

Knowledge and Readiness of Teachers Regarding the Utilization of Fun-Based Learning in Teaching Mathematics

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Abstract

This study aims to investigate the relationship between the level of knowledge and readiness of teachers regarding the utilization of play-based methods in teaching mathematics within Malaysia Tamil Schools. The research sample comprised 100 mathematics instructors from twelve primary schools situated in the Segamat district. Data were collected using a questionnaire designed to capture demographic information of the participants, as well as their knowledge and readiness pertaining to the implementation of fun-based methodologies in mathematics instruction within Malaysia Tamil Schools in the Segamat district. Analysis of the data was conducted using SPSS version 23.0, presenting results in the form of mean, percentage, and standard deviation. The findings reveal that the level of knowledge and readiness among mathematics teachers for employing fun-based methods in teaching mathematics in Tamil National-Type Schools is notably high, indicated by a (mean = 4.04, SD = 0.44) mean score of 4.04 with a standard deviation of 0.44 for knowledge, and a (mean = 4.06, SD = 0.46) for readiness. Additionally, the study identifies a significant relationship ($r=.371$) between the level of knowledge and readiness of mathematics teachers towards the use of fun-based methods in teaching Mathematics within Malaysia Tamil Schools. These results underscore the importance of understanding teachers' preparedness and proficiency in integrating innovative teaching methodologies, particularly within the context of Malaysia Tamil Schools.

Keywords: Knowledge, Readiness, Fun-Based Learning, Malaysia Tamil Schools

Introduction

In Malaysia, the proficiency in Malay language reading among vernacular school students, particularly in SJK (Sekolah Jenis Kebangsaan), has been a subject of concern among educators and policymakers. With the growing emphasis on holistic education and the development of well-rounded individuals, the ability to read effectively in the national language holds significant importance. This introduction seeks to explore the knowledge, skills, and readiness of teachers in employing entertainment teaching methods to tackle Malay language reading issues among vernacular school students in Malaysia.

According to recent statistics from the Ministry of Education Malaysia, the proficiency levels in Malay language reading among vernacular school students have shown room for improvement. A survey conducted in 2023 revealed that only 60% of SJK students demonstrated proficiency in Malay language reading, while the remaining 40% struggled with various reading difficulties. These challenges encompassed issues such as poor vocabulary acquisition, limited comprehension skills, and a lack of interest in reading among students.

The utilization of entertainment teaching methods presents a promising approach to address these reading issues effectively (Agus, 2021). By integrating elements of entertainment, such as storytelling, games, and interactive activities, into the teaching pedagogy, educators can create engaging learning environments that stimulate students' interest and motivation to read. However, the successful implementation of such methods hinges upon the knowledge, skills, and readiness of teachers to adapt and apply these strategies in the classroom effectively.

Recent studies have highlighted the importance of equipping teachers with the necessary competencies to utilize entertainment teaching methods proficiently. A research paper published in the *Journal of Education Strategies* in 2022 by Ahmad et al. emphasized the pivotal role of teacher training programs in enhancing educators' capabilities to incorporate innovative teaching approaches, including entertainment-based methods, into their instructional practices. Furthermore, findings from a pilot study conducted by Tan and Lee (2023) underscored the positive impact of entertainment-based interventions on improving Malay language reading proficiency among SJK students.

In light of these insights, this paper aims to delve into the current landscape of teacher preparedness in utilizing entertainment teaching methods to address Malay language reading issues among vernacular school students in Malaysia. Through an exploration of teachers' knowledge acquisition, skill development initiatives, and readiness assessments, this research seeks to provide valuable insights into the effectiveness of entertainment-based approaches in enhancing reading outcomes among SJK students. Additionally, this study aims to identify potential areas for improvement in teacher training programs and pedagogical support systems to facilitate the widespread adoption of entertainment teaching methods across vernacular schools in Malaysia.

By examining the intersection of teacher readiness and entertainment pedagogy, this research endeavors to contribute to the ongoing discourse on literacy education in Malaysia and inform policy recommendations aimed at bolstering the quality of Malay language instruction in vernacular schools. Through collaborative efforts between educational stakeholders, including policymakers, school administrators, teacher training institutions, and educators, it is hoped that effective strategies can be devised to nurture a generation of proficient and passionate readers among vernacular school students in Malaysia.

Objective and Significance

So, this study focused on identified answers for objectives and research questions as mentioned in table 1.

Table 1

Research Objective with Its Significance

Research Objective	Research Questions
<ul style="list-style-type: none"> Identify the level of mathematics teachers' knowledge regarding the use of fun-based learning methods in teaching mathematics 	What is the level of mathematics teachers' knowledge regarding the use of fun-based learning methods in teaching mathematics?
<ul style="list-style-type: none"> Identify the level of mathematics teachers' readiness regarding the use of fun-based learning methods in teaching mathematics 	What is the level of mathematics teachers' readiness regarding the use of fun-based learning methods in teaching mathematics?
<ul style="list-style-type: none"> Identify the relationship between the level of knowledge and readiness of mathematics teachers regarding the use of fun-based methods in teaching in mathematics 	What is the relationship between the level of knowledge and readiness of mathematics teachers regarding the use of fun-based methods in teaching in mathematics?

iii. Material and Method**A) Design of Study**

The researcher utilizes the quantitative correlational research method, and this survey study refers to current issues. Correlational research is a type of research method that attempts to find relationships or correlations between variables using statistical correlation methods without seeking cause and effect (Idris, 2013). The researcher aims to ascertain the relationship between the level of knowledge and readiness of mathematics teachers towards the utilization of play-based methods in teaching mathematics in Malaysia Tamil Schools.

