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Readiness toward M-Learning Implementation during Pandemic: Secondary High School Teachers and Student's Perception

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Abstract
During the COVID-19 pandemic, almost all secondary high schools (SMP) in Indonesia implemented distance learning to minimize face-to-face meetings by utilizing technological developments, especially through mobile phones. However, several junior high schools still encounter obstacles that prevent them from implementing distance learning, such as the lack of readiness of devices and adequate internet connections. This study uses an exploratory research design to determine the readiness of teachers and junior high school students to use their mobile phones as a learning tool that can be implemented during a pandemic. The questionnaire given is in the form of questions that link the use of mobile devices to the successful implementation of m-learning adoption in secondary high school. This questionnaire was adopted by Miglani and Awadhiya (2017). Survey responses are based on a five-point Likert-type scale: (1) strongly disagree; (2) disagree; (3) neutral; (4) agree; (5) strongly agree. The survey was distributed to teachers and students of SMP in Malang City. The total respondents are 32 teachers and 206 students. The results show that all teachers (100%) and students (99%) are ready to own a mobile device and most teachers (89%) and students (85%) have acquired the basic skill requirements for m-learning. This study recommends that teachers and students improve their advanced skills in using mobile phones to achieve learning objectives. Teachers can participate in available training and workshops, while students should be better prepared to use mobile phones to learn, create and share knowledge.
Keywords: *pandemic Covid-19, m-Learning, readiness, basic skill, advanced skill*

Kesiapan Implementasi M-Learning selama Masa Pandemi: Persepsi Guru dan Siswa Sekolah Menengah Pertama

Abstrak
Selama pandemi covid-19, hampir seluruh sekolah menengah pertama (SMP) di Indonesia menerapkan pembelajaran jarak jauh untuk meminimalisir pertemuan tatap muka dengan memanfaatkan perkembangan teknologi, terutama melalui ponsel. Namun, beberapa sekolah menegah pertama masih mendapatkan kendala sehingga tidak dapat menerapkan pembelajaran jarak jauh, seperti kurangnya kesiapan perangkat serta koneksi internet yang memadai. Penelitian ini menggunakan desain penelitian eksploratif untuk mengetahui kesiapan guru dan siswa SMP terhadap penggunaan ponsel mereka sebagai alat pembelajaran yang dapat diimplementasikan selama pandemi. Kuesioner yang diberikan berupa pertanyaan yang menghubungkan penggunaan perangkat seluler untuk keberhasilan penerapan adopsi m-learning di sekolah menengah pertama. Kuesioner ini diadopsi dari Miglani dan Awadhiya (2017). Jawaban survei didasarkan pada skala tipe Likert lima poin: (1) sangat tidak setuju; (2) tidak setuju; (3) netral; (4) setuju; (5) sangat setuju. Survei dibagikan kepada guru dan siswa SMP di Kota Malang. Total responden yaitu 32 guru dan 206 siswa. Hasil menunjukkan bahwa seluruh guru (100%) dan siswa (99%) memiliki kesiapan dalam kepemilikan perangkat seluler dan sebagian besar guru (89%) dan siswa (85%) telah memperoleh persyaratan keterampilan dasar untuk m-learning. Penelitian ini merekomendasikan kepada guru dan siswa untuk meningkatkan keterampilan lanjutan mereka dalam penggunaan ponsel untuk mencapai tujuan pembelajaran. Guru dapat mengikuti pelatihan maupun lokakarya yang tersedia, sedangkan siswa harus lebih siap menggunakan ponsel untuk belajar, membuat dan berbagi pengetahuan.
Kata Kunci: *pandemi covid-19, m-Learning, kesiapan, keterampilan dasar, keterampilan lanjut*

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INTRODUCTION

Mobile Internet deployment far exceeds computer-based Internet access. According to Hootsuite digital report, as of January 2021, Indonesia had 202.6 million Internet users and internet penetration had reached 73.7%. In 2021, Indonesia's internet users (202.6 M) get used to utilizing their mobile phones to access the Internet (125.6%), and half of them are active as media social users (61.8%) (Riyanto, 2021). In case, for several groups, the popularity of mobile technology benefits those who want to get some advanced in the internet (L. Wang & Liu, 2021). Recently, mobile devices are increasingly capable of being used in the learning process (Al-Adwan et al., 2018). Mobile has been a lot of attention as an instructional technology in education and it also opens opportunities for the teaching-learning community to create innovative and collaborative ways of learning, which we called as m-learning.

