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The Relationship between Level of Knowledge, Readiness, and Attitudes towards the Use of the DELIMa Platform among Secondary School Teachers

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Abstract

This study aims to identify the relationship between level of knowledge, readiness, and attitudes of secondary school teachers towards the use of the DELIMa (Digital Educational Learning Initiative Malaysia) platform in teaching and learning. A total of 242 teachers from a secondary school from Seputeh Parliamentary Constituency, Kuala Lumpur, were involved in this study. A descriptive quantitative research design was adopted using a questionnaire as the main data collection instrument. The findings indicated that the level of knowledge, readiness, and attitude of teachers towards the use of the DELIMa platform was high. Pearson's correlation showed that there was a significant and positive relationship between the level of knowledge and readiness, level of knowledge and attitude, and the readiness and attitude of teachers towards the use of DELIMa. The results of this study are expected to provide guidance to relevant authorities in designing training and intervention programmes to strengthen the use of digital platforms in the education system.

Keywords: DELIMa Platform, Teachers' Knowledge, Teachers' Readiness, Teachers' Attitudes, Technology Acceptance Model

Introduction

In the current digital era, educational transformation is increasingly relying on the use of technology to enhance the teaching and learning (T&L) process. In Malaysia, the Digital Educational Learning Initiative Malaysia (DELIMa) platform was introduced by the Ministry of Education Malaysia (MOE) as the main platform that supports T&L based on digital technology. DELIMa provides access to various applications such as Google Workspace, Microsoft 365, and artificial intelligence (AI), aligning with the aspirations of the Malaysian Education Development Plan (PPPM) 2013–2025 which emphasises the use of technology to improve the quality of 21st century learning (MOE, 2013).

Previous studies have shown that the effectiveness of this platform depends on the level of knowledge, readiness, and attitude of teachers towards its use. According to Zolhilmi and

Hazrati (2023), teachers who have high knowledge regarding technology are more willing and confident to integrate this platform into their T&L. On the other hand, lack of knowledge and readiness can lead to negative attitudes, affecting the overall implementation of the technology. Furthermore, Mohamed Nazul (2020) emphasised that obstacles such as the digital divide and teachers' unwillingness to change are also major challenges to the success of digital education transformation.

Given the increasing importance of digital platforms in education, it is crucial to understand the factors that influence their effective use by teachers. This study is motivated by the need to explore how teachers' knowledge, readiness, and attitudes impact the implementation of DELIMa in secondary schools. By focusing on these variables, this research aims to contribute meaningful insights to policymakers and educational stakeholders in improving digital integration strategies, especially within the context of Malaysian secondary education.

Research Background

Efforts to digitalise education in Malaysia began over a decade ago through the implementation of initiatives such as the 1BestariNet Program, which provided internet access and the Frog VLE platform. However, a study by Titik Rahayu et al. (2018) reported various challenges such as poor internet access and lack of teacher training that contributed to low uptake. The programme was eventually discontinued in 2019 due to ineffectiveness in terms of cost and impact.

In response to current educational needs, particularly during the COVID-19 pandemic, the DELIMa platform was launched in June 2020 as a more user-friendly and inclusive alternative. It allows teachers and students to access various educational applications online more easily and effectively. Zolhilmi and Hazrati (2023) stated that the DELIMa platform was more highly accepted among educators due to its flexible functionality and intensive training provided.

In conjunction with this development, MOE also implemented the Digital Education Policy (DPD) as a strategic effort to produce a digitally fluent generation, strengthen self-learning, and increase the competitiveness of the country's education at the global level. The implementation of DELIMa 3.0, which was upgraded by the Education Technology Resources Division (BSTP), is one of the important initiatives that support the implementation of this policy.

Therefore, this study was conducted to empirically assess the level of knowledge, readiness and attitude of teachers towards the use of the DELIMa platform, as well as its implications for the effectiveness of the implementation of digital education in secondary schools in Kuala Lumpur.

Problem Statement

The DELIMa platform was introduced by MOE as a key initiative to strengthen the country's education digitalisation agenda. However, although this platform offers various functions that can enhance the T&L process, its level of use among secondary school teachers has not yet reached its full potential (Zolhilmi and Hazrati, 2023). This issue raises questions regarding the effectiveness of DELIMa's implementation as a comprehensive digital learning platform.