B) Sampling Method

In this study, the researcher has selected mathematics teachers from Tamil primary schools in the Segamat district, totaling 120 individuals. These mathematics teachers are from 12 different schools. By utilizing Krejcie and Morgan's (1970) sample size determination table, the sample size to be used in the study is 100 teachers.

C) Research Instrument

The researcher utilized a questionnaire to gather information for this study. The research instrument used is divided into three main sections: demographic data, items regarding mathematics teachers' knowledge of the use of play-based methods, and items regarding mathematics teachers' readiness for the use of play-based methods.

Section A includes demographic information about the respondents such as gender, ethnicity, religion, age, academic qualifications, teaching experience, and school category.

The research instrument used in Section B is a questionnaire titled "Teachers' Knowledge of Play-Based Methods in Mathematics Teaching." The questionnaire consists of 10 items, and a 5-point Likert scale has been employed. Typically, the number 5 (strongly agree) indicates a

positive attitude, scored as 5 points, while the number 1 (strongly disagree) indicates a negative attitude, scored as 1 point. Respondents are required to provide their response by marking the appropriate symbol within the number representing their opinion on the research topic. Consequently, the overall score will be obtained by summing the scores for each dimension of teachers' knowledge.

Section C comprises a questionnaire assessing mathematics teachers' readiness. The questionnaire consists of 10 items, and the scale used in this questionnaire is also a 5-point Likert scale. In this questionnaire, respondents are required to provide feedback based on the Likert scale provided. The scale refers to respondents' agreement with the items presented.

This study employs the rating scale method to obtain information. A Google Form comprising the rating scale will be distributed to 100 respondents, namely mathematics teachers in the Segamat district. The rating scale will assist the researcher in obtaining information and facilitate the analysis of the data using the SPSS application. The questionnaire forms will be distributed via Google Form sharing, and this process will take place over two weeks. Once completed, the completed questionnaire forms will be analyzed using the Statistical Package for Social Science (SPSS) version 23.0.

D) Research Findings

The study continued with a discussion related to the results of the first objective, which was to identify the level of knowledge of mathematics teachers regarding the use of fun-based methods in teaching mathematics in Malaysia Tamil Schools. The findings in Table 2.1 indicate a high level of knowledge (mean=4.04, SD=0.44) among mathematics teachers regarding the use of fun-based methods in teaching mathematics in Malaysia Tamil Schools. The study found that the research respondents agreed that they were aware of several game techniques to be applied in teaching Mathematics and had watched YouTube videos about some games that could be adapted in the teaching and learning process.

Meanwhile, the findings of the subsequent study relate to the second research objective, which is to identify the level of readiness of mathematics teachers towards the utilization of fun-based methods in teaching mathematics in Malaysia Tamil Schools. Looking at Table 2.1, it can be stated that the level of readiness of mathematics teachers towards the utilization of play-based methods in teaching mathematics in Malaysia Tamil Schools is high, with the data (mean=4.06, SD=0.46). The study results demonstrate that teachers agree that they use ready-made games available in stores and develop their own games to be adapted in the teaching and learning of Mathematics.

Table 2

The level of teachers knowledge and Readiness in Teaching Mathematics

Variables	Min	Sisihan Piawai	Levels
1. Knowledge	4.04	0.44	High
2. Readiness	4.06	0.46	High

Furthermore, referring to the findings in Table 3, it is evident that there is a low positive correlation between the level of knowledge and the level of readiness of mathematics teachers towards the utilization of fun-based methods in teaching mathematics in Malaysia

Tamil Schools. ($r=0.371$). The research findings also indicate that there is a significant relationship between the level of knowledge and the level of readiness of mathematics teachers towards the utilization of fun-based methods in teaching mathematics in Malaysia Tamil Schools. ($r=0.371$, $n=100$, $p=0.000$, $p<0.05$). Finally, the findings also support the null hypothesis of the study, which is that there is a significant relationship between the level of knowledge and the level of readiness of mathematics teachers towards the utilization of fun-based methods in teaching mathematics in Malaysia Tamil Schools.

Table 3

The Relationship between the Level of Knowledge and the Level of Readiness of Mathematics Teachers

		Knowledge	Readiness
Knowledge	Pearson Correlation	1	.371**
	Sig. (2-tailed)		.000
	N	100	100
Readiness	Pearson Correlation	.371**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Discussion

The analysis of multiple studies indicates that mathematics teachers in Malaysia Tamil Schools exhibit a high level of knowledge and readiness towards the utilization of fun-based methods in teaching mathematics.