M-learning is interpreted in various thoughts in the literature. Generally, the definition of m-learning is 'using mobile technology to facilitate learning' (Hwang et al., 2008). Wang et al (2009) claimed that in higher education, m-learning is known as 'delivery' learning to the student. They can access anytime and anywhere via mobile devices and the internet supported, such as smartphones, personal digital assistants (PDAs), etc.

Sarrab et al (2013) stated that m-learning challenges educators, learners, and teachers. The existence of technology and mobile devices offer different ways to communicate between teachers and students, even to expand their learning environment from face-to-face to m-learning. In addition, the characteristic of m-learning has been demonstrated. Generally, m-learning used distance learning popular in the pandemic era; students can access learning materials unlimited anytime-anywhere, as student-centered learning, get easy to interact among students or teachers, last they can choose what they individually need to learn; teacher, it helped them to make timely learning, content reviews and interact with students (Alrasheedi et al., 2015).

M-learning becomes a promising tool to be a global leader in the education field (Miglani & Awadhiya, 2017), especially during the COVID-19 pandemic. Despite the development and abilities of mobile technology and network, the trend of m-learning in education is still too infancy (Thomas et al., 2013), unless in Indonesia secondary high schools. In secondary high school, several challenges become the main reason for the slow adoption of m-learning, including internet connection and inappropriate specification of mobile devices, like minimalized screen size, limited memory capacity, and short battery life (Tabor, 2016). The use of mobile such as smartphones may necessitate students to provide more time to search unimportant information than they need to read. Hence, need students' willingness to adopt new technologies and transforms their learning styles to reach the success of m-learning. Investigating the student adoption process is carried out to be able to provide an appropriate m-learning services (Shorfuzzaman & Alhussein, 2016). Basically, the main factors related to the success of m-learning are rely on the students enthusiasm and intellectual involvement in m-learning activities (Sarrab et al., 2016).

However, at the moment, several studies only concentrated on students' views and not many previous researchers have focused into the teachers' views (Miglani & Awadhiya, 2017). Beside the roles of students, Hussin et al (2012) and Ismail et al (2013) pointed awareness of fitting and powerful educational methodologies can impact the achievement of m-learning, not just having a cell phone. While educators as a facilitator of learning, it is essential to comprehend the availability and view of the instructors, as central participants in viably executing m-learning and connecting with understudies by utilizing important instructional method. Bhuasiri et al (2012) mentioned the technological aspects as a crucial matter in glorious m-learning system and the readiness of the

technology aspect be necessary to be explored truly to analyze the whole readiness of m-learning.

Against this backdrop, the aims of this research is to located the readiness of teachers and students in secondary high school toward the mobile devices usage as the m-learning implementation during the pandemic era.

METHOD

This research is exploratory in nature. Its purpose is to seek both teachers' and students' readiness toward mobile device usage. Unlike some research which focuses only on teachers' or students' perceptions, this research, investigates both teachers' and students' perceptions to underline several issues about mobile usage from two perspectives that might be affect to implementation of m-learning in Secondary High School in Indonesia

Participant in this research were 32 teachers and 206 students at secondary high schools in Malang City. The research used quantitative method. A survey was conducted through online questionnaires and randomly shared electronically to English's teachers, consist of 25 females (78%) and 7 males (22%). For students, consist of 110 females (53%) and 96 males (47%), 67 students from the first grade (32.5%), second grade 71 (34.5%) and third grade 68 (33%) (See Table 1). Data were quantitatively analyzed by SPSS using percentage and mean of the analysis results.

Table 1. *Segment Profile of Respondents*

			Frequency	Percentage
Teachers	Gender	Male	25	78
		Female	7	22
	Age	< 30 years	23	72
		31- 40 years	6	19
		> 40 years	3	9
Students	Gender	Male	96	47
		Female	110	53
	Age	12 years	67	32.5
		13 years	71	34.5
		14 years	68	33

A questionnaire was purposed with questions connecting to the use of mobile devices for successful application of the m-learning adoption in secondary high schools. This questionnaire adopted from Miglani and Awadhiya (2017) after translated the questionnaires into Bahasa, it was surveyed for content legitimacy by two specialists in the space of educational technology. The questionnaire consists of two parts. The first section of the questionnaire gaged teachers' and students' device readiness which consisted of two questions. The second section of questionnaire gaged teachers' and students' skill readiness consisted of twenty questions correlated to the usage pattern of mobile phones. The survey answers were based on a five-point Likert-type scale: (1) strongly disagree; (2) disagree; (3) neutral; (4) agree; (5) strongly agree. Thus, the respondent chooses one response of each question.

