

## Teacher Readiness for Online Teaching Using Mobile Technology

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### Abstract

The purpose of this study was to determine the mobile technology used for online learning and the level of readiness of English teachers and non-English teachers at SMA 11 Negeri Samarinda and SMA AL-Khairiyah Samarinda 2021/2022. The research design is a survey design with a quantitative approach. The sample of this research is 113 teachers, classified as 107 non-English teachers and 6 English teachers. The questionnaire was adapted from Alwidi & Aldhaferi (2017). Based on the findings of this study, regarding teachers' perception on their readiness in using mobile technologies and applications in class, the statement of four topics answered by the participants received a response that agreed (high), which this shows that they perceived that mobile learning is very helpful and supports this learning activity, as the teachers who were participants in this study stated that they knew and understood well how to use mobile learning. The results of the data on the level of readiness of Participant's pedagogical and technical classification between non-English teachers and English teachers the data analysis the participant's non-English teachers and English teachers show that teachers had prepared themselves with good pedagogical and technical readiness and, in the learning process, from the results of (Non English Teachers  $M = 3.54$  and English teachers  $M = 3.66$ ) which show that these teachers have good pedagogical and technical readiness.

**Keywords:** Online Learning, Teacher Readiness, Mobile Technology

### 1. Introduction

It cannot be denied that mobile learning has become an important and imperative media in the education development at any levels (Churchill et al., 2018). They also stated that the use of e-books, digital videos, podcasts, social networking, cloud computing, etc has been adopted for the sake of education. This powerful affordance of mobile technologies enables a new form of education system (Churchill and Churchill 2008; Lai et al., 2007).

A study by Diao & Hedberg (2020) found that students tend to use smartphones or tablets other than books. But, they underlined four criteria in using mobile apps as teaching media: (1) Compatible for the mobile device, (2) Easy to use, (3) Relevant to teaching process and activities, and (4) was supported by current technological infrastructure.

In a study done by Geng, Law & Niu (2019), they found that technology had a greater role in education. The students' willingness to adopt this type of learning determines their attitude towards the technology itself. They also found that students who were more prepared for this type of education, they will also understand online and offline courses better. These findings encourage course designers to consider students' readiness so they can achieve more effective teaching.

Blayone et al (2018) had done a study in this particular topic, but they focused their study on students. They found that students were ready to take part in various online learning activities, which in general, they are more ready to use mobile devices for their online learning activities. Apart from that, they also suggested that the results of this research can later be used to strengthen innovation in education. Meanwhile in teachers' side, a study conducted by Hermans et al (2017) found that computer assisted teaching motivated teachers to teach English pronunciation.

Meanwhile, discussion on teacher readiness of this powerful affordance and availability of mobile learning media appears to be underdeveloped. Thus, the researcher is interested in studying the teacher readiness on mobile learning media, because this topic is still underdeveloped, and also in this pandemic condition, all learning activities are shifted to online learning, which mobile learning media cannot be separated.

### **Research Questions**

Based on the background above, the researcher proposes following research questions:

1. What are the teachers perception on mobile technology used in online learning?
2. What is the level of teacher's readiness on using mobile technologies in online learning?

## **2. Literature Review**

### **2.1. Readiness used for Mobile Technologies (M-Learning)**

In the first place, mobile technologies or media meant in this study are mobile apps or hardwares used by teachers to do teaching for online learning. Mobile learning readiness is about conceptualizing and measuring various success factors and enabling conditions (Blayone et al, 2018). Meanwhile for the readiness itself, it is defined as being fully prepared toward something. Thus, in connection to this study, readiness is defined as teachers being fully prepared in using mobile teaching apps for English teaching. Meanwhile, according to Msila (2015), teacher readiness for mobile media teaching is how the teacher knows how to use it, has the right perception and attitude towards their capabilities and skills for the technology so that it can be integrated into learning, Churchill, (2020) stated that how the learning goes depends on the teacher's understanding of the technologies itself. This readiness is important because it will help them better in using the mobile technologies which they use them for teaching-learning activities.

