JURNAL IPTEKS TERAPAN
Research of Applied Science and Education V15.i3 (360-367)

ISSN : 1979-9292

E-ISSN : 2460-5611

STUDENTS' RESPONSES TO E-LEARNING SYSTEM: DOES ICT SKILL LEVEL AFFECT?

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Abstract

The diversity of university students is a challenge for the use of educational media. This study shows whether ICT skills influence the use of the e-learning system based on the student response. In this case, the e-learning method is a modern way of adding technical features to teaching and learning practices, although it has been initiated and used elsewhere. By doing this study, the lecturers will be able to get an understanding of the reactions of their students using e-learning, so that they can consider implementing this learning system by looking at the level of student ability. This study is a descriptive research. The research instrument consisted of the ICT skills questionnaire and the student impression questionnaire on e-learning. Data was analyzed using a descriptive statistical technique. This study showed that the higher the student ICT skills score, the higher the student experience of e-learning. It can be inferred that there is a major relationship between the degree of ICT skills and student responses to e-learning systems.

Keywords: E-Learning; ICT Skill; Instructional Media

INTRODUCTION

Higher Education has a need for the development of skilled graduates. It definitely relies on the method of learning at that stage of education. And the educational outcomes would be highly dependent on the feedback and educational processes that occur (Rusman, 2011). The new learning model has shifted to student-centered learning as part of the educational phase. This learning has the effect of positioning students as center of learning and assisting students in studying more effectively and independently.

To meet these demands, education must be capable of actively engaging learners in developing their potential in this manner, that they have the spiritual, intellectual and skills required for themselves, community , nation and state. The operation and freedom of learners in the learning process is an unavoidable result of the manifestation of student-centered learning. Lecturers must be able to change the learning conditions from the

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media term, the model, and the learning approach to facilitate the transition from a teacher-centered to a student-centered paradigm as classroom learning manager.

This shift in the learning paradigm can be done by technological support. Advances in information and communication technologies have changed people's lives at work, socializing, playing and learning. In the 21st century, technological developments have influenced numerous areas of life, not least in the field of education. Teachers and learners are expected to be able to learn and teach in the 21st century. In order to survive this information age, students and teachers must face a range of obstacles and opportunities.

The 21st century is a digital era and a century of knowledge in which information is widely distributed and technology has advanced. Awareness of ICT and knowledge literacy is a must. Literacy in the 21st century means the use of knowledge and skills in the sense of daily life. In the case of an educator, this means how to become an educational literate, This is how to find ways of training learners by considering and attempting to incorporate 21st-century skills into the correct teaching and learning framework for 21st-century learners.

Integrating technology into learning can be achieved in terms of model, process, strategy and media. Using media literacy in the learning process will improve critical thinking and help educators present learning to the needs of learners. As Arorio (2017) argues, educators need to develop their awareness and understanding of the media and their connection to education so that educators can provide learning through the methods required by learners in the digital age.

Instructional media is a way of enhancing teaching and learning practices. Media can be audio, visual, audiovisual and multimedia (Smaldino, 2012; Rayandra, 2011). Instructional media used by an educator in the learning process should be able to facilitate the achievement of the competencies that have been developed.

Instructional media has a strategic role to play in learning. It is one aspect that can affect students ' progress in learning (Hamalik: 2005). Maximum learning outcomes can be obtained by the use of sufficient learning media. The content suitability, efficacy and compliance with the relevant education system are some of the considerations to be considered in media selection.

E-learning is one of the teaching media that uses information technology. E-learning is electronic learning, where learning can be delivered online via a computer network (Eldeep, 2014; Gamal, 2011). E-learning is a learning process and practice that uses digital electronic media, either online or non-internet-based, such as intranet, video or audio tape, satellite broadcasting, interactive television, and CD-ROM.

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E-learning is an information technology (internet) learning system that offers and assists teacher and learner engagement in learning. There is no question that the versatility and power of this method is a benefit that can not be found in conventional learning. Implementation of e-learning leads positively to enhancing student achievement, increasing self-reliance and promoting student-centered learning (Rasouli, 2016; Kumar, 2017; Francisca, 2017).

E-learning also offers an exciting environment, inspires learners to become more involved and provides additional learning opportunities. Teaching in an e-learning framework helps to speed up the delivery, quality and even cost-effectiveness of education and training. With e-learning, learning experiences are no longer restricted by time and space.

