



TEACHER READINESS TOWARDS THE USE OF MOBILE LEARNING FOR DYSLEXIA STUDENT: A SURVEY IN MALAYSIA



Rohaizat Ibrahim¹⁺

^{1,3,5} Sultan Idris Education University, Malaysia.

Nabilah Abdullah²

¹ Email: rohaizat82@yahoo.com

Abdul Rahim Razalli³

² Email: rahim.r@fpm.upsi.edu.my

Michael Bitz⁴

³ Email: ardzulyna@fpm.upsi.edu.my

Ardzulyna binti Anal⁵

² Universiti Teknologi MARA, Malaysia.

³ Email: nabil789@uitm.edu.my

⁴ Ramapo College of New Jersey, US.

⁵ Email: bitz@ramapo.edu



(+ Corresponding author)

ABSTRACT

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The education system in Malaysia has undergone a process of transformation. Recently, mobile learning (m-learning) has become a trend in education in this country. Face-to-face teaching and learning have shifted to online. However, research on the use of Mobile Learning (M-Learning) is still limited. Therefore, this study aims to identify the readiness of teachers towards the use of M-Learning for dyslexia students in terms of (i) Possibilities, (ii) Benefits, (iii) Preferences and (iv) External Influencers. Furthermore, this study also aims to identify the differences between teachers' readiness and gender towards M-Learning for dyslexia students. A total of 172 teachers throughout Malaysia have participated in this quantitative study. This online survey uses the Mobile Learning Readiness Survey (MLRS) instrument. The analysis methods in the research are mean, standard deviation and t-test. The data obtained were analyzed using Statistical Package for Social Science (SPSS) version 23.0. Overall, the study's findings of teacher readiness towards M-Learning for dyslexia students are low. The result is low because of 1) teacher-centered, 2) lack of knowledge about dyslexia, 3) lack of teachers' knowledge of pedagogical integration in m-learning, and 4) lack of dyslexia-related training. In addition, the findings also show that there is no difference significant difference between teacher readiness and gender. Thus, this study shows that teachers in Malaysia need training and courses related to M-learning and Dyslexia. This action can improve the quality of teacher pedagogy and academic performance among dyslexia students.

Contribution/ Originality: The paper's primary contribution is finding that the Ministry of Education Malaysia needs to provide training related to pedagogy using M-learning and dyslexia. It can ensure that the online teaching process for dyslexia students can run smoothly and effectively.

1. INTRODUCTION

Malaysian Education Ministry (2011) defines Dyslexia as students with cognitive intelligence equal to or higher than typical students but face severe difficulties in mastering spelling, reading, and writing skills. Dyslexia is the most common learning specification worldwide at around 5 to 17.5% (Wilmshurst, 2017). Dyslexia cannot eliminate, but dyslexia problems will reduce with the use of M-Learning.

Looi et al. (2014) defined M-Learning as a combination of mobile technology and teaching techniques appropriate to 21st-century students. Almutairy, Davies, and Dimitriadi (2015) defined M-Learning as a tool that

can help students acquire information such as mobile phones and personal digital assistants (PDAs). Nikolopoulou, Gialamas, Lavidas, and Komis (2021) stated that M-Learning is a learning tool that uses smartphones to facilitate or support student learning.

The importance of M-Learning has overgrown since the outbreak of the COVID-19 pandemic. This pandemic has changed teachers' perceptions from seeing mobile devices as a tool of personal life to an educational tool. According to Coskun-Setirek and Tanrikulu (2021), school closures for an extended period have made the need for M-Learning in the world of education increasing. This way ensures that all students, including dyslexia students, do not drop out of school.

However, Baran (2014) study found that most teachers who use M-Learning are inefficient and unable to integrate teaching in M-Learning. Thus, the issue arises that the majority of teachers use a "try and error" approach.

Although the "try and error" approach used, teachers often make mistakes during the teaching process. The mistakes cause them to feel frustrated and hopeless quickly. Negative emotions and perceptions that occur among teachers have caused students' academic achievement to be affected (Cornelius & Shanks, 2017). This study is necessary to identify teachers' readiness to use M-Learning for dyslexia students based on these issues.