Mobile learning also has its characteristics, which it can be its advantages or disadvantages Swibe I. D. (2019). First, it is ubiquitous, which means that it can be accessed anywhere anytime. Second, its portability, makes the material or teaching-learning process can be accessed through relatively small tools. Third, it can be blended with conventional learning. Fourth, it is private, which usually student access their very own phone. Fifth, it is can be used as an interactive tool. Sixth, it supports communication between students and teacher, so that they can become collaborative. The last, it is an instant tool that can be brought anywhere.

According to Al-Awidi & Aldhafeeri (2017), there are at least two main components that are measured from teacher readiness for mobile teaching: technical and pedagogical.

Which of these factors is the most important factor of any technological innovation in education (Ng, 2011), that means, not only teacher preparation using mobile technologies but pedagogical preparations must be prepared to support good knowledge and abilities for teachers in building good innovations in the future. two components have also been tested through several categories such as knowledge, attitudes, skills, and habits (Appendix 1). These categories which then used in the instrument for this study. The researcher adapted the questionnaire as the instrument for this study. On the other hand, technical readiness has to do with teachers' knowledge and skills to implement the curriculum, availability of hardware and software for teachers and students, and types of professional development programs set by schools and the Ministry of Education to prepare teachers to implement the digital curriculum.

### **3. Methodology**

This study used two questionnaires adapted by Al- Alwidi & Alhadfeeri (2017), The original questionnaire is in English, and for clarity and better understanding, the researcher decided to translate the questionnaires to Bahasa Indonesia because not all teachers as participants understand the English Language, then the original questionnaire has 18 lists of questions.

#### **3.1. Data Collection**

The researcher would come, ask permission from the principal and teachers in there, then the researcher would share questionnaires to participants. The researcher would divide the time, in these two schools, in the morning the researcher would come in SMA 11 Negeri Samarinda, afternoon the researcher will come in SMA Al-Khairiyah Then the researcher distribute the questionnaire to all participants; the participants were teachers SMA 11 Negeri Samarinda, SMA Al-Khairiyah Samarinda .

#### **3.2. Data Analysis Technique**

The data in this study would be analyzed in a descriptive way (Cresswell, 2011), which the level of teachers' readiness for online teaching and the level mobile technologies used it would be the focus of this study. Furthermore, the mean scores of the questionnaires would be used as the parameter of it, then present researcher used SPSS to analyze to count mean score per item of the questionnaire.

### **4. Result and Discussion**

#### **4.1. Findings**

##### **The First Research Questions**

A questionnaire was used to assess The Mobile Technology Used for Online Teaching of Senior High School. The questionnaire was based on four topic they are: 1.) I can use create a blog, 2.) I can use create wikis or web sites. 3.) I can use social media (Twitter, Instagram...,) to communicate with my students, 4.) I can use learning management systems (Blackboard, Edmodo, Google Classroom).

*Table 4.1. The mean score of each topic*

No	Topic	Mean
1	I can use create a blog	3,4
2	I can use create wikis or web sites	3,19
3	I can use social media (Twitter, Instagram,...) to communicate with my students.	4,42
4	I can use learning management systems (Blackboard, Edmodo, Google Classroom, ...).	4,68

Based on the findings of this study, to answer the first research question regarding teachers' perception on their readiness in using mobile technologies and applications in class, the statement of four topics answered by the response received a response that agreed (high), this shows that they perceived that mobile learning is very helpful and supports this learning activity, as the teachers who were participants in this study stated that they knew and understood well how to use mobile learning.

*4.2. Percentage of Statements Chosen by Teacher With Respect to the Questionnaire*

Table 4.2. Illustrated that the findings of this study, to answer the first research question regarding teachers' perception on their readiness in using mobile technologies and applications in class, the statement of four topics answered by the response received a response that agreed (high), this shows that they perceived that mobile learning is very helpful and supports this learning activity, as the teachers who were participants in this study stated that they knew and understood well how to use mobile learning. The participants of this study explained that they can use mobile technology such as Edmodo, Google Classroom, zoom meetings and other similar applications, these appalication used by laptop and mobile handphone. This indicates that the teachers'knowledge of technology for learning integration is in acceptable condition. This matter is acknowledged to foster the