The BSTP report dated 16 October 2024 indicated that out of 385,607 Education Service Officers (PPP) assessed through the Digital Competency Score (DCS), 76.14% were at Intermediate and Advanced levels. Although this figure is encouraging, there are some teachers who still face challenges in mastering digital technology and its application in T&L. Past studies have also shown that lack of knowledge, low readiness, and negative attitudes towards technology are the main factors hindering the effectiveness of this platform (Zolhilmi and Hazrati, 2023; Desiro and Hazrati, 2021).

Furthermore, the digital divide between urban and rural areas continues to be a persistent issue. Teachers in rural areas often face unstable internet access and a lack of devices, making it difficult to optimally use DELIMa (Desiro and Hazrati, 2021). Teachers' readiness to adopt technology is also influenced by high workload, lack of training and technical support, and concerns about their own ability to handle new technologies. These factors contribute to negative or skeptical attitudes towards digital platforms (Sani et al., 2022).

Although DELIMa has been introduced since 2020, empirical studies that comprehensively examine the relationship between teachers' level of knowledge, readiness, and attitudes towards its use are still limited. This lack of research creates challenges in designing appropriate interventions to increase the acceptance and effectiveness of DELIMa in T&L.

Consequently, this study was conducted to address the literature gap by examining the relationship between the level of knowledge, readiness, and attitudes of teachers towards the use of the DELIMa platform among secondary school teachers. The findings from this study are expected to assist in formulating more effective strategies towards strengthening digital education transformation in Malaysia.

Research Purpose and Objectives

Research Purpose

The purpose of this study is to explore the relationship between the level of knowledge, readiness, and attitudes of secondary school teachers towards the use of the DELIMa platform by focusing on the extent to which these factors influence the effectiveness of the platform in T&L. The study also aims to identify the main challenges faced by teachers, as well as provide recommendations to increase the acceptance and use of digital technology in the Malaysian education system.

Research Objectives

i. To identify the level of teachers' knowledge on the use of the DELIMa platform in secondary schools;
ii. To identify the level of teachers' readiness to use the DELIMa platform in secondary schools;
iii. To identify teachers' attitudes towards the use of the DELIMa platform in secondary schools;
iv. To identify the relationship between teachers' knowledge and attitudes towards the use of the DELIMa platform in secondary schools;
v. To identify the relationship between teachers' knowledge and readiness to use the DELIMa platform in secondary schools; and

vi. To identify the relationship between teachers' readiness and attitudes towards the use of the DELIMa platform in secondary schools.

Research Questions

i. What is the level of teachers' knowledge on the use of the DELIMa platform in secondary schools?
ii. What is the level of teachers' readiness on the use of the DELIMa platform in secondary schools?
iii. What are teachers' attitudes on the use of the DELIMa platform in secondary schools?
iv. Is there a relationship between teachers' knowledge and attitudes on the use of the DELIMa platform in secondary schools?
v. Is there a relationship between teachers' knowledge and readiness on the use of the DELIMa platform in secondary schools?
vi. Is there a relationship between teachers' readiness and attitudes on the use of the DELIMa platform in secondary schools?

Research Hypotheses

H01: There is no significant relationship between teachers' knowledge and attitudes towards the use of the DELIMa platform in secondary schools.
H02: There is no significant relationship between teachers' knowledge and readiness to use the DELIMa platform in secondary schools.
H03: There is no significant relationship between teachers' readiness and attitude towards the use of the DELIMa platform in secondary schools.

Research Methodology

Research Design

This study utilised the quantitative descriptive survey design to examine the relationship between teachers' knowledge, readiness and attitudes towards the use of the DELIMa platform among secondary school teachers. This approach allows data to be collected systematically from a representative sample of the study population, thereby allowing the patterns of relationships between variables to be empirically examined.

Population and Sample

The study population consisted of national secondary school teachers from the Bangsar Pudu District, Seputeh Parliamentary Constituency, Kuala Lumpur. There were 46 national secondary schools in this area, with a total of 658 actively serving teachers. The sample size was determined based on Krejcie and Morgan's (1970) table, and 242 teachers were selected using simple random sampling. The selection of this location was in line with the study's focus on the use of the DELIMa platform in the mainstream education system at the secondary school level.

