONCLUSION

Overall, this chapter discussed the ideas, idea development and processes of producing The Mangkuk Tepen as an initiative to promote multiculturalism awareness among secondary school students. Researchers believe that to produce holistic students with high moral values and high awareness of multiculturalism, systematic planning is needed, and early preparation of materials is crucial to ensure that the process will not face any problems. The essence of heritage should not be eliminated but rather enhanced. The intention of the researchers to produce the Mangkuk Tepen is to test whether the targeted users know or are aware of the variety of traditional kuih in Malaysia. Plus, the incorporation of the jigsaw puzzle idea added a fun factor to the whole concept. The Mangkuk Tepen provides information about Malaysia's traditional kuih and serves as a medium to introduce topics related to the art, culture, and uniqueness of our country. Siti Radhirah Omar & Siti Nazirah Omar (2018) claimed that food is considered as a valuable heritage that must be constantly preserved as it is an expression of culture that also transmits the past of one generation to another. Indeed, culture and culinary heritage have a complementary impact, since these two components reflect individual identities and lifestyles. A country's local cuisine can reflect the identity of a nation and resemble the various colourful local cultures. This study has produced The Mangkuk Tepen as a multiculturalism edutainment product and as commercialization opportunities for not only the local entertainment industry, but also for educational and tourism purposes. The Mangkuk Tepen is convenient for multi-ethnic audiences to learn about the uniqueness and cultural aspects of Malaysia. In addition, the concept of The Mangkuk Tepen can be created and displayed in many ways, such as video games, digital books, 2D or 3D animation, multimedia games, and immersive multimedia learning. Plus, The Mangkuk Tepen can also be improved into several series of games that are related to culture. By using the same concept, it can be reproduced with a different focus. Emphasis can be placed on Malaysian traditional cuisine or Malaysian traditional games. Besides that, The Mangkuk Tepen can be utilised as part of teaching and learning activities to create awareness and reinforce culturally responsive knowledge among student, especially through visual art education subjects. It will help students gain awareness of their cultural identity and foster cultural competence among students considering we live in a multiracial country. Cultural competence in classroom will lead to creating a positive learning environment. This product gives recommended appropriate tools and teaching aids to help the effectiveness of teaching and learning processes to gain knowledge and create awareness in creative ways. As a multicultural nation, Malaysian food resembles the country's rich culture, history, and its people's unique lifestyle. Siti Radhirah Omar & Siti Nazirah Omar (2018) said by embracing the classic methods of cooking preparation and presentation, the food tradition is transmitted from the ancestors either consciously or indirectly from one generation to another. "The Mangkuk Tepen" serves as an innovative educational tool to bridge the gap between cultural heritage and modern education. By fostering awareness and appreciation for Malaysian traditional cuisine, the game not only preserves cultural identity but also nurtures holistic development among students. Future iterations of the game could explore digital adaptations and thematic expansions to include other aspects of Malaysian heritage.

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