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Mobile Learning Perception of Graduate Student Teachers: A Case Study in Magister Program of Educational Technology of University of Sebelas Maret

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Abstract

In the context of higher education institutions in Indonesia, some of schools authority refuses the implementation of mobile learning. Although m-learning is widely used in some school in Indonesia and considered as an effective educational tool, it is not yet fully utilized in most Indonesian school. Before designing a mobile learning system, it is necessary to assess the perception of target users towards mobile learning since their perception will influence the successful the system. This research aims to investigate the perception of students of educational technology program who currently are being teachers in several level of educations towards mobile learning to ascertain their readiness to apply a mobile learning system in their teaching. The respondents of this study are 18 teachers who are being students of Magister Program on Educational Technology in e-learning & mobile learning class in even semester. This research is conducted with a survey related to implementation of mobile learning. The results show that teachers in Indonesia had positive perception and were looking forward to apply mobile learning in their teaching. Knowledge and learning method issues were not obstacles for them to use a mobile learning as well as financial obstacle. The readiness for mobile learning of teachers are vary based on the school level even though they have been taught mobile learning subject. The findings surprisingly show that accessibility of device may be a big problem on implementing mobile learning in class.

Keywords: Mobile Learning; Perception; Teacher; Knowledge; Readiness

Introduction

The massive development and availability of mobile devices in daily life make mobile learning become an alternative way to deliver teaching considered as the newest trend of learning (Segaran., Ali., & Hoe., 2014). Mobile learning is a kind of learning model allowing learners to obtain learning materials anywhere and anytime using mobile devices (Ozdamli., & Cavus., 2011). This model is believed as a solution of problems of many educational problem. The high mobile phone availability among students in Indonesia is actually a big pretention to shift to mobile learning environment. However, many schools in Indonesian resisted to use mobile learning by many reason. Therefore, it needs many study to meet the potential and challenge to seek the appropriate implementation of mobile technology in class.

The potential of a mobile learning system in a teaching environment was studied by many scholars. Many issues need to be investigated in initiating m-learning to a new people. Perceptions toward technology are main factors for the acceptance of this types of learning. To understand the nature use of mobile devices of target user is very important. The data gathered can be a basis for m-learning project implementation (Spiegel., & Rodríguez., 2016). Teachers' and learners' perception towards mobile technology have been identified as critical to the success of mobile learning (Bhuasiri., Xaymoungkhoun., Zo., Rho., & Ciganek., 2012). It is necessary to measure the perception of target users towards mobile learning before designing and implementing a mobile learning system, since their perception will influence their willingness and readiness for using the system.

In line with the students', perceptions of teachers and other school authority will also much influenced the adoption (Domingo., & Gargante., 2016). There are two factors, specifically, have been constantly found to impact teachers' adoption of technology. The first established factors which playing a major role in the adoption of technology is a perception when need more effort to learn to use new technology (Kebritchi., 2010). The second influenced factor is called as digital literacy. A skill of teachers to use digital technology and integrate it into learning environment. (Osakwe., Dlodlo., & Jere., 2017). Perception of ease of use of mobile learning systems can positively predict adoption and key factor for teacher' willingness to guide learning process (Marcial., 2015). In several level, the role of teachers are dominating the students' willingness to apply mobile learning model. Students are mostly addressed as the object of studies about perception and readiness on mobile learning. It is very rare finding a study that focuses exclusively on teachers' perception and readiness on mobile learning (Yusria., Goodwin., & Mooney., 2015). The main goal of this study is to investigate the perception of teachers towards mobile learning in order to measure their readiness to apply mobile learning for their teaching.

Methodology

The participants of this survey were 18 teachers from several level of schools who are currently being a post graduate student of magister program on educational technology in university of Sebelas Maret Indonesia. The reason of choosing the students of educational technology program was because they were taught online learning and mobile learning subject which promoting the use of mobile learning in teaching process. Therefore, the data obtained will also draw the willingness of using mobile learning after the training. The questions in this study were using five-graded response scale. The questionnaire consisted of two parts; the first part was question related to the demographic profile of the participants and the second part consisted of questions related to teachers' perception on mobile learning. The survey was conducted after the online and mobile learning class over in the end of even semester in the first week of June 2017.