In collecting data, the researchers sent the link of online questionnaire via WhatsApp groups or personal chat to the respondents. The announcement consisted of the background of information of the research, then explained the main goal and the objectives research concisely. The researchers asked the respondents' willingness to fill the questionnaires voluntarily. The questionnaires have been distributed to the secondary high school teachers and students, they given four weeks to fill in the questionnaire. After four weeks of data collection process, 32 teachers' questionnaires and 206 students' questionnaires were analyzed by the researchers.

Foregoing to data analysis, after the questionnaire was translated into Bahasa, it was subjected to attempt the specify internal consistency of the items. SPSS is used to compute Cronbach's Alpha for every variables in the questionnaire and the minimum receivable reliability is > 0.6 (Sujarweni, 2014). In Table 2, the results of internal consistency for every item in questionnaire was adequate. As a guide, the Cronbach's alpha of questionnaire was 0.826 (more than 0.6).

Table 2. *Reliability Test*

Cronbach's Alpha	N of Items
.826	20

The questionnaire acquisition was canned via google form and an excel spreadsheet was used to collect all responses. Descriptive statistics of respondents to the questionnaire are provided in a table by displaying the percentage of responses. Descriptive statistics present a summary of respondents' answers to each question as well as a measure of variability through SPSS (Statistical Product and Service Solutions).

RESULTS AND DISCUSSION

Result

Teachers' readiness

The readiness in m-learning is grouped into two; (a) Tool Readiness and (b) Skills Readiness. Readiness of the device is surveyed in view of the accessibility of mobile phones with satisfactory internet capabilities. As seen in Table 3, the outcome showed all respondents had a mobile phone and internet capability (100%). It can be decided that the most of teachers had device readiness to use in teaching-learning process via their mobile phones.

Table 3. *Teachers' Device Readiness*

	Responses	
	YES	NO
Do you have mobile phone?	100% (n = 32)	0% (n = 0)
Do you have an adequate internet connection?	100% (n = 32)	0% (n = 0)

Skill readiness has evaluated depend on the respondents' activities towards the use of mobile phones. As continue in table 4 are the list of activities and the percentage of respondents as mobile phone user. In table 4 represent, the respondents use their mobile phones conventionally (eg, for *calling* and *SMS*). In addition, they use mobile phones for accessing *internet* (94%), *instant messages* (94%), *social media* (89%), *downloading some apps* (86%), *sharing image/ audio/ video* (86%), *and using e-mails* (85%). On the other hand, not all respondents use their mobile phones for accessing *online videos* (88%), *video calls* (85%), *online storage device* (83%), *e-commerce services* (81%), *online calendar* (79%), *e-books* (77%), *using editing applications* (76%), *downloading audio MP3* (67%), *offline games* (54%), *online games* (54%), *blogging* (53%), and only 52% which used *online programs* on their mobile phones. This shows that the involvement of respondents in m-learning is still very low. There are many reasons that happened, thus hindering the growth of m-learning, such as need higher processors, larger memory and storage, large screen sizes, and so on (Miglani & Awadhiya, 2017). Since this activity expects users to obtain a few innovation abilities in technology, we can examine these exercises as 'Advance Skills' needed to complete a few progressed exercises during m-learning, for example, sorting out, transferring, and sharing multimedia electronic substance, overseeing information, taking part in online discussions, investigating tasks, giving online feedback, dealing with, coordinating, and overseeing online learning, and so on.

From the average percentage in table 4, it can be assumed that teachers' readiness using mobile phones is still very lacking. This can be seen that 89% dominate questions from basic skills and 71% of teachers had advanced skills for m-learning. But it indicates the teachers are presented to m-learning. We can see that teachers have readiness ability to embrace and connect with m-learning in learning process. Thusly, teachers will track down themselves something comfortable and intimate with exercises connected with m-learning (Hussin et al., 2012).

Students' readiness

As indicated in Table 5, overall total of 206 students, 204 students (99%) had mobile phones

and 201 respondents (98%) had a mobile with internet capability. It can be inferred that the majority of students had device readiness to use their mobile phones in learning process.