Instrument

The main instrument of this study was a questionnaire that was adapted from the instrument developed by Teo (2010) and used in the study of Ng Yi Lin (2021). This questionnaire was adapted according to the needs of the current study and its content was validated by an expert in the field of educational technology. This questionnaire consisted of four main sections:

i. Part A: Demographic profile of respondents (4 items).
ii. Part B: Level of knowledge towards the function and potential of the DELIMa platform (10 items).
iii. Part C: Level of readiness in terms of technological skills, infrastructure support, and motivation (15 items).
iv. Part D: Attitudes towards the effectiveness, ease of use, and importance of DELIMa in T&L (12 items).

Parts B, C and D used a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree".

Pilot Study

A pilot study was conducted involving 30 secondary school teachers from the same district. The purpose of the pilot study was to assess item comprehension, language suitability, and the validity and reliability of the research instrument. According to Creswell (2014) and Fraenkel and Wallen (2019), a pilot study is an important step to ensure the accuracy and effectiveness of an instrument before it is used in the actual study.

Content Validity

The content validity of the questionnaire was conducted with an expert in the field of educational management and policy from the Faculty of Education, University of Malaya. The expert assessed the appropriateness, clarity and representativeness of the items to the constructs studied. Improvements were made based on the feedback received to ensure that the instrument truly measured the study variables accurately.

Internal Consistency Test – Cronbach's Alpha

Reliability testing was conducted using Cronbach's Alpha coefficient using the SPSS software. The average Cronbach's alpha coefficient value obtained through the pilot study was 0.847, which indicated a high and consistent level of reliability. Analysis was conducted for each construct, namely knowledge, readiness, and attitude, to ensure the internal consistency of the instrument.

Overall, the methodology of this study was designed to ensure the collection of data that is valid, reliable and relevant to the study objectives, thus contributing to a deeper understanding of the factors that influence the use of the DELIMa platform among secondary school teachers.

Findings

In this study, the respondents consisted of secondary school teachers and a total of 242 teachers participated in the study. The respondent profile was obtained from Part A of the questionnaire, which consisted of four questions covering the demographic background of the respondents, namely age, gender, job grade, and years of service. This demographic data is presented in tabular form based on the number and percentage of respondents. The demographic details of the respondents is shown in Table 1.

Table 1
Demographic Details of Respondents

Factor	Characteristic	Count	Percentage
Age	25 – 29 years old	15	6.2
	30 – 39 years old	85	35.1
	40 – 49 years old	96	39.7
	50 – 60 years old	46	19.0
Gender	Male	77	31.8
	Female	165	68.2
Job grade	Grade 9	64	26.4
	Grade 10	87	36.0
	Grade 12	70	28.9
	Grade 13	15	6.2
	Grade 14	6	2.5
Years of service	1 – 5 years	36	14.9
	6 – 10 years	40	16.5
	11 – 15 years	67	27.7
	16 years and above	99	40.9

Table 1 shows that 77 (31.8%) respondents in this study were male and 165 (68.2%) were female. Meanwhile, the most common age group in this study comprised those between 30 – 39 years and 40 – 49 years, which were 85 (35.1%) and 96 (39.7%) respectively. In terms of job grade, most were Grade 10 and Grade 12, which were 87 (36.0%) and 70 (28.9%). The table also shows that most respondents had a service period of 16 years and above, which was 99 (40.9%).