Result and Discussion

Demographic Profile of Respondents

This part summarized the demographic profile of respondent in terms of gender, age range, school level, subject of teaching and years of service. In this study, there were more female than male teachers (55.55% compared to 44.44%) and most of them were aged between 21 to 30 years old, which is 66.67% of the participants. There were 16.67% who aged between 31-40 years old, 11.11% who aged between 41-50 years old, and only 5.55% who aged more than 50 years old.

In terms of the level of school, there were varied number of teacher ranging from kindergarten teacher to university lecturer, but mostly were senior high school teachers (38.89% of respondents) then followed by junior high school teachers (27.78%) and elementary school teachers (22.23%). The subject

of teaching is also widely varied as showed in Table 1 and overall most respondents are new teachers with less than 5 years of service (61.10%).

Table 1 Demographic profile of respondents

Demographic Item		Frequency	Percentages (%)
Gender	Male	8	44.44
	Female	10	55.56
Age Range	21-30	12	66.67
	31-40	3	16.67
	41-50	2	11.11
	>50	1	5.55
Level of School	Kindergarten School	1	5.55
	Elementary School	4	22.23
	Junior High School	5	27.78
	Senior high School	7	38.89
	University	1	5.55
Subject of Teaching	Social Science	5	27.78
	English	3	16.67
	Science	2	11.11
	ICT	2	11.11
	Religion	3	16.67
	Other	3	16.67
Years of Service	0-5	11	61.10
	6-10	4	22.23
	>10	3	16.67

Perception on Mobile Learning

The second part shows the perception of participants on mobile learning. Respondents were asked to rate 15 statements using 5-graded scale. The statements were adapted from (Hussin., Manap., Amir., & Krish., 2012) and modified to suit the limitation of scope of research. Those statements were divided into five groups; knowledge, learning method, device, financial and readiness on mobile learning. The feedback is served in Table 2.

Table 2 Perception on mobile learning

No	Statements	SA (%)	A (%)	N (%)	D (%)	SD (%)
Knowledge about Mobile Learning						
1	I know what mobile learning is	5.55	11.11	33.34	38.89	11.11
2	Mobile learning is good for teaching	27.78	38.89	22.22	11.11	0
3	Mobile learning will spent more learning time*	0	5.55	50	27.78	16.67
Learning method issues						
4	I prefer mobile learning than conventional method	16.67	22.22	27.78	22.22	11.11
5	Mobile learning should be integrated in all subject	11.11	27.78	27.78	11.11	22.22
6	Mobile learning can't solve current teaching problem*	11.11	16.67	16.67	44.44	11.11
Device issues						
7	I will upgrade my device to apply mobile learning	16.67	50	11.11	16.67	5.55
8	I will learn how to use device for mobile learning	55.55	16.67	11.11	16.67	0
9	I have no accessibility to use mobile device in school*	5.56	44.44	16.67	22.22	11.11
Financial issues						
10	I don't mind to pay more for mobile learning	0	22.22	11.11	38.89	27.78
11	I am ready to spend more money for internet bill	0	22.22	16.67	33.33	27.78
12	I will not fund the device development for learning*	27.78	44.44	16.67	11.11	0
Readiness on mobile learning						
13	I am eager to use mobile learning in teaching soon	16.67	27.78	22.22	22.22	11.11
14	I will be ready if there is a support	11.11	33.33	27.78	11.11	16.67
15	I am ready for several years later*	0	33.33	27.78	27.78	11.11

*Negative statement

The table shows that feedback from teachers on statements about knowledge towards mobile learning. The majority of respondents (50%) either disagreed or strongly disagreed that they knew what mobile learning is. The table also indicates that 33.34% of respondents stated a neutral response and only 16.66% agreed and strongly agreed that they had clear idea about mobile learning. This item result shows that even though they were having a mobile learning class, they still have no clear understanding about mobile learning. That was the reason why most of the respondents (66.67%) either agreed or strongly agreed that they wanted to know more about mobile learning. Some of them (22.22%) indicated a neutral response and only 11.11% disagreed to learn more about mobile learning. Interestingly, even though most of total respondents thought that they have no idea about mobile learning, there were 44.45% of respondents who positively stated that mobile learning can save their learning time. On this negative statement, 50% of respondents stand for a neutral respond that they believe mobile learning will spent more learning time.

