

## **Engaging Minds, Bridging Cultures: Gamified learning for adolescent cultural awareness**

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### **Abstract**

This study evaluates the usability and suitability of the *Patrio Playmat* as a culturally responsive teaching tool to enhance students' and teachers' awareness of Malaysia's multicultural diversity and biodiversity. The *Patrio Playmat*, inspired by board games, is an interactive learning mat featuring multicultural themes and endangered Malaysian animal species as game components. Guided by SMART goals (Rubin, 2002) and Vygotsky's Sociocultural Theory, the study employed a design developmental research approach using case study methods. Data was collected through interviews and questionnaires with three secondary school Visual Arts Education teachers in Shah Alam, Selangor.

**Keywords:** Culturally Responsive Teaching, Educational Game Development, Multicultural Education

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### **1.0 Introduction**

With its rich social and biodiversity heritage, Malaysia stands as a celebrated treasure of diversity. The nation's appeal lies in its vibrant multi-racial and multi-ethnic society, which embodies distinctive histories and cultural practices that have flourished since its founding years. These unique cultural elements and biodiversity awareness are imparted through various educational methods, including their integration into Visual Arts Education (VAE) curricula. The creation of the '*Patrio Playmat*' Inspired by traditional board games; interactive mat with accessories and animal figurines draws upon the foundational concept of traditional board games, featuring a large interactive mat serving as the game board, accompanied by thematic accessories. The game emphasizes multicultural themes while spotlighting endangered Malaysian animal species, using animal figurines as engaging educational components. Siti Zuraida Maaruf and Saedah Siraj (2013) underscore the importance of incorporating multicultural issues in Malaysia's education system to foster openness and mutual understanding among diverse student groups. However, efforts to enhance multiculturalism within educational curricula continue to face challenges among school students. This study primarily aims to develop the *Patrio Playmat* as a culturally responsive teaching tool for lower secondary school students. Culturally responsive pedagogy is an approach that promotes student success by fostering an inclusive learning environment. According to Hadi Prayitno, Dimas Hari Cahyo, Rasinus Rasinus, Lismina Lismina and Rosita Rosita

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(2024), CRP fosters student engagement, motivation, and academic achievement by integrating students' cultural backgrounds and experiences into the teaching process. Its significance is in teaching and learning development. Malaysian educators, including Siti Zuraida, Saedah Siraj, KS Hashim, and V Zulkifli (2013), advocate for incorporating these theoretical perspectives at both school and tertiary education levels to strengthen educational inclusivity and cultural understanding.

## 2.0 Problem Statement

Multiculturalism promotes tolerance and unity among people of diverse backgrounds (Gasimova, 2024). In Visual Arts Education, culturally responsive teaching fosters meaningful learning that embraces diversity (Gou & Manly, 2024) and encourages interethnic tolerance (Siti Zuraida & Saedah, 2013). Despite ongoing efforts, ethnic prejudice persists, highlighting the need for innovative approaches. Teaching reforms emphasizing cultural creativity enhance engagement and inclusivity in art education (Guo, 2024), while art itself can rebuild social harmony through creative expression (Piliang, 2021). The *Patrio Playmat*, inspired by board games, addresses these challenges by promoting multicultural unity and environmental awareness. Through interactive, playful learning, it nurtures empathy, appreciation for diversity, and care for Malaysia's cultural and natural heritage.

## 3.0 Research Objective

The objectives of the study are to examine the usability and suitability of the *Patrio Playmat* as culturally responsive teaching tools towards promoting multicultural awareness and understanding through unique cultural elements included among VAE teachers.

## 4.0 Methodology

This study employed the Design and Development Method (Richey & Klein, 2007) to create the *Patrio Playmat*, aimed at enhancing Visual Arts Education and promoting multicultural awareness among secondary school students. It comprised three phases: (1) Needs Analysis, (2) Design and Development, and (3) Implementation and Evaluation. This paper focuses on Phase 3, which assesses the playmat's usability and effectiveness as a culturally responsive teaching tool.

- a) Sample:  
Three experienced Visual Arts teachers (over five years of teaching upper secondary students) from one secondary school participated, selected through purposive sampling.
- b) Research Instrument:  
Data were collected using semi-structured interviews guided by a researcher-developed interview protocol to explore teachers' perceptions of the *Patrio Playmat*'s usability and suitability.
- c) Data Analysis:  
Interview data were transcribed verbatim and analyzed thematically to identify key insights on the playmat's role in fostering multicultural awareness and understanding.

## 5.0 Findings

### 5.1 Interview with art teachers towards the usability and suitability the *Patrio Playmat*.

#### a) *Patrio Playmat* is interesting education game that engages teachers and students in classroom activities.

*Patrio Playmat* is so interesting game and it's easy to carry and at the same time to teach and learn in Visual Art Education classroom. It has variety of details that can attract students to learn. The results of the interviews showed that respondents agreed that the teacher and students can play *Patrio Playmat* in classroom.