Teaching using the e-learning system has been widely applied to different educational institutions, but it is not easy to apply this method. There are many factors, such as the characteristics of the participants, the potential of the instructors, the context analysis, the content analysis (Utami, 2016; Alhabeeb, 2017). As in the course of Computer Science and Computer Education at the University of Bung Hatta, some of the lessons gained from e-learning media have not been obtained by all students. In the sense that not all students are able to make full use of the media.

This is seen on the basis of the statistical frequency of media access and the various student responses. One of the things that is alleged to be behind this phenomenon is the gap in students ' skills in using information technology. And the response of students to e-learning can be affected by this aspect. This article will clarify the response of students to e-learning based on their level of ICT capability.

RESEARCH METHODS

This research is a descriptive correlational study that gathers information on the relationship between two or more variables. The research sample consisted of 80 students using the e-learning system for learning activities. The methods for data collection consisted of an ICT skills questionnaire and a student experience questionnaire for e-learning. The data from this study was analyzed by means of a descriptive analysis methodology and a correlation analysis.

RESULTS AND DISCUSSION

The level of student ICT skills was assessed by a self-assessment system using a questionnaire of 85 questions. Based on the results of the questionnaire, it is understood that students' ICT skills are very diverse and are divided into five groups.

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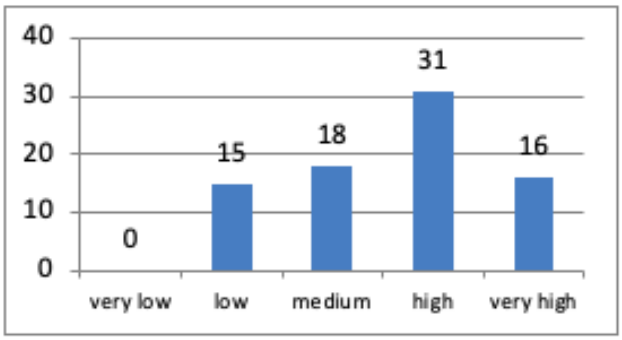

Figure 1. Students' ICT Skills

Students' perceptions of the use of e-learning are measured by using a perception questionnaire filled out by students who have used e-learning in their learning activities. Next, the students' perceptions are depicted using bar charts.

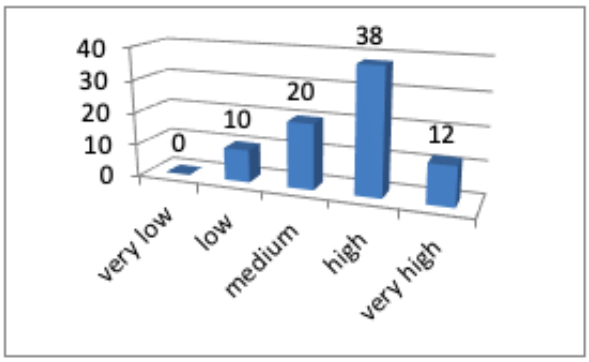

Figure 2. Students Perceptions of Elearning

The use of e-learning as a way of integrating information technology into the field of education has become a requirement for adaptation in the new age of globalization. We need to adapt our learning practices in the classroom with technical advances. Thus, we will improve interactivity and learning performance by offering students a higher potential to engage more with lecturers, colleagues, and to access more learning materials (Balaji, 2016; W.Lee, 2019).

However, the implementation of e-learning must definitely take into consideration the characteristics of the students who would use it. The willingness of students to access the information technology device itself is one of the characteristics that requires attention. As Fuad (2017) clarified, perception is highly affected by one's ability to use technology products. This would also assess the effectiveness of e-learning in the learning process.

ICT skills are fundamental for the use of e-learning. This skill would also have an effect on the use of e-learning and its users. Some of the ICT capabilities assessed in this research questionnaire include the use of the internet, email, microsoft office and file management. In the meantime, the perception questionnaire tests facets of digital content, online discussion groups, online tasks, quizzes and general opinions on the use of e-learning.

After data is obtained, a statistical correlation test is conducted using the Kendal Tau technique. Based on the

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results of the study, the r value was 0.718 with p = 0.00. The hypothesis checking is then carried out. The hypothesis suggested in this study (H0) is that there is no positive and meaningful association between the degree of ICT skills and student experiences with the use of e-learning.