In terms of learning method, mobile learning was preferred by 38.89% of respondents over conventional learning method. Those also meant that conventional method was still preferable (33.33%) compared to the neutral responds (27.78%). It was also debatable that mobile learning should be integrated into all subject. It was clearly indicated by the number of respondents stand for positive (agree and strongly agree) compared to negative (disagree and strongly disagree) side which were the 38.89% and 33.33%. Even though it was strict debatable, the most respondents (55.55%) believed that mobile learning can be an alternative solution of current learning problem.

Related to the device issues, 66.67% of respondents agreed that they will upgrade their mobile device to use it in their teaching. That was a great number compared to the respondents stated disagreeing (22.22%). However, 72.22% of them had a willingness to learn more how to use their mobile device for mobile learning since most of them (50%) stated that have no accessibility to use mobile device in school.

Regarding to financial issues, the majority of participants (66.67%) indicated that they will not pay more money for mobile learning. Furthermore, they were afraid of spending more money on internet bill to support mobile learning. It is also supported by the data that 61.11% of participants disagreed and strongly disagreed to the statement. The participants believe that the device development is respectful of other authority. 72.22% of participants indicated that they will not engage in funding any developments on mobile learning. This item result that financial issues is really a big obstacle for the participants to engage in mobile learning.

In terms of readiness on mobile learning implementation, 44.45% of respondents were eager to implement mobile learning soon. However, the most (44.45%) felt ready if only there is a supported sources. They felt unready to implement by their selves as soon as possible. Overall most of respondents were looking forward to engage in mobile learning for several years later. Most of them (38.89%) were in doubt that they will be ready for several years later.

Demographic Profiles Associated with Perception on Mobile Learning

This part investigated the possibility of the individual factors associated with the groups' statements. The mean of all responses from each respondent in a same group statement was taken to form an individual mean. Then, the group mean was collected from the mean of individuals' means. The respondents with individual means lower than the group mean were categorized as 'low', then the respondents who have an individual mean equal to or greater than the group mean were categorized as 'high'. These data were then cross tabulated with the respondent profiles. Table 3 shows the knowledge, learning method, device, financial and readiness issues by each category in respondents' demographic profile.

The knowledge category was cross tabulated with demographic profiles. The results showed that that male teachers had a higher knowledge on mobile learning than female. Related to age, the >50 and 41-50 year old group had the highest percentage of teachers with high knowledge of mobile learning (100%) respectively followed by 21-30 year old group with 66.67%. The lowest percentage of teachers with a high knowledge of mobile learning was found in the 31-40 year old group. The percentage of teachers for all level of school with a high knowledge of mobile learning was higher than the percentage of teacher with low knowledge of mobile learning. Especially for English, science and ICT teachers, they were derived to have higher knowledge on mobile learning than other groups. Further, the result also reveals that experienced teachers with more than 10 years of service (66.67%) have higher knowledge on mobile learning compared to other teachers.