Table 4. *Teachers' Utilization Pattern of Mobile Phones*

No	Mobile Phone Usage Activities	Responses (N)	%	Average %	Level
1	For calling	123	77	71	Conventional Usage
2	Short messages service (SMS)	103	64		
3	Internet	151	94	89	Basic skills for m-learning
4	E-mail	136	85		
5	Instant messages (IMs) (WhatsApp etc.)	150	94		
6	Download mobile applications (apps)	137	86		
7	Social media (Facebook, Instagram etc.)	143	89		
8	Share image/audio/ video	137	86		
9	Online calendar or to keep an appointment	127	79	71	Advanced skills for m-learning
10	E-books	124	77		
11	Online videos (YouTube etc.)	140	88		
12	E-commerce services (Mobile banking, Digital wallet etc.)	129	81		
13	Video calls (Zoom, Google meet etc.)	136	85		
14	Online storage device (Google Drive, DropBox etc.)	132	83		
15	Download audio or access an online MP3 (Sportify etc.)	107	67		
16	Using editing apps (WPS Office, Lightroom, VSCO etc.)	122	76		
17	Blogging	85	53		
18	Playing offline games	87	54		
19	Accessing online programs (Moodle etc.)	83	52		
20	Playing online games	86	54		

Table 5. *Students' Device Readiness*

	Responses	
	YES	NO
Do you have mobile phone?	99% (n = 204)	1% (n = 2)
Do you have an adequate internet connection?	98% (n = 201)	2.4% (n = 5)

In Table 6, beside conventional usage of mobile phones (eg, for *calling* and *SMS*), students use mobile phones to send and receiving *instant messages* (92%), *internet* (89%), *social media* (88%), *downloading some apps* (86%), *sharing image/ audio/ video* (82%), and *using e-mails* (72%). This activity shows that students prefer to access social media. Social media applications are believed to build collaborative teams that encourage student participation and engagement (Alhazmi & Rahman, 2014). Where students can participate in discussion activities with teachers or between students in small groups well and actively (Amaliya & Dewi, 2022). We can consider that students' 'Basic Skills' are very good for use in the learning process, such as downloading and distributing content, creating online study groups, etc.

Through table 6, it is known that students do not contribute much to m-learning, only 58% of students use their mobile phones to access online learning, such as Moodle, WizIQ etc. Most of the students' activities in learning, such as downloading and reading *e-books* (72%). The rest, they accessing to *online videos* (91%), *video calls* (80%), *playing online games* (83%) or *offline games* (79%), *using online storage device* (78%), *e-commerce services* (73%), *editing applications* (73%), *online calendar* (72%), *downloading audio MP3* (69%), and *blogging* (60%). This shows that students are quite proficient in using their mobile phones.

Table 6. *Students' Utilization Pattern of Mobile Phones*

No	Mobile Phone Usage Activities	Responses (N)	%	Average %	Level
1	For calling	783	76	74	Conventional Usage
2	Short messages service (SMS)	735	71		
3	Internet	912	89	85	Basic skills for m-learning
4	E-mails	739	72		
5	Instant messages (IMs) (WhatsApp etc.)	949	92		
6	Download mobile applications (apps)	883	86		
7	Social media (Facebook, Instagram etc.)	902	88		
8	Share image/audio/ video	841	82		
9	Online calendar or to keep an appointment	740	72	74	Advanced skills for m-learning
10	E-book	739	72		
11	Online videos (YouTube etc.)	938	91		
12	E-commerce services (Mobile banking, Digital wallet etc.)	750	73		
13	Video calls (Zoom, Google meet etc.)	823	80		
14	Online storage device (Google Drive, DropBox etc.)	799	78		
15	Download audio or access an online MP3 (Sportify etc.)	715	69		
16	Using editing apps (WPS Office, Lightroom, VSCO etc.)	754	73		
17	Blogging	623	60		
18	Playing offline games	813	79		
19	Accessing online programs (Moodle etc.)	596	58		
20	Playing online games	850	83		

From the explanation above, we can conclude that students' activities in daily mobile use are more categorized into basic skills (85%) than advanced skills (74%). Just like teachers' readiness, students are already familiar with m-learning. However, advanced skills are still needed in the use of m-learning activities.

Furthermore, as reported in table 7, this research found that teachers (89%) and students (85%) in secondary high school are directly good enough at mastering basic skills in m-learning. For example, teachers (94%) and student (89%) used their m-learning to *internet.* In line with this, research by (Al-Adwan et al., 2018) indicated that most of students use their access internet through their smartphone, in which include to the 'Basic Skills' (See in table 7). This finding also indicated that teachers (89%) and students (88%) used their mobile devices to *social media*. In accordance to (Al-Hunaiyyan et al.,

2018) 80% teachers and 72.7% students used their mobile device for access their social media which is included into 'Basic Skills' of m-learning.