Respondent 1 stated that:

"...Oh, in my opinion. After it been showing the steps how to play, *Patrio Playmat* is easy to play in the classroom. But please make sure the steps are more detailed with clear. The steps are easy and simple..."

Respondent 2 states that:

"...if we see the *Patrio Playmat* itself, it is really suitable to use as one of the teachings and learning in classroom. The physical of it is interesting and colourful with interactive and able to be effective teaching and learning to students..."

Respondent 3 states that:

"...my student and I think that this is the most try educational games and should be play in each class. Teacher and students can play this together to raise their good relationship between teacher and students..."

#### b) The *Patrio Playmat* as students' interest and attention grabber in learning the visual art topic of in the classroom.

There are many topics in art subject. The respondents stated the students like to know something new playing games experience in classroom. The results of the interviews showed that all respondents agreed that the *Patrio Playmat* was able to attract students' interest and attention in learning the art topic in the classroom.

Respondent 1 states that:

*"...hmm it is very interesting to especially in learning even the game specification is dedicated more to childrens or primary school students and preschool, but this game is able to learn about visual art subject. There is many elements of Visual Art Education for example shapes, colors and others..."*

Respondent 2 states that:

*"...what can I observe is, Patrio Playmat is a knowledge game that easy to handle and understandable by the teachers and students, not all students have deep knowledge in variety of diversity in Malaysia, at least this game is able to catch attention to students to know Malaysia according to each state throughout this playmat game..."*

Respondent 3 states that:

*"...Patrio Playmat is really good and can catch attention of the students to learning English, language subjects, history and art because while learning they can play and make students not bored and will attract interest of the students for example usage of suitable visual in the game ..."*

#### **c) Patrio Playmat can be used across other subjects.**

In some subjects it can be learned by cross learning. The respondents stated student able to learn other subjects than art subjects through playing *Patrio Playmat*. The result of the interview showed that respondents agreed that *Patrio Playmat* able to be teach other than Art subjects.

Respondent 1 states that:

*"...can... Lot of subjects can be used in Patrio Playmat game. For example, civic and nationality subjects. Usually in the civic class, we usually do the activity based on paper and pen. If we are using this game, sure the learning will be more meaningful. Besides, for primary school students, maybe it will be used for mathematics subjects in terms of subtraction and additional..."*

Respondent 2 states that:

*"...I think, Patrio Playmat game is appropriate in subject other than visual art, for example, this game can used in history subject, Malay Language, and English Language. For example, through BM subject, students will be expose with diversity of attraction and interesting facts to know Malaysia through reading and attract students interests to know their motherland closer..."*

Respondent 3 states that:

*"...beside playing, students will gained general knowledge of Malaysia through icon in states and interactive question card of Patrio Playmat. As I told you earlier, many subjects can be used. As an English teacher, many things can be teach including names of places, things, animals, clothing, nature..."*

#### **d) Patrio playmat are useful for embracing multicultural students in classroom.**

There are many subjects and tools that use a lot of diversity and multicultural elements in the classroom. The respondent stated is *Patrio Playmat* able to use for multicultural students in classroom. The result of the interview showed that respondents agreed that the *Patrio Playmat* provide practical games for use by teachers and students in the classroom.

Respondent 1 states that:

*"...we are live in multicultural races and culture; I think it is suitable if Patrio Playmat is used in all classes and school to know the identity of Malaysia..."*

Respondent 2 states that:

*"...it really suitable if the Patrio Playmat game is joining with the students with variety differences background, so that they can learn towards each other ..."*

Respondent 3 states that:

*"...then, appreciate differences that exists between them, for example one playmat that being played by some students with differences background is able to make the relation closed towards each other, So through Patrio Playmat, we can know to learn culture of other friends and maybe bad activity like racism and hatred will be overcome through playing it together..."*

#### **e) Patrio playmat can increase patriotic and nationalism in students' awareness and understanding.**

Multicultural element is an interesting topic to teach and learn in classroom. The respondents stated that students must always have patriotism and nationalist elements to produce a vision generation. The result of the interview showed that respondents agreed that the *Patrio Playmat* is capable of being used by students to increase patriotic and nationalism.

Respondent 1 states that:

*"...Ya, Patrio Playmat can increase patriotic spirit and nationalism, depends on the chances information card that has been provided in the Patrio Playmat..."*

Respondent 2 states that:

"...agree! I think this game *Patrio Playmat* is an interactive game that will raise feeling of care and love of Malaysian people towards motherland, at very least, students will be expose with geographical shape of states in Malaysia, besides general knowledge of students towards Malaysia can be improved then create patriotism in themselves..."