Specifically, the objective of this study is:

1. Identify the level of teacher readiness towards the use of Mobile Learning for dyslexia students in terms of (i) Possibilities, (ii) Benefits, (iii) Preferences and (iv) External Influencers.
2. Identify whether there is a difference between the readiness of teachers and gender towards the use of Mobile Learning for dyslexia students.

2. LITERATURE REVIEW

2.1. Teacher Readiness Towards to Use Mobile Learning for Dyslexia Student

Smythe (2010) has written a book entitled *Dyslexia in the digital age: Making IT work*. He argues that M-Learning can support the learning of dyslexia students to (i) acquire information; (ii) analyze data; (iii) store information; (iv) synthesize information; as well as (v) convey information. Therefore, he strongly agrees if teachers at all levels of education use M-Learning as a teaching tool to dyslexia students.

Kopcha (2012) conducted a study to see the readiness of teachers to use technology, including M-Learning, to dyslexia students. His findings show that teachers rarely use technology to dyslexia students. In addition, the results also found that the use of technology has increased the workload of teachers. In conclusion, the lack of use of technology is due to the negative attitude of teachers. Teachers prefer easy work and do not like any changes in their teaching and learning.

Next, Jones (2017) conducted a similar study. Jones reported that teachers already knew about the benefits of M-Learning to dyslexia students, yet they refused to implement it. Teachers also found to be more comfortable maintaining teacher-centered teaching methods than student-centered ones.

Empirical evidence suggests that studies of teacher readiness towards to use M-Learning for dyslexia students are still limited compared to other categories of students with learning difficulties. Christensen and Knezek (2018) also stressed that this study should be multiplied and studied from various perspectives. Malaysia also faces the same problem. Most of the available studies only focus in general terms on the use of M-Learning for special education students.

An example is the study of Ahmad and Tasir (2018). They conducted a study on 50 special education students to see the effectiveness of M-Learning on students' literacy skills. Their findings show that student achievement has improved to a better level than before. M-Learning can positively impact special education students.

Next, Roslin and Salleh (2021) have studied teachers' readiness for M-Learning for special education students. They found that most teachers have high skills, attitudes and knowledge towards the use of M-Learning. In addition, their study also found that M-Learning can attract interest and increase students' motivation to continue learning. Students can also use M-Learning to solve problems, memorize, read and write well.

2.2. Teachers' Readiness and Gender towards M-Learning

Snell and Snell began studying students' attitudes towards M-Learning in 2013. The study surveyed 74 male students and 64 female students. The results of the survey found that female students need more courses to use M-Learning than male students. These findings also explain that male students are more confident and interested in using M-Learning than female students.

The male lecturers and students are highly willing to use M-Learning in their teaching and learning compared to female lecturers and students (Al-Emran, Alkhoudary, Mezhuyev, & Al-Emran, 2019). Therefore, he stressed the need for M-Learning for male lecturers and students to ensure their career and academic success.

Recently, Daud, Teck, Ghani, and Ramli (2021) conducted a study to examine gender differences in M-Learning based Arabic language learning. The participants of this study consisted of 84 male students and 189 female students at universities in Malaysia. They found that male students found it easier to learn Arabic using M-Learning than female students.

3. METHODOLOGY

This study conducted a quantitative design using survey research. According to Türkyılmaz, Şenvar, Ünal, and Bulkan (2020) survey research is a famous research method. It can solve problems related to attitudes, perspectives, values, and beliefs of respondents related to education and can be generalized. A total of 358 teachers in Malaysia were involved in this study. The majority of the participants in this study consisted of male teachers, 185 people, and female teachers, 173 people. In general, the ratio of male teacher participants to female teachers was almost 50:50.

Next, data were collected using the Mobile Learning Readiness Survey (MLRS) questionnaire. MLRS explores learning readiness by integrating technology and (ii) has been tested on many samples and has a high level of reliability of 0.92 (Christensen & Knezek, 2018).

The questionnaire consisted of two parts. Part A aims to gather information on teacher demographics. Part B involves 28 items used to measure the extent to which teachers are willing to teach using M-Learning to dyslexia students. Part B divided into four categories, namely (i) Possibilities, (ii) Benefits, (iii) Preferences and (iv) External Influencers.

In addition, a pilot study also conducted to provide an opportunity for researchers to identify problems that may arise during the actual study. The participants of this pilot study consisted of 34 teachers in Malaysia. The focus of this study was to determine the feasibility of the questionnaire instrument in the actual study.

