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THE ROLE OF M-LEARNING ON EFFECTIVE LEARNING MEDIA IN HIGHER EDUCATION

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ABSTRACT

E-Mobile as a network information system has became a lifestyle which issuitableand practical as a medium and learning method (M-Learning). This study uses mixed method. The population in this study is 180 students who have taken the organizational behavior course. The sample is determined by purposive sampling technique from four universities. Data collection is done by giving questionnaire to all students and conducting interview with some students. Quantitative data analysis technique uses simple regression. The result finds that m-learning utilization variable has a significant positive effect on the effectiveness of organizational learning subject. Instead, the effectiveness of learning is enhanced through the use of m-learning, especially Virtual Learning (V-learning), micro-blogging, twitter, facebook (FB), whatsapp (WA) and google classroom. This study provides implications of e-mobile optimization as a medium and method of learning.

Keywords: m-learning, effectiveness of learning, organizational behavior

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1. INTRODUCTION

Learning by utilizing Information Technology (IT) has become a lifestyle. Mobile devices are not only used for communication, but also as learning devices. Surjanti (2012a) stated that teen consumption behavior in Surabaya leads to be consumptive and hedonistic lifestyle. However, Sugandini et al., (2018) argued that not all technological innovations can be easily adopted by the user. The use of technology tools has provided convenience for all purposes, for the learning purposes usually called by m-learning (mobile-learning). Park et al. (2012a) recommends toimplement m-learning method at university, instructional designers and educators should recognize the potency of m-mobile technology. Furthermore, Park (2011) suggests mobile technology can be incorporated into teaching and learning more effectively. Georgieva et al. (2011); Han & Shin (2016) shows that the utilization of Learning Management System (LMS) –mobile can positively affect students' online academic achievement. The findings of this empirical study also suggest that learning in higher education should utilize m-mobile devices.

However, the results of Iqbal & Qureshi (2012) study show a negative impact on the adoption of m-learning, we should consider the importance of guidance for developers and educators to design m-learning courses especially in the developing countries. The challenge of using m-learning is also indicated by result of study by Waely, S. A., & Aburezeq (2013) which stated that many pre-service teachers reject technology for various reasons, including lack of technological skills, and lack of time to learn, plan and practice. Lindsay (2016) argued that the teacher's understanding and transformation approach to use m-learning should be considered. To improve the level of professional teaching, lecturers in Indonesia have an obligation to always improve their learning potencythrough Continuous Professional Development (CPD) (Surjanti, et al., 2018b). This studyis important considering that the results of the Chee et al. (2017) study stated that the use of m-learning still has diverse learning outcomes (ie, positive, negative and neutral). This study will measure the utilization of m-learning to the effectiveness of learning organizational behavior in universities. The results of this study are expected to provide recommendations on the utilization of m-learning in university.

2. LITERATURE REVIEW

2.1. M-Learning

Nowadays lecturers have utilized m-learning as a medium and learningmethod because the utilization of personal electronic devices are suitable and practical. Krull & Duart (2017) stated that mobile is the most widely used device in higher education. In this study, the m-learning technology are handheld computers, MP3 players, notebooks, phones and tablets. Oller (2012) demonstrated the advantages of learning with mobile phones, new mobile technologies, such as handheld devices. It plays big role in receiving information. In 2007, as an operating system, Linux gave full rights to create their own applications. Alnabhan & Aljaraideh (2014) stated that the success of learning can be achieved by adapting the context and implementation of m-learning collaboration services. This study limits cellular usage,

namely: handheld computers, MP3 players, notebooks, phones and tablets. M-learning focuses on mobility for students and interacts with portable technology.

2.2. M-Learning as a Learning Media

AECT (Association of Education and Communication Technology) has discussed the advantage of all forms and channels which used to convey messages or information for learning media. Abu-al-aish & Love (2013) stated that m-learning will play significant role increasingly in the development of teaching and learning methods for higher education. However, the successful implementation of m-learning in higher education will be based on user acceptance of this technology. Firmansyah and Surjanti (2014) stated that the development of human resources to support activities should be based on knowledge. Park (2012) said that instructional designers and educators should recognize mobile technology potency as a learning tool for students. Pedro, Barbosa, & Santos (2018) argued that the use of digital technology on teaching practices in formal teaching is highly depend on teachers' ability. Miguel et al. (2016) stated that m-mobile learning, including collaborative online learning, peer-to-peer learning, mobile collaborative systems, and applications that have security as requirement. Furthermore, Pimmer et al. (2016) said that certain advantages of mobile technology or "hybrid" designs are used by learners to make lesson materialpresentation from outside class and then discuss their experiences bypresented an evidence to peers and teachers. So (2016) stated that smartphones can be the fastest deployment technology in human history where mobile devices change the way of communication and utilize m-learning. Zhang et al., (2016) argued that learning with e-mobile can support a real working environment. Gregory & Bannister-Tyrrell (2017) stated that learning with blogs, discussion boards, wikis and 3D virtual worlds achieves success rather than others. Online learning provides the presence and effectiveness of student learningprecisely. This study will reveal the advantage of m-learning which measured by Gadget usage level, knowledge searching tools, additional toolsuch as V-learning or other media, such as utilization of micro-blogging, twitter, facebook (fb), google classroom and whatsapp (WA) on effectiveness for learning in college.