Table 2
Teachers' Level of Knowledge Towards Use of the DELIMa Platform

No	Statement	SD	D	NS	A	SA	M	SD
B1	I have knowledge in the DELIMa Google Quiz Form.	4 (1.7)	7 (2.9)	32 (13.2)	123 (50.8)	76 (31.4)	4.07	.842
B2	I have knowledge in the DELIMa Google Slide.	2 (0.8)	12 (5.0)	22 (9.1)	137 (56.6)	69 (28.5)	4.07	.804
B3	I have knowledge in the DELIMa Canva application.	0 (0.0)	15 (6.2)	19 (7.9)	132 (54.5)	76 (31.4)	4.11	.794
B4	I have knowledge in the DELIMa Kahoot application.	7 (2.9)	16 (6.6)	32 (13.2)	134 (55.4)	53 (21.9)	3.87	.928
B5	I have knowledge in the DELIMa Quizziz application.	4 (1.7)	9 (3.7)	27 (11.2)	130 (53.7)	72 (29.8)	4.06	.840
B6	I have knowledge in the DELIMa Plickers application.	12 (5.0)	31 (12.8)	89 (36.8)	86 (35.5)	24 (9.9)	3.33	.988
B7	I have knowledge in the DELIMa Powtoon application.	10 (4.1)	41 (16.9)	92 (38.0)	80 (33.1)	19 (7.9)	3.24	.963
B8	I have knowledge in uploading teaching and learning (T&L) on DELIMa's YouTube.	0 (0.0)	35 (14.5)	50 (20.7)	97 (40.1)	60 (24.8)	3.75	.988
B9	I understand the concept of gamification in DELIMa to increase student engagement.	7 (2.9)	30 (12.4)	83 (34.3)	92 (38.0)	30 (12.4)	3.45	.959
B10	I know how to find and use teaching materials provided in DELIMa such as videos, e-books, and interactive materials.	4 (1.7)	13 (5.4)	42 (17.4)	135 (55.8)	48 (19.8)	3.87	.849
	Overall						**3.78**	**.714**

(Level: Low = 1.00 – 2.33, Medium = 2.34 – 3.66, High = 3.67 – 5.00)

Table 2 shows that the level of knowledge of secondary school teachers on the use of the DELIMa platform was at a high level with an overall mean value of 3.87. In this study, the level of knowledge of teachers on the use of the DELIMa platform was measured by 10 items. This table shows that seven items had high scores, while the other three items had moderate scores, with the mean range of items ranging from 3.24 to 4.11. Based on the analysis conducted, it was found that item B3, which was "I have knowledge in the DELIMa Canva application" recorded the highest mean (m = 4.11, SD = 0.794), while item B7, which WAs "I have knowledge in the DELIMa Powtoon application" recorded the lowest mean (M = 3.24, SD = 0.963). This shows that secondary school teachers were less skilled in using animation applications.

Table 3
Technical Readiness Dimension

No	Statement	SD	D	NS	A	SA	M	SD
C1.1	I have access to sufficient devices (computer/laptop/tablet) to use the DELIMa platform.	6 (2.5)	6 (2.5)	9 (3.7)	96 (39.7)	125 (51.7)	4.36	.868
C1.2	I have a stable internet connection to access the DELIMa platform.	8 (3.3)	9 (3.7)	12 (5.0)	99 (40.9)	114 (47.1)	4.25	.954
C1.3	I know how to install the DELIMa platform application on a smartphone.	7 (2.9)	17 (7.0)	30 (12.4)	99 (40.9)	89 (36.8)	4.02	1.018
C1.4	I can use the main features of DELIMa such as Google Classroom, Meet, and Drive smoothly.	6 (2.5)	7 (2.9)	12 (5.0)	106 (43.8)	111 (45.9)	4.28	.880
C1.5	I am able to solve basic technical problems related to DELIMa without the help of others.	9 (3.7)	32 (13.2)	78 (32.2)	80 (33.1)	43 (17.8)	3.48	1.047
C1.6	I have attended training or workshops related to the DELIMa platform.	25 (10.3)	48 (19.8)	35 (14.5)	91 (37.6)	43 (17.8)	3.33	1.264
C1.7	I can share documents or teaching materials via the DELIMa platform.	8 (3.3)	21 (8.7)	42 (17.4)	109 (45.0)	62 (25.6)	3.81	1.021
C1.8	I am confident in my ability to teach using the DELIMa platform.	7 (2.9)	18 (7.4)	53 (21.9)	113 (46.7)	51 (21.1)	3.76	.965
	Overall						**3.91**	**.799**

(Level: Low = 1.00 – 2.33, Medium = 2.34 – 3.66, High = 3.67 – 5.00)

Table 3 shows that overall, teachers' technical readiness level towards using the DELIMa platform was high (M = 3.91, SD = 0.799). This indicates that teachers had a good level of technical mastery and were prepared in terms of infrastructure to implement technology-based T&L. The item with the highest mean score involved access to devices such as computers, laptops or tablets (M = 4.36), which indicated that most teachers did not face

constraints in terms of equipment. However, the item with the lowest mean indicated a lack of teacher participation in training or workshops related to the DELIMa platform (M = 3.33), suggesting the need to increase exposure and training support so that the use of DELIMa can be utilised more effectively.