SPSS statistical software version 23.0 (2016) is to manage mean and standard deviation data. A 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, 5 = strongly agree) was used to enable the study respondents to make appropriate responses.

For the analysis of questionnaire items, teachers' responses were evaluated based on the mean score from 1.00 to 5.00. Table 1 shows the mean score classification for the items of the teacher readiness questionnaire constructed by Hadiyanto, Mukminin, Makmur, Hidayat, and Failasofah (2013).

Table-1. Mean score classification for the items of the teacher readiness.

Score Mean	Level	Interpretation
1.00 – 2.33	Low	Lack of Readiness towards the use of M-Learning for dyslexia students
2.34 – 3.66	Medium	Readiness towards the use of M-Learning for dyslexia students
3.67 – 5.00	High	Well Readiness towards the use of M-Learning for dyslexia students

Source: Hadiyanto et al. (2013).

4. FINDINGS

The findings of this study divided into two. The first findings are the teacher readiness towards the use of M-Learning for dyslexia students in terms of Possibilities, (ii) Benefits, (iii) Preferences and (iv) External Influencers. The seconds' findings are demographics from the aspect of gender.

4.1. Teacher Readiness towards the Use of Mobile Learning for Dyslexia Students

a. This section will identify teachers' readiness in terms of possibilities towards the use of M-Learning for dyslexia students. Table 2 show the findings.

Table-2. Possibilities towards the use of M-Learning for dyslexia students.

Possibilities	Mean	SD	Level
S1. Mobile devices can play an important role in dyslexia education	3.55	0.355	Medium
S2. Mobile learning will bring new opportunities for dyslexia learning	3.02	0.311	Medium
S3. Mobile technology should be used to connect learners to people, content, and resources	4.02	0.422	High
S4. Mobile learning will increase flexibility of learning	3.56	0.359	Medium
S5. Mobile learning can be used to improve traditional literacy programs	3.33	0.342	Medium
S6. Mobile technology can be used to improve 21st century skills	3.67	0.361	High
S7. Technology can be used to level the playing field for special needs students	3.12	0.321	Medium
S8. Mobile devices can enhance learning if there is adequate support for teachers	4.35	0.468	High
Total	3.57	0.367	Medium

Based on Table 2, there are 3 items that are at a high level, namely "Mobile devices can enhance learning if there is adequate support for teachers" ($M = 4.35$, $SD = 0.468$), "Mobile technology should be used to connect learners to people, content and resources" ($M = 4.02$, $SD = 0.422$) and "Mobile technology can be used to improve 21st century skills" ($M = 3.67$, $SD = 0.361$) compared to the other 5 items, namely "Mobile learning will increase flexibility of learning" ($M = 3.56$, $SD = 0.359$), "Mobile devices can play an important role in dyslexia education" ($M = 3.55$, $SD = 0.355$), "Mobile learning can be used to improve traditional literacy programs" ($M = 3.33$, $SD = 0.342$), "Technology can be used to level the playing field for special needs students" ($M = 3.12$, $SD = 0.321$) and the last is "Mobile learning will bring new opportunities for learning" ($M = 3.12$, $SD = 0.311$). Overall, the teachers' readiness to use M-Learning for dyslexia students is at a medium level (Mean = 3.57, SP = 0.367).

b. Next is the result of teachers' readiness to use M-Learning for dyslexia students from Benefits as in Table 3.

Overall, teachers showed low readiness to use m-learning for dyslexia students in terms of benefits ($M = 1.99$, $SD = 0.259$). If viewed from the mean comparison, it found that "Mobile devices would introduce a significant distraction in my classroom" showed the highest mean ($M = 4.24$, $SD = 0.422$). However, the next mean value is low. "Mobile learning will improve communication between students and teachers" ($M = 2.33$, $SD = 0.248$), "The use of mobile technology in the classroom allows students to develop creativity" ($M = 2.31$, $SD = 0.232$) and "The use of mobile technology in the classroom allows students to own their learning" ($M = 2.24$, $SD = 0.235$). In addition, there are three items with the same mean value. Namely, "The use of mobile technology in the classroom increases student engagement", "The use of mobile devices in the classroom allows students to work together more often", and "Mobile learning devices improve communication between students" ($M = 2.21$, $SD = 0.231$). The next

item is "Having a mobile device would improve student organization" ($M = 2.16$ $SD = 0.232$), "The use of mobile technology in the classroom increases student participation in classroom discussions" ($M = 2.15$ $SD = 0.230$). The last is "The use of mobile technology in the classroom makes students more motivated to learn" ($M = 2.11$ $SD = 0.276$). c. Table 4 shows the level of teachers readiness towards the use of M-Learning for dyslexia students in terms of preferences.