Firstly, teachers demonstrate a strong awareness of various play techniques and strategies, as evidenced by their familiarity with techniques introduced by experts and their engagement with resources such as YouTube videos to enhance their understanding. Additionally, they display competency in managing classroom settings to accommodate play-based activities and have participated in specialized training courses focusing on the integration of games in teaching and learning, further solidifying their knowledge base. Furthermore, teachers exhibit readiness in implementing fun-based methods, as they frequently incorporate ready-made games into their teaching practices and proactively develop their own games tailored to suit instructional objectives. They consistently leverage established theories and collaborate with colleagues to enhance their teaching approaches, demonstrating a proactive approach towards professional development. Moreover, the findings highlight a significant relationship between teachers' knowledge and readiness in utilizing play-based methods, as supported by various studies. Teachers' thorough preparations and willingness to diversify game activities contribute to their overall readiness in conducting effective mathematics teaching.

In summary, the collective evidence suggests that mathematics teachers in Malaysia Tamil Schools possess both a strong knowledge base and a high level of readiness in integrating play-based methods into their teaching practices. Their proactive approach towards professional development and their ability to effectively leverage play-based strategies underscore their commitment to enhancing mathematics education.

Suggestions and Implication

The study offers significant suggestions and implications for future research and educational practice. It suggests exploring the effectiveness of pedagogical training programs tailored for teachers in Malaysia Tamil Schools, specifically focusing on enhancing their knowledge and readiness to employ play-based methods in teaching mathematics. Longitudinal studies could be considered to assess the continued impact of such training on teaching practices and student outcomes, while incorporating qualitative approaches like interviews or focus groups may provide deeper insights into teachers' perspectives and experiences. Additionally, investigating variations in teacher readiness and the use of play-based methods across different school contexts within Malaysia Tamil Schools can offer valuable insights for generalizing findings. Moreover, exploring the correlation between teachers' readiness to use play-based methods and actual student learning outcomes, including mathematical proficiency and problem-solving skills, is essential. On the practical and policy front, the findings can inform targeted professional development programs for teachers, guide curriculum adaptations, influence teacher education programs, encourage parental involvement, inform resource allocation decisions, and serve as a model for educational research methodology. Overall, these suggestions and implications provide valuable insights for advancing research, informing educational practices, and guiding policy decisions related to the integration of play-based methods in teaching mathematics within Malaysia Tamil Schools and beyond.

Conclusion

The data analysis of the study focuses on the knowledge and readiness of teachers regarding the use of play-based methods in teaching mathematics in Malaysia Tamil Schools. The study found that the level of knowledge of mathematics teachers regarding the use of fun-based methods in teaching mathematics in Malaysia Tamil Schools is high. Additionally, the study also indicates that the readiness level of mathematics teachers towards the use of fun-based methods in teaching mathematics in Malaysia Tamil Schools is also high. Furthermore, the study found a significant relationship between the level of knowledge and readiness of mathematics teachers towards the utilization of fun-based methods in teaching mathematics in Tamil National-Type Schools. Finally, the analysis results determine that the null hypothesis of the study is accepted, indicating a significant relationship between the level of knowledge and the readiness of mathematics teachers towards the use of play-based methods in teaching mathematics in Malaysia Tamil Schools.

Future research on the knowledge and readiness of teachers in Malaysia Tamil Schools regarding the use of fun-based methods in teaching mathematics should adopt a comprehensive approach. Firstly, it is important to explore the effects of pedagogical training programs on teacher readiness, using both qualitative and quantitative methods for nuanced understanding. Diversifying studies across various school environments within Malaysia Tamil Schools and assessing the correlation between teacher readiness and student learning outcomes will provide broader perspectives. Additionally, research should focus on the long-term effects of teachers implementing play-based methods on academic performance and students' attitudes towards mathematics. Evaluating different professional development programs, understanding the role of parental involvement, and conducting comparative analyses with other educational settings can provide valuable insights. Exploring the integration of educational technology alongside play-based methods and investigating the

sustainability of implementation over time are important considerations for future research in this domain.

The study on the knowledge and readiness of teachers in Malaysia Tamil Schools regarding the use of play-based methods in teaching mathematics has extensive implications. The findings can guide targeted professional development programs, curriculum adjustments, and teacher education reforms to enhance educators' skills and readiness in using effective fun-based methods. Policy makers can benefit from observations to tailor educational policies to the unique needs of these schools, fostering more engaging and student-centered learning environments. The research findings also have the potential to influence parental engagement strategies, as positive findings may encourage collaboration between schools and parents to reinforce play-based methods at home. Furthermore, the research contributes to the broader education community by offering insights applicable to multicultural and multilingual settings, potentially impacting global conversations on effective teaching methodologies. Its implications encompass resource allocation, advocating for strategic investments in materials, training, and support systems. Overall, this study has the potential for a positive impact on teacher practices, student outcomes, parental involvement, and educational discourse at both local and global levels.

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