Table 4
Pedagogical Readiness Dimension

No	Statement	SD	D	NS	A	SA	M	SD
C2.9	I understand how DELIMa can be used to improve teaching and learning (T&L) effectiveness.	0 (0.0)	6 (2.5)	42 (17.4)	132 (54.5)	62 (25.6)	4.03	.728
C2.10	I can design interactive T&L activities using DELIMa.	0 (0.0)	13 (5.4)	59 (24.4)	122 (50.4)	48 (19.8)	3.85	.798
C2.11	I am confident in using the DELIMa platform to monitor and assess student progress.	0 (0.0)	16 (6.6)	63 (26.0)	120 (49.6)	43 (17.8)	3.79	.812
C2.12	I can integrate digital learning materials from the DELIMa platform into my T&L.	0 (0.0)	14 (5.8)	49 (20.2)	134 (55.4)	45 (18.6)	3.87	.778
C2.13	I use the DELIMa platform to assign assignments and quizzes to students.	5 (2.1)	23 (9.5)	63 (26.0)	117 (48.3)	34 (14.0)	3.63	.912
C2.14	I believe the DELIMa platform can enhance collaborative learning among students.	2 (0.8)	11 (4.5)	46 (19.0)	132 (54.5)	51 (21.1)	3.90	.807
C2.15	I am interested in exploring more teaching strategies involving DELIMa.	0 (0.0)	11 (4.5)	27 (11.2)	134 (55.4)	70 (28.9)	4.09	.760
	Overall						**3.88**	**.688**

(Level: Low = 1.00 – 2.33, Medium = 2.34 – 3.66, High = 3.67 – 5.00)

The findings in Table 4 show that teachers' pedagogical readiness for using the DELIMa platform was at a high level (M = 3.88, SD = 0.688). This indicates that teachers were pedagogically prepared to integrate technology in teaching. The item with the highest score indicated that teachers had a high interest in exploring more teaching strategies involving the use of DELIMa (M = 4.09), reflecting openness and a proactive attitude in enriching teaching practices. However, the use of DELIMa for assignments and quizzes recorded the lowest mean (M = 3.63), suggesting that the aspect of direct implementation in T&L can still be improved.

Table 5
Usefulness Dimension

No	Statement	SD	D	NS	A	SA	M	SD
D1.1	Using the DELIMa platform will allow me to complete tasks faster.	2 (0.8)	5 (2.1)	51 (21.1)	124 (51.2)	60 (24.8)	3.97	.786
D1.2	Using the DELIMa platform will improve my performance.	0 (0.0)	10 (4.1)	43 (17.8)	132 (54.5)	57 (23.6)	3.98	.762
D1.3	Using the DELIMa platform will increase productivity in my work.	0 (0.0)	5 (2.1)	44 (18.2)	137 (56.6)	56 (23.1)	4.01	.706
D1.4	Using the DELIMa platform will increase effectiveness in my work.	0 (0.0)	4 (1.7)	44 (18.2)	130 (53.7)	64 (26.4)	4.05	.716
D1.5	Using the DELIMa platform will make my work easier.	2 (0.8)	7 (2.9)	33 (13.6)	136 (56.2)	64 (26.4)	4.05	.769
D1.6	I find the DELIMa platform useful in my work.	2 (0.8)	5 (2.1)	29 (12.0)	131 (54.1)	75 (31.0)	4.12	.757
	Overall						**4.03**	**.683**

(Level: Low = 1.00 – 2.33, Medium = 2.34 – 3.66, High = 3.67 – 5.00)

All items in the usefulness dimension showed high scores (M = 4.03, SD = 0.683), reflecting teachers' positive perceptions of the benefits of using the DELIMa platform. The highest item indicated that teachers considered DELIMa to be very useful in supporting their daily tasks (M = 4.12), while the lowest item involved the view that this platform helped them complete tasks faster (M = 3.97). Table 5 shows that although teachers viewed DELIMa as a useful tool, its impact on time efficiency could still be improved through training or wider usage support.