Table-3. Benefits towards the use of M-Learning for dyslexia students.

Benefits	Mean	SD	Level
S9. The use of mobile technology in the classroom makes students more motivated to learn	2.11	0.276	Low
S10. The use of mobile technology in the classroom increases student participation in classroom discussions	2.15	0.230	Low
S11. The use of mobile technology in the classroom increases student engagement	2.21	0.231	Low
S12. The use of mobile technology in the classroom allows students to own their learning	2.24	0.235	Low
S13. The use of mobile devices in the classroom allows students to work together more often	2.21	0.231	Low
S14. The use of mobile technology in the classroom allows students to develop creativity	2.31	0.232	Low
S15. Mobile learning will improve communication between students and teachers	2.33	0.248	Low
S16. Mobile learning devices improve communication between students	2.21	0.231	Low
S17. Having a mobile device would improve student organization	2.16	0.232	Low
S18. Mobile devices would introduce a significant distraction in my classroom	4.24	0.422	High
Total	1.99	0.259	Low

Table-4. Preferences towards the use of M-Learning for dyslexia students.

Preferences	Mean	SD	Level
S19. Using a mobile device will help me be better organized in my daily activities	1.57	0.169	Low
S20. Using a mobile device will allow me to be better organized in my teaching	1.56	0.153	Low
S21. I prefer to read a book on a mobile device rather than a traditional book	3.24	0.311	Low
S22. I prefer to use an electronic textbook rather than a traditional textbook	3.61	0.359	Medium
S23. I prefer to use a mobile device rather than a computer for learning	4.05	0.402	High
	2.80	0.278	Low

As for the benefit aspect, Table 4 that the overall value of the activity is low, i.e. ($M = SD =$). The highest mean is "I prefer to use a mobile device rather than a computer for learning" ($M = 4.05$ $SD = 0.402$). "I prefer to use an electronic textbook rather than a traditional textbook" also have a high mean ($M = 3.61$ $SD = 0.359$). The following item has a moderate mean of "I prefer to read a book on a mobile device rather than a traditional book" ($M = 3.24$ $SD = 0.311$). In contrast, the following two items have a low mean. "Using a mobile device will help me be better organized in my daily activities" ($M = 3.61$ $SD = 0.359$) and "Using a mobile device will help me be better organized in my daily activities" ($M = 1.57$ $SD = 0.169$).

d. All external influences in this questionnaire are the readiness of teachers to the use of M-Learning for dyslexia students. See Table 5.

Next are external influences. In this aspect, the findings show that the item "My school is doing a good job of using technology to enhance learning" has the highest mean ($M = 3.35$ $SD = 0.326$). The following by the items "My administration is supportive of students having their own device" ($M = 2.87$ $SD = 0.255$), "My campus technical infrastructure and wireless network can accommodate students bringing their own" ($M = 2.07$ $SD = 0.201$) and "My curriculum is conducive to students having their own technology" ($M = 1.60$ $SD = 0.174$). The last item is "Students are more knowledgeable than I am when it comes to using mobile technologies" ($M = 1.57$ $SD = 0.168$). The overall level for external influences is low ($M=2.47$ $SD=0.329$).

Table-5. External Influences towards the use of M-Learning for dyslexia students.

External Influences	Mean	SD	Level
S24. Students are more knowledgeable than I am when it comes to using mobile technologies	1.57	0.168	Low
S25. My school is doing a good job of using technology to enhance learning	3.35	0.326	Low
S26. My campus technical infrastructure and wireless network can accommodate students bringing their own	2.07	0.201	Low
S27. My curriculum is conducive to students having their own technology	1.60	0.174	Low
S28. My administration is supportive of students having their own device	2.87	0.255	Low
	2.47	0.329	Low

4.2. The Differences between Teachers' Readiness and Gender towards to Use M-Learning for Dyslexia Students

Table-6. The differences between teachers' readiness and gender towards to use M-Learning for dyslexia students.