Respondent 3 states that:

"...*Patrio Playmat* able to improve spirit of love towards the country by knowing Malaysia that having a diversity of races, culture, and traditions and also variety dialects in each state..."

## 5.2 Observation of *Patrio Playmat* implementation in classroom.

Researchers demonstrate *Patrio Playmat* as culturally responsive teaching tools in VAE classrooms towards promoting multicultural awareness and understanding through unique cultural elements during teaching and learning sessions. Three classes of Form 1 to Form 3 students are involved in the process of data collection. Researchers choose the relief class to avoid disrupting other compulsory classes. The duration of time to play is 1 hour.



Figure 1: The Full set of *Patrio Playmat*.



Figure 2 & 3: Students showed interest while playing the *Patrio Playmat*. Students gather in relief class while the teacher demonstrates the game. Students answering the questions given by the researchers.



Figure.5 & 5: Students ready to play the game with friends. Students rolling the dice to start the game.

## 6.0 Discussion

Interview findings revealed unanimous agreement among respondents that the *Patrio Playmat* is a highly suitable culturally responsive teaching tool for promoting multicultural awareness in Visual Arts Education classrooms. Its board game-based design encourages engagement, shifting learning from a teacher-centered to a student-centered, interactive experience. Teachers found it easy to use, requiring minimal training and seamless integration into existing lessons. The playmat's vibrant visuals, clear content, and interactive features effectively capture students' interest and cater to various learning styles visual, kinesthetic, and social making it inclusive and supportive of differentiated instruction. The *Patrio Playmat* demonstrates potential beyond Visual Arts Education, with respondents highlighting its versatility across subjects such as English, Civic Education, Science, Bahasa Malaysia, and Mathematics. It can support vocabulary learning, promote discussions on diversity and citizenship, and contextualize problem-solving through cultural themes. This cross-curricular adaptability makes it a holistic educational tool rather than a subject-specific resource. Respondents also emphasized its strength in promoting inclusivity and cultural understanding, enabling students to explore Malaysia's multiethnic traditions and values. By embedding cultural narratives into gameplay, the *Patrio Playmat* fosters empathy, dialogue, and social cohesion in diverse classrooms.

## 7.0 Conclusion and Recommendation

The *Patrio Playmat* exemplifies culturally responsive teaching by integrating art, play, and civic values to foster academic, social, and cultural growth. It promotes community engagement, intercultural dialogue, and empathy key goals of 21st-century education. As an innovative model for multicultural and inclusive learning, it helps students explore Malaysia's rich heritage and develop values for harmonious living. Future research should focus on empirical validation and broader application across subjects and educational contexts to strengthen its impact and inform best practices. Quantitative and Mixed Methods: Employ experimental or quasi-experimental designs to compare classrooms using the *Patrio Playmat* with those using traditional methods, measuring outcomes such as multicultural awareness, student engagement, and academic achievement. Longitudinal studies are especially valuable for tracking the development of patriotism, cultural tolerance, and national identity over time and across educational stages (Liang & Yijun, 2025; Kravets et al., 2021; Volman & Gilde, 2021; Anyichie et al., 2023). Cross-Context Comparisons: Comparative studies between urban/rural and monoethnic/multiethnic settings can reveal how contextual factors influence inclusivity and intercultural understanding (Abacioglu et al., 2023; Yeh & Ting, 2023; Dewi et al., 2025).

Cross-Curricular Integration: Investigate the playmat's effectiveness in subjects beyond Visual Arts, such as English, Civic Education, and Mathematics, to assess its role in promoting cross-curricular learning and cultural contextualization (Tai, 2021; Saleh & Althaqafi, 2022; Cheng et al., 2021). Teacher Training and Perceptions: Assess teachers' readiness, training needs, and perceptions to inform professional development for effective implementation of culturally responsive tools (Kucukakin et al., 2025; Sampson et al., 2025; Debnam et al., 2023). Digital Adaptation: Explore digital or augmented reality (AR) versions to enhance accessibility and engagement, especially in remote or tech-enabled environments (Cheng et al., 2021; Schirmer & Lockman, 2022). Family and Community Involvement: Study how the playmat can extend learning beyond the classroom by involving families and communities in cultural exploration activities (Volman & Gilde, 2021; Smith et al., 2025). Empirical, comparative, and cross-curricular research alongside studies on teacher readiness and digital adaptation will be crucial for validating and scaling the *Patrio Playmat* as a model for culturally responsive, holistic education in diverse and global contexts.

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## Paper Contribution to Related Field of Study

This paper contributes to the related field of art education by examine the usability and suitability of the *Patrio Playmat* as teaching aids towards promote multicultural awareness and understanding through unique cultural elements included among VAE teachers.

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