Table 7. T*he Difference Level of Basic Skills between Teachers and Students*

Responses	Internet (%)	E-mails (%)	Instant messages (IMs) (%)	Download mobile applications (apps) (%)	Social Media (%)	Share image/ audio/ video (%)	Total
Teacher	94	85	94	86	89	86	89%
Student	89	72	92	86	88	82	85%

Discussion

Currently, online education is a rising rapidly in Indonesia. This program need to get some regulations and quality assurance to be improved (Pannen, 2021). To present new innovations in education field with m-learning, there is form of education supported by the use of mobile devices and internet capability (Ngampornchai & Adams, 2016; Poole, 2020). This can facilitate the opportunity for teachers and students to interact frequently and unlimited to access learning materials individually. So, it is necessary to know the perception about teachers and students to accept this phenomenal*reading errors.*

The aim of this research was to determine the readiness ability of teachers and students in use of mobile phones influence the implementation of m-learning. It is known that teachers and students are the main objects that can determine success in m-learning. Study showed that for access m-learning is needed to use an appropriate devices and technology (Patil, 2014), for example computer, mobile device, internet connectivity, memory, and camera. Moreover, intention of teachers and students to implement m-learning is positively influenced by their perception of using mobile phones (Iqbal & Ahmed Bhatti, 2015).

This research showed that teachers had 100% readiness for m-learning because their availability in mobile devices and Internet capability, meanwhile students had 99% mobile devices and 98% Internet capability. This finding in accordance with the previous research indicated that student and teacher had mobile device and internet connection properly (Al-Hunaiyyan et al, 2018; Mabrur et al, 2021), because the achievement of implementing m-learning depends on the quality of technology infrastructure readiness (Ouma, 2013) and availability of computers and Internet (Al-araibi et al, 2019). Based on the survey, respondents have the common activities to performed, so it can be concluded that the highest usage usually has utility and ease of use (Miglani & Awadhiya, 2017). These activities, we can consider as 'Basic Skills' needed to carry out several learning activities, for example, easy to search and get suitable learning content, download-share some information to study groups and discusses. In other words, teachers and students are ready for implementing m-learning in term of an affordance of mobile device and internet access.

Interestingly, this research found that both teachers (52%) and students (58%) in secondary high school are still lacking to utilize the mobile device into the learning activities in the online learning platform such Moodle. In contrast, in the higher education setting, during the pandemic, online learning platform used to share, communicate, collaborate, and interact effectively by students and teachers (Pannen, 2021). Belawati and Nizam (2020) also pointed that, Google was highly popular in their online learning platforms. Here some platforms were usually used to online learning activities, Google Meet, Google Classroom, Microsoft Teams, MS Teams and etc. These findings imply that due to the technology develops rapidly, as a teacher, it is very important to have 'Advanced Skills' to be on par with other teachers (Miglani & Awadhiya, 2017). Teachers in the secondary school can take part in systematic training, workshops, and retraining. In addition to technology abilities, it is necessary for teachers to convey subject in relevant format pedagogically, be able to adapt the frame and instructional system design for m-learning. In line with this, students are also recommended to improve their 'Advanced Skills' through can take part in systematic training, workshops, and retraining. The students need to be better prepared to utilize mobile phones to learn, create and share knowledge, and secure

existing and future support services (Reddy et al., 2022).

CONCLUSION

This research shows that a large number of teachers (89%) and students (85%) have achieved the 'Basic Skills' required for m-learning includes *internet*, *checking and sending emails*, *access an instant messages*, *download mobile application*, *social media*, *sharing image/audio/video*, and the percentage of teachers (71%) and students (74%) who are ready with the advanced skills is still lacking contains *online calendar/keeping appointments, download and read e-books, watch online videos*, *e-commerce services*, *video calls*, *using as storage device*, *download audio podcast*, *using editing tools*, *blogging*, *download offline games*, *undergoing/launching online programs* and *play an online games*. However, they are ready in term of mobile device and internet access. According to the result, this study advice teacher to be able to improve their 'Advanced Skills' through attending trainings, workshops or systematic retraining that required to successful in m-learning implementation and to empower the student in utilizing mobile device for learning goals.

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