Gender	No	Mean	SD	t	Sig Level
Male	185	3.23	0.298	0.344	0.287
Female	173	3.11	0.295		

Based on Table 6, it found that there was no significant difference in the level of teacher readiness ($t = 0.344$; $p > 0.05$). The level of readiness of male teachers (mean = 3.23) is similar to the level of readiness of female teachers (mean = 3.11) for M-Learning for dyslexia students.

5. DISCUSSION

5.1. Teachers' Readiness towards the Use of M-Learning for Dyslexia Students in Terms of;

a. Possibilities

This study shows that teachers in Malaysia are ready to use M-Learning for dyslexia students. The highest mean indicates that the use of M-Learning can enhance the learning of dyslexia students through adequate support from teachers. These findings proved that M-Learning could develop the learning of dyslexia students and help students explore information, build networks with outsiders, and form 21st century skills.

However, there are general limitations found in the findings of this study. When examined, teachers are more confident that every change that occurs in the learning of dyslexia students is due to the guidance given by them. The fact is, M-Learning is a learning activity that can happen anywhere and anytime. That is means the dyslexia students can acquire relevant knowledge and skills without guidance from the teacher. Teachers in Malaysia still adopt a teacher-centered approach even though teaching and learning is conduct through M-Learning. As a result, the dyslexia students will stifle their creativity and abilities.

b. Benefit

This study found that teachers are still less sensitive to the benefits of implementing M-Learning for dyslexia students. This section aims to look at teachers' perceptions of dyslexia students' behaviour while using M-Learning. The study results showed that teachers find it challenging to maintain motivation and increase the participation and discussion of dyslexia students while using M-Learning.

Osakwe, Dlodlo, and Jere (2017) found that the use of M-Learning or new learning technologies is challenging to increase motivation to all students due to the different needs of students. Therefore, the implications of the findings indicate that top management, administrators and teachers need to consider the needs of dyslexia students first before using M-Learning in their learning.

c. Preferences

This study found that teachers prefer to use computers compared to mobile phones in their teaching and learning. That proves M-Learning is easy to use by teachers in Malaysia. However, usability is not their priority. They prefer ways to integrate daily teaching plans and time in M-Learning so that their teaching and learning process can take place smoothly. With this, appropriate courses and training need to disclose to teachers in Malaysia.

d. External Influences

This study found that most teachers agreed that they had more knowledge related to technology than dyslexia students. These findings are in contrast to the study of Almutairy et al. (2015) conducted in America. The findings of his study show that students nowadays have a high level of technical knowledge compared to their teachers. Students in America are exposed to technological skills and spend a lot of their time using M-Learning.

These differences in findings may be due to the lack of knowledge of teachers in Malaysia on the abilities of dyslexia students. There are still teachers who think that dyslexia students are stupid and lazy students. This view is in line with the study of Ramli, Idris, Omar, Harun, and Surat (2020), who believe that the majority of teachers still lack knowledge related to dyslexia students. Once again, there is a need to provide training and courses for teachers in Malaysia. That focus on M-Learning and dyslexia students.

5.2. The Differences between Teachers' Readiness and Gender towards to Use M-Learning for Dyslexia Students.

The discussion in this phase is related to the level of teachers' readiness by gender towards the use of M-learning for dyslexia students. Overall, there was no difference between teacher readiness and gender towards M-Learning for dyslexia students. However, the level of readiness of male and female teachers is low. The findings of this study are different from the findings of previous studies, which found that male teachers have a higher level of readiness than female teachers in using M-Learning. If examined, the previous study was for university students and typical lecturers, which not focused on dyslexia students.

These differences in findings are likely due to the study participants whether males and females have less knowledge related to dyslexia students. Therefore, there is a need for these male and female teachers to build more learning and training opportunities to raise awareness of their knowledge and skills in M-learning and Dyslexia.

6. CONCLUSION

In conclusion, this study found that teachers in Malaysia are less prepared to use M-Learning for dyslexia students. Thus, there is a need to provide ongoing training and support to teachers to improve their teaching and learning practice. In addition, the existing curriculum must restructure in order to emphasize a dyslexia student-centered approach. This approach can enable all dyslexia students to learn and actively engage in M-Learning.

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