Table 6
Ease of Use Dimension

No	Statement	SD	D	NS	A	SA	M	SD
D2.7	Learning how to use the DELIMa platform was easy for me.	2 (0.8)	8 (3.3)	37 (15.3)	153 (63.2)	42 (17.4)	3.93	.728
D2.8	I found the DELIMa platform easy to use in my teaching process.	2 (0.8)	9 (3.7)	40 (16.5)	155 (64.0)	36 (14.9)	3.88	.725
D2.9	My interaction using the DELIMa platform was clear and easy to understand.	4 (1.7)	11 (4.5)	42 (17.4)	150 (62.0)	35 (14.5)	3.83	.789
D2.10	I found that the DELIMa platform helped me save a lot of time in my work.	2 (0.8)	13 (5.4)	48 (19.8)	142 (58.7)	37 (15.3)	3.82	.782
D2.11	I felt comfortable using the DELIMa platform proficiently.	2 (0.8)	14 (5.8)	51 (21.1)	136 (56.2)	39 (16.1)	3.81	.803
D2.12	I found the DELIMa platform easy to use.	2 (0.8)	11 (4.5)	32 (13.2)	155 (64.0)	42 (17.4)	3.93	.748
	Overall						**3.87**	**.707**

(Level: Low = 1.00 – 2.33, Medium = 2.34 – 3.66, High = 3.67 – 5.00)

Overall, the usability dimension scored high among teachers (M = 3.87, SD = 0.707). The highest item indicated that teachers found the DELIMa platform easy to use (M = 3.93), while the lowest item reflected slightly lower confidence in their competence to use the platform

proficiently (M = 3.81). Table 6 shows that although teachers felt comfortable using DELIMa, there is room for further improvement in its usage skills.

Relationship between Teachers' Knowledge and Attitudes towards the Use of the DELIMa Platform

Table 7

Relationship Between Teachers' Knowledge and Attitudes Towards the Use of the DELIMa Platform

	Teachers' attitudes towards the use of the DELIMa platform	
	r	Relationship level
Teachers' knowledge	0.644**	Strong

** p < 0.01

Pearson's test was used to determine the relationship between teachers' knowledge and attitudes towards the use of DELIMa platform. Table 7 above shows the results the first hypothesis testing, where teachers' knowledge (r = 0.644, p < 0.01) had a significant and strong relationship with attitude towards the use of DELIMa platform in secondary schools. Therefore, Ho1 was rejected.

Relationship between Teachers' Knowledge and Readiness to Use the DELIMa Platform

Table 8

Relationship between Teachers' Knowledge and Readiness to Use the DELIMa Platform

	Teachers' attitudes towards the use of the DELIMa platform	
	r	Relationship level
Teachers' knowledge	0.712**	Very strong

** p < 0.01

Based on Table 8 above, the results the second hypothesis testing found that teachers' knowledge (r = 0.712, p < 0.01) had a very strong and significant relationship with their readiness to use the DELIMa platform in secondary schools. Therefore, Ho2 was rejected.

Relationship between Teachers' Readiness and Attitudes towards the Use of the DELIMa Platform

Table 9

Relationship between Teachers' Readiness and Attitudes towards the Use of the DELIMa Platform

	Teachers' attitudes towards the use of the DELIMa platform	
	r	Relationship level
Teachers' readiness	0.780**	Very strong

** p < 0.01

Table 9 above shows the results of the third hypothesis testing, where teachers' readiness (r = 0.780, p < 0.01) had a very strong and significant relationship with their attitudes towards the use of the DELIMa platform in secondary schools. Therefore, Ho3 was rejected.

Discussion

This study aims to identify the relationship between the level of knowledge, readiness, and attitude of secondary school teachers towards the use of the DELIMa platform in T&L. The results of the study show that teachers in the Bangsar Pudu district showed a high level of knowledge and readiness, as well as a positive attitude towards the use of the platform in digital T&L.