2.3. Effectiveness of Learning

Gordon (2014; Muafi, 2012) stated when university opens effective learning programs, it is necessary to consider the learner's understanding of the pedagogical transformation approach of m-learning (Lindsay, 2016). Topală (2014) argued that effective learning takes placein generating positive feelings and student attitudes. Alnabhan & Aljaraideh (2014) said that collaborative m-learning systems in developing countries have confirmed that learning styles, mobile device capabilities and ease-of-use perceptions provide the most positive contribution to participants' behaviors for using collaborative m-learning services. Al-adwan, et al (2018) argued that the student's intention to adopt m-learning is influenced by several factors namely: relative advantage, complexity, social influence, perceived enjoyment, and self-learning management. In addition, this study will also strengthen Alnabhan & Aljaraideh's study (2014) which stated that the effects of ease of useperceptions, perceived usefulness, and belief in behavioral intent to use collaborative m-learning. Surjanti et al. (2018c) said that the importance of interest-based curriculum is design for achieving learning objectives.

This study enriches m-learning literature and offers practical implications for educators in utilizing mobile technology and developers of virtual learning platforms. The effectiveness of m-learning in this study is measured through the level of practicality, the ability to grow interest, clarify learning, independent learning, learning difficulties.

Hypothesis. Utilization of m-learning significantly affects the effectiveness of learning organizational behavior

3. RESEARCH METHODS

This study uses mixed method approach (Muafi, 2017b). The population of this study is 180 students of organizational behavior subject in Faculty of Economics from big city in east jawa and central java (Universitas Negeri Surabaya, Universitas Islam Indonesia, Universitas Pembangunan Nasional Veteran Yogyakarta, Universitas Muhammadiyah Surabaya). The sample is determined by purposive sampling technique with sample size of 131 students. Data colllection conducted by questionnaires and interviews. The Likert Scale for the m-learning variables in the questionnaire uses: Very Frequent (SS) score 4, Frequent (S) score 3, Rarely (J) score 2, Never (TP) score 1. Whereas learning effectiveness variables used scale: Strongly Agree (SS) score 4, Agree (S) score 3, Disagree (TS) score 2 and Strongly Disagree (STS) score 1. Quantitative approach with simple linear regression analysis is used to observe the relationship of m-learning utilization variable to the effectiveness of m-learning. Quantitative approach is done by interview with some respondents who meet the requirements namely the students who often use Gadget media, search engine / knowledge searching tools, additional tools such as Virtual Learning (V-Learning) or other media, such as the utilization of micro-blogging, twitter, facebook (fb), and whatsapp (WA).

4. RESEARCH RESULT AND DISCUSSION

4.1. Characteristics of Respondents

The data showed that most students have m-mobile devices that are used to support in the learning process, but students who use gadgets for learning no more than 37.5%. The number of credits that have been taken the most stated 18-21 credits (60.0%). The number of hours per week in utilize m-learning are between 11-20 hours per week. Based on the data,it explained students who use m-learning equivalent about 2-3 hours per day. The highest score of organizational behavior subject is in the satisfactory category (45.0%).

4.2. Utilization of m-learning

Most students stated frequent (65.8%) to utilize m-learning on learning organizational behavior, they often (74.2%) utilize the device for knowledge searching tools (such as Google, Search engine, and others). However, they stated never (41.67%) utilizing additional tools for m-learning. They often (48.3%) utilize additional toolssuch as dictionary, encyclopedia, calculator, and others in gadgets / laptops / notebooks. The students stated rare (44.2%) to use interaction media tools such as micro-blogging for learning. In fact, they stated never (67.5%) utilizing media interaction tools such as: twitter for learning. They stated never (46,7) utilizing media interaction tools such as: facebook (FB) for learning. They also stated never (45.8%) utilizing interaction media tools such as: whatsapp (WA) for learning.

4.3. Effectiveness of Learning

Mostly Students' opinion students is agree (82,5%) that m-learning is practical, facilitate understanding, agree (78,3%) that m-learning can cultivate learning interest, agree (79,2%) that m-learning clarify the students to learn organizational behavior, agree (81,7%) that m-learning allows them to learn independently, agree (73,3%) m-learning enables them overcome learning difficulties.