Statement	Topic 1		Topic 2		Topic 3		Topic 4	
	N	%	N	%	N	%	N	%
Strongly Disagree	13	11,4 %	3	2,6%	-	-	3	2,6 %
Disagree	2	1,8%	3	2,6%	-	-	13	14%
Neutral	31	27,2 %	17	21,1%	11	9,6%	-	-
Agree	35	30,7%	71	62,3%	71	62,3%	49	43%
Strongly Disagree	33	28,9%	13	11,4%	32	28,1%	49	43%
Total	113		107		113		113	

teachers' confidence in their teaching strategies teacher's confidence in teaching.

#### 4.2. The Second Research Questions

A questionnaire was used to assess The Teacher Readiness For online Using Mobile Technology based on two subscales Al-Awidi, H., & Aldhafeeri, F. (2017). Pedagogical and Technical questionnaire results are presented below:

##### 4.3. Mean Score Respect Teacher Readiness

Subscale	Non-English Teachers	English Teachers
<b>Pedagogical</b>	3,54	3,66
<b>Technical</b>		

Table 4.4. Percentage of Statements Chosen by non English Teacher with Respect to the Questionnaire

Subscale	Strong Disagree/ Never	Disagree/ Seldom	Neither Disagree/ Not Agree	Agree/ Often	Strongly Agree/ Always
<b>Pedagogical</b>	0,973%	1,504%	7,257%	65,398%	24,867%
<b>Technical</b>	0,569%	1,012%	6,831%	64,263%	27,324%

Table 4.4. showed the teacher's choice with most of them chose Agree and Strongly Agree statements and they are higher than the others. For pedagogical subscale, the teachers answered Agree by 65.398% and Strongly Agree by 24.867%, and for technical subscale, the teachers answered Agree by 64.263% and Strongly Agree by 27, 324%. This is apparent that both in the technical and pedagogical subscales, non English teachers' readiness to apply mobile technology are very good and positive, and the teachers have a high level of readiness in implementing mobile learning in online learning

Table 4.5. Percentage of Statements Chosen by English Teacher with Respect to the Questionnaire

Subscale	Strong Disagree/ Never	Disagree/ Seldom	Neither Disagree/ Not Agree	Agree/ Often	Strongly Agree/ Always
<b>Pedagogical</b>	0,1%	0,1%	3,255%	58,064%	38,709%

<b>Technical</b>	0,1%	0,1%	4,761%	66,666%	28,571%
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Table 4.5. showed the teacher's choice with most of them chose Agree and Strongly Agree statements and they are higher than the others. For pedagogical subscale, the teachers answered Agree by 58.064% and Strongly Agreed by 38,709%, and for technical subscales, the teacher answered Agree by 66,666% and Strongly Agree by 28, 571%. This is apparent that both in the technical and pedagogical subscales, non English teachers' readiness to apply mobile technology are very good and positive, and the teachers have a high level of readiness in implementing mobile learning in online learning

The researcher understood that teachers are ready but not high level for implementation of the digital curriculum in both components of readiness (having Secondary and Intermediate technical and pedagogical grade). Teachers identified some factors that hinder their readiness, these factors are related to time constraints, knowledge and skills, infrastructure, and technical support. The present researcher found that the level of teacher readiness in pedagogy and technical in applying mobile technology in online learning is very good, especially in the era of online learning in which circumstances make these teachers have to prepare their knowledge, time and skills.

### 4.3. Discussion

This section discusses the clarity of the findings in order to answer the research questions this research sought to understand about the mobile technology used for online learning and the level of teacher readiness. Two research questions have been formulated by the researcher. Researcher have calculated the results so that the current level of teacher readiness uses mobile technology which includes pedagogy and technicality.