Table 3 Results of cross-tabulation

Demographic Item	Knowledge %		Method %		Device %		Financial %		Readiness %	
	High	Low	High	Low	High	Low	High	Low	High	Low
Gender										
Male	62.50	37.50	87.50	12.50	40.00	60.00	70.00	30.00	50.00	50.00
Female	60.00	40.00	50.00	50.00	75.00	25.00	25.00	75.00	37.50	62.50
Age Range										
21-30	66.67	33.33	75.00	25.00	75.00	25.00	50.00	50.00	58.33	41.67
31-40	33.33	66.67	66.67	33.33	33.33	66.67	66.67	33.33	0	100.00
41-50	100.00	0	50.00	50.00	50.00	50.00	50.00	50.00	100.00	0
>50		100.00	0	100.00	0	100.00	100.00	0	0	100.00
Level of School										
Kindergarten School	0	100.00	0	100.00	0	100.00	100.00	0	0	100.00
Elementary School	100.00	0	50.00	50.00	66.67	33.33	75.00	25.00	50.00	50.00
Junior High School	40.00	60.00	60.00	40.00	40.00	60.00	60.00	40.00	40.00	60.00
Senior high School	57.14	42.86	85.71	14.29	71.42	28.58	42.86	57.14	57.14	42.86
University	100.00	0	100.00	0	0	100.00	0	100.00	0	100.00
Subject of Teaching										
Social Science	40.00	60.00	60.00	40.00	80.00	20.00	80.00	20.00	60.00	40.00
English	100.00	0	100.00	0	66.67	33.33	33.33	66.67	33.33	66.67
Science	100.00	0	100.00	0	100.00	0	0	100.00	50.00	50.00
ICT	100.00	0	100.00	0	50.00	50.00	33.33	66.67	33.33	66.67
Religion	0	100.00	33.33	66.67	0	100.00	50.00	50.00	0	100.00
Other	66.67	33.33	33.33	66.67	33.33	66.67	66.67	33.33	66.67	33.33
Years of Service										
0-5	63.63	36.36	72.72	27.28	90.90	9.10	54.54	45.46	54.54	45.46
6-10	50.00	50.00	75.00	25.00	75.00	25.00	50.00	50.00	25.00	75.00
>10	66.67	33.33	33.33	66.67	0	100.00	33.33	66.67	33.33	66.67

In terms of learning method, generally mobile learning was not an issue for most of teachers. The percentage of teachers with positive responses on learning method on mobile learning was relatively high for all demographic profile categories. We can point out that only the teachers in >50 years old group (0%), more than 10 years of service (0%) and taught for religion and other subject (33,33%) who may have a problem on method in mobile learning.

This result also showed that in terms of device, female teachers had higher accessibility on mobile learning than male. Device could be the most problematic issues for all age group since only the 21-30 years old group (75%) which had a higher number of percentage on high accessibility on mobile learning than low. The elementary and senior high school teachers had a higher percentage of device issues than other group of teachers with 66.67% and 71.42% respectively. Those cases was not occurred in category of subject of teaching, there were varied response related to device issues depended on their subject matter. However, in the group of years of service category, the responses were relatively high.

Regarding to financial issues the results indicate that teachers did not perceived financial issues as an obstacle for engaging in mobile learning anymore. The percentages were significantly different in all categories of teachers' demographic profile. The reason for this was that they were financially

independent. In terms of gender, the male students had a higher percentage (70%) than female (25%). Financial problem will not much influence since it is relatively high responses in all groups of age and school level. We pointed out to the science teacher who perceived negatively on financial issues with 0%.

Interestingly, when the demographic profile of teachers were cross tabulated with readiness to implement mobile learning, the results show that the percentage of teachers unready for implementing mobile learning is higher than those who are ready for. Even though some groups are ready, the percentages are only a little bit different. The groups perceived as ready for implementing mobile learning such as 41-50 years old, senior high school and social science teachers could not take down the their other dominating groups in each categories.

Conclusion

The perception of Indonesian teachers toward mobile learning generally was good. It has been presented in this paper that they had willingness to learn more about mobile learning to improve their knowledge. They perceived mobile learning is a good teaching method to be implemented and financial issues was not obstacle anymore for the teachers to implement mobile learning as well. Unfortunately, the accessibility on mobile device will be little bit obstacle in almost all level of school. Interestingly, even though the teachers had a willingness, they perceived not to implement mobile learning soon. The result of this study, can be a consideration for designing a mobile learning system for Indonesian teachers.

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