Table 1 explains the sig value of 0.00 which means the utilization of m-learning significantly affects the effectiveness of learning organizational behavior. Hypothesis testing

of m-learning has a significant value of 0.000 which is smaller than 0.05 and has a coefficient of 0.262. It shows that m-learning variable has a significant positive effect on the effectiveness of learning, or in other words that H_a hypothesis is accepted. Regression coefficient for m-learning variable has positive influencewith the effectiveness of learning equal to 0.262. This means that every increase of 1 score for m-learning, will be followed by increasescore of learning effectiveness by 0.262 or 26.2% while 73.8% other influenced by other variables.

The next stage, researchers conducted in-depth interviews with respondents to complement the results of quantitative research. By purposive,researchers selected 11 respondents with consideration of student who often use m-mobile in learning process activity especially the organizational behaviorcourse. Furthermore, to test the hypothesis in this study, researcher uses simple regression and the results provide in Table 1.

Table 1 Testing Hypothesis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.344	.188		7.162	.000		
	M_LEARNING	.262	.073	.316	3.617	.000	1.000	1.000

a. Dependent Variable: EFE_PEMB

Interview results can be summarized as follows:

"M-mobile is very important. I think it is important for me to get knowledge and can review the knowledge that has been obtained from the campus. I often use youtube to learn "(respondent 2)

"Sometimes I lazy to go to the college because by searching on Google, all I need is provided there ... but sometimes I'm confused if I have to learn and understand the meaning by myself.... I still need lecturers to ask and direct me" (respondent1)

"I love to use m-mobile because it's so easy and fast to get the information I need" (respondent7)

"At our college, learning can be not face to face..., so learning can conducted through google classroom so that lecturers not meet directly but it is still limited. However I still have to meet the lectures because Ihave to ask questions to them and be guided directly. So learning is more confident and steady .. "(respondent4).

"Our job is usually not necessarily in print out ... lecturers may and sometimes even asked to be sent to the m-learning media because it will be efficient and we shouldthink go green in the future ... besides that lecturer can check plagiarism for my task" (respondent3)

"Alhamdulilah I'm grateful that my campus is using portable e learning so it can be interactive in real time. The tasks can be directly connected with what the lecture want... "(respondent 5).

"The advantages are fast, practical, efficient, easy archiving, .. easy to learn, creative .. institutional value will increase ... but weak resources .. there must be a server .. socialization on aged lecturers... learning online and flexibility must have maintenance ... m-learning is an

contemporer, unique learning .. learning becomes passive and motivates learners ... interactive media and can help physically disabled students ... "(respondent 10).

"I think m-learning ... can simplify the task .. with softcopy ... m-learning is very helpful .... lecturing can be online .... if lecturers are out of town "(respondent 6).

"It can help create discussion forums, search for latest articles, lecturing always updates with economic news and business, ..." (respondent 8)

"... in my opinion it ease to get the information, efficient in space and time, more intensive ... but lack in authentic terms .... (respondent9).

"By online we can sharing with the lecturers and friends, exchange materials, get clear direction from lecturers or friends ..." (respondent 11)

The results of this study with statistical tests and interviews shows that the utilization of m-learning significantly positive influence the effectiveness of learning organizational behavior. This study supports the study of Abu-al-aish & Love (2013); Pedro, Barbosa, & Santos (2018); Miguel et al. (2016); Pimmer et al., (2016); So (2016); Zhang et al., (2016); Gregory & Bannister-Tyrrell (2017; Diharto, et al., 2018; Muhsin et al., 2018; Muafi, 2017a; Muafi et al., 2017) which showed that m-learning plays a role for learning in college. Miguel et al., 2016 also stated that m-learning is declared increasingly attract academic and public interest, especially in relation to applications used in higher education. Qualitative study results also strengthen the results of this study through data from respondent 2, 3, and 5 which stated the importance of e-mobile is useful for learning.

The study also supports study of Lindsay's (2016); Topala (2014); (Alnabhan & Aljaraideh (2014), Al-adwan et al (2018), Alnabhan & Aljaraideh (2014) which showed that m-learning affects the effectiveness of learning because it can facilitating learning, fostering interest in learning, clarifying learning, and overcome learning difficulties. Thus, the results of this study are not in line with Iqbal & Qureshi (2012) study which stated that the adoption of m-learning has a negative impact. This opinion is corroborated by the authentic weakness and weak resources, servers and aged lecturers. Furthermore, further research is needed to determine the possible factors which caused adoption of m-learning.

5. CONCLUSIONS AND SUGGESTIONS

Utilization of m-learning has a significant positive effect on the effectiveness of learning. It can facilitate ease of learning, cultivate interest in learning, clarify learning, foster self-learning, and overcome learning difficulties. Supported m-learning on small criteria (26.2%) on the effectiveness of learning.

Although the results of this study indicated that the utilization of m-learning has a positive effect on the effectiveness of learning. However, efforts should be made to improve the effectiveness of learning through the use of m-learning, especially Virtual Learning (V-learning), micro-blogging, twitter, facebook (fb), whatsapp (WA) and google classroom. In addition, this study implied the importance of lecturers in encouragesthe students to optimize m-mobile utilization as media and learning methods.

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