#### 4.3.1. Mobile technology Used by Teachers in Online Learning

<b>Teacher's Readiness Grade</b>				
Grade	Pedagogical		Technical	
	1	1	1	1
	Non English Teacher		English Teacher	
	M	M	M	M
<b>Elementary</b>	3,20	3,01	3,80	4,12
<b>Secondary</b>	4,50	4,45	4,20	4,53
<b>Intermediate</b>	3,79	3,25	4,25	4,71

During the pandemic, face-to-face teaching methods switched to online learning where online learning methods must be supported by educational media so that online learning continues to run well. The teacher learned how to use mobile technology, share

information and knowledge with other teachers and not only teachers but students work together with teachers to learn how to use mobile technology. Then the role of mobile technology is needed in online learning because with mobile technology teachers can still teach even though not directly the learning process continues to run very well. The participants in this research answered that they can use learning management systems such as Edmodo, Zoom, Google Classroom and others which greatly help teachers in the online learning teaching process because mobile technology is more efficient and allows distance learning.

Churchill (2018) confirmed that it cannot be denied that mobile learning has become an important and imperative medium in the development of education at the recent level of mobile learning. In online learning, it is very necessary to use technology media to support the online learning process, with the existence of technological media can make it easier for teachers and students to interact in online learning activities with this distance learning media. The teaching and learning process that is not face-to-face can run well and smoothly in consideration for teachers' usage of mobile learning.

Diao & Hedberg (2020) confirmed in his research that learning using technology media is a challenge in the local context because it requires better preparation. The teachers in this study were very well prepared where the teachers equipped themselves with a very good understanding of how to use mobile technology to support the online learning process as well as and, students who were equipped with technological media devices (mobile phones and laptops) and received explanations on the use of technology used in the online learning process.

#### **4.3.2 The Level of Teacher's Readiness on Using Mobile Technologies in Online Learning**

Pedagogy readiness is divided into two segments which are Pedagogy and Technical. Concerning the dimension of Pedagogy, the researcher was assessing the teacher's pedagogy through questionnaires where participants have given statements. From the statements that have been given, their pedagogy grade in learning is considered ready (high).

The second dimension is Technical and the same as the previous dimension, the researcher assesses with a questionnaire. Technically, it is also known that their technical grade is high, where the teachers are trying to master the class and using interesting teaching ways of using mobile learning, for example, making online quizzes and online games and other.

From similar findings to research conducted by Adov, Pedaste, Leijen & Rannikmäe (2020) confirmed that research shows that technology can have a positive influence on students to be more accomplished and motivated, the same findings also with Munir Shuib, Azizan and Ganapathy (2018) confirmed that teachers and students are equally ready to adopt mobile technology in online learning. Supporting this, Msila (2015) also stated that teacher readiness for mobile teaching media is how teachers know the proper usage.

Blayone et al. (2018) readiness teachers' aspect who are fully prepared in order to use mobile teaching applications for English language teaching. The findings of this research found that the level of teacher readiness to use mobile technology in online

learning was very positive, it can be seen from non-English teachers (M=3.54) and English teachers (M=3.66), which showed that most teachers have familiarity with online applications. The findings of this study are similar to Al-Alwidi & Al-Aldahafeeri (2017) who supported that teachers are at least moderately ready for implementation of the digital curriculum in both components of readiness (technical and pedagogical).

Based on what has been discussed in the second chapter and research findings, the teaching of mobile use and the level of teacher readiness in using technology itself is very positive and especially in online learning. Teachers and students cooperate with each other in adopting media technology to support the online learning process to keep it running and optimally.

## 5. Conclusion

Based on the findings of the study in the previous chapter, the researcher has drawn conclusions as follows:

1. Based on the findings of this study, to answer the first research question regarding teachers' perception on their readiness in using mobile technologies and applications in class, the statement of four topics answered by the response received a response that agreed (high), this shows that they perceived that mobile learning is very helpful and supports this learning activity, as the teachers who were participants in this study stated that they knew and understood well how to use mobile learning.
2. Participant's pedagogical and technical classification between non-English teachers and English teachers. The data analysis of the participant's non-English teachers and English teachers shows that teachers had prepared themselves with good pedagogical and technical readiness and, in the learning process, from the results of (M = 3.54 for non-English teachers and M = 3.66 for English teachers) which show that these teachers have good pedagogical and technical readiness.

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