Teacher's Level of Knowledge of DELIMa

The findings of the study indicated that teachers' level of knowledge of the DELIMa platform was at a high level. This result contradicted previous studies such as by Zolhilmi and Hazrati (2024) and Noor Desiro and Hazrati (2021), which reported that teachers' level of knowledge of e-learning was still low. This difference suggests that the implementation of various professional training initiatives by MOE as stated in Hansard Parliament (2024) may have increased digital literacy among teachers.

Studies by Ng (2021) and Rahmi et al. (2019) also showed that technology training can increase teachers' knowledge of digital platforms, while Sidhu et al. (2019) emphasised that high knowledge is closely related to the successful implementation of technology in the classroom.

Teacher's Level of Readiness for Using DELIMa

The teachers surveyed also showed a high level of readiness to use DELIMa, especially in technical aspects. However, pedagogical readiness recorded a slightly lower mean score, suggesting that challenges in effectively applying DELIMa in T&L still exist. This finding was consistent with the studies of Noor Desiro and Hazrati (2021), as well as Venessa Pang and Nurfaradilla (2020), which stated that teacher readiness was influenced by training and the availability of technical support and digital resources. The difference in scores between technical and pedagogical readiness also suggests that even though teachers are technologically literate, adapting to the use of technology in an effective teaching context still requires more structured support.

Teachers' Attitudes towards the Use of DELIMa

The teachers in this study showed a high positive attitude towards the use of DELIMa, particularly in terms of the usefulness and ease of use of the platform. High scores on items such as "I find the DELIMa platform useful in my work" reflect the belief that this platform can improve the effectiveness of T&L.

This positive attitude is also supported by the findings of studies by Manibarathi and Muhammad Sofwan (2022), as well as Yagneswary and Mohd Mahzan Awang (2024) who found that experience of consistent use of technology and support from administrators and colleagues are important factors in forming a positive attitude towards educational technology.

The Relationship between Knowledge, Readiness and Attitude

Correlation analysis showed that there was a positive and significant relationship between the three variables studied. Teacher's level of knowledge was significantly correlated with attitude ($r = 0.644$, $p < .01$) and readiness ($r = 0.712$, $p < .01$). The relationship between

readiness and attitude was also significant ($r = 0.780$, $p < .01$), indicating that teachers who were more prepared were more likely to have a positive attitude towards the use of DELIMa.

This finding is consistent with the Technological Pedagogical Content Knowledge (TPACK) model by Mishra and Koehler (2006), which emphasises the importance of technological knowledge in supporting effective teaching integration. Studies by Lee Jia et al. (2022) and M. Kaviza (2020) also support that high knowledge increases teachers' readiness to use technology in T&L.

Limitations

Several limitations were encountered in this study. First, this study focused on teachers in the Bangsar Pudu district only and cannot be generalised to the whole of Malaysia. Second, the questionnaire method used may not reflect actual practice as it is entirely dependent on the perceptions of the respondents. In addition, external factors such as organisational support, availability of infrastructure, and motivation were not studied in detail. Finally, time constraints and potential social bias in questionnaire responses may have affected the validity of the study findings.

Conclusion

This study examined the relationship between teachers' knowledge, readiness, and attitudes towards the use of the DELIMa platform in T&L in secondary schools. The results of the analysis found that these three variables played an interrelated and significant role in influencing the effectiveness of educational technology integration in the classroom. Teachers who had a high level of knowledge about the DELIMa platform tended to show a stronger level of readiness and a more positive attitude towards its use.

This is in line with the principles of the TPACK model, which emphasises the importance of a balance between technological, pedagogical, and content knowledge to achieve effective digital teaching (Mishra and Koehler, 2006). Support from MOE in the form of ongoing professionalism training and provision of infrastructure is also seen as a major contributing factor to this positive achievement. However, the small gaps that still exist in pedagogical readiness and the variation in training levels indicate the need for a more structured and comprehensive intervention strategy.

Overall, the findings of this study indicate that the successful use of the DELIMa platform in T&L depends not only on the availability of technology, but also on the level of teachers' knowledge and their readiness to adapt to change. Therefore, collaboration between the MOE, school administrators, and teachers is essential to strengthen a sustainable and inclusive digital education ecosystem. In the context of post-pandemic education that is increasingly dependent on technology, this study provides an important contribution to policy planning, professional training, and pedagogical support in the national education transformation agenda.

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