Acceptance or rejection of the null hypothesis is based on the coefficient of significance (p). If the p value is less than or equal to 0.05, the hypothesis is rejected ($p \leq 0.05$, Ho is rejected) and the rejection of Ho is accepted. The findings obtained in this analysis were p = 0,00 which is less than 0,05. Based on the results of the study , it was found that ICT skills have a strong relationship with students ' perceptions of the use of e-learning, where the higher the ICT capabilities of an individual, the higher their perception of e-learning.

The implementation of e-learning learning needs to be further studied by looking at the student response to the e-learning process. So that we can integrate e-learning correctly so that the performance can also be maximized. We must ensure that our students have adequate ICT skills to make use of learning.

Student is one of the variables that need to be addressed when applying the learning media. One of the main things teachers need to know is that they teach students with different characteristics and skills. In the context of the application of technology-based media, such as learning, we can not explicitly conclude that they have adequate capabilities. Jones and Shao (2011) argued that it is risky to conclude that all students are extremely 'internet literate' and are proposing that emerging technology be used in teaching.

ICT skills are linked to students' expectations of the use of e-learning. Perception is affected by several factors, one of which is functional, such as the impact of prior experience. Situational variables, such as the climate, then. In this case, past experience is defined as the level of ICT skills a person has, the environment is teaching e-learning as a learning resource. According to the SOCRATES program report, there is a positive relationship between prior experience with various technologies and a positive perception of the use of ICT in education and learning.

Finally, as educators, we need to realize that technology implementation is intended to assist us in teaching in the classroom, so that learning materials can be properly conveyed. Not the other way around, if the use of technology is not in line with capability, teaching time will only be spent on learning how to use technology so that the goals of teaching will not be accomplished as planned. Bates (2015) states that the aim of the study is to learn about the topic rather than to learn how to use a specific piece of educational

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technology. However, What is 'simple' for instructors and students to use, however, is determined by their digital literacy abilities. Students and teachers are distracted from studying and teaching if they have to spend a lot of time learning how to use software for the creation or distribution of course materials, for example. Of course, in order to use technology-based media in our classrooms, we'll need to have a clear set of literacy skills.

CONCLUSION

According to the findings of the study, there is a significant relationship between the level of ICT skills and student perceptions of the use of e-learning. Before applying educational media, educators should be aware of students' initial ability to access media, including, in particular, ICT capabilities. This can be done by providing the students with questionnaires. However, the use of technology-based media, such as e-learning, has become a familiar issue and must be applied in the digital age. It is therefore possible for educators to provide training before applying directly. In fact, the expected learning outcomes can be achieved.

BIBLIOGRAPHY

Alhabeeb, Abdullah & Jennifer Rowley. (2017) "Critical success factors for eLearning in Saudi Arabian universities", *International Journal of Educational Management*, Vol. 31 Issue: 2, pp.131-147, https://doi.org/10.1108/IJEM-01-2016-0006.

Arroio, Agnaldo. (2017). Is Media Literacy An Urgent Issue In Education For All?. *Problems Of Education In The 21st Century*. Vol. 75, No. 5, 416-418.

Balaji, R., Al-Mahri, F., & Malathi, R. (2016). A Perspective Study on Content Management in E-Learning and M-Learning. eprint arXiv:1605.02093. Retrieved from http://arxiv.org/abs/1605.02093

Bates, A.W (Tony). (2015) Teaching In A Digital Age. http://opentextbc.ca/teachinginadigitalage

Castle, S &McGuire, C. (2010). An analysis of Student Self-Assessment of Online, Bleended, and Face-to-Face Learning Environments: Implications for Sustainable Education Delivery. *International Education Studies*, Vol III No (3): hal 36-40.

Eldeeb, Rasha A. (2014). Students' Perceptions to e-learning. *IOSR Journal of Research & Method in Education (IOSR-JRME)*. Volume 4, Issue 3, 33-36.

Fransisca, Monica. (2017). Pengujian Validitas, Praktikalitas, dan Efektivitas Media E-Learning di Sekolah Menengah Kejuruan. *VOLT (Jurnal Ilmiah Pendidikan Teknik Elektro)*. Vol 2 No 1, 17-22.

Gamal, Sarah El .,Rasha Abd EL Aziz.(2011). The Perception of Students Regarding E-Learning

Submitted : 25/05/2021 – Accepted : 24/10/2021 – Published : 24/10/2021

ISSN : 1979-9292

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Research of Applied Science and Education V15.i3 (360-367)

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Implementation in Egyptian Universities. *The Third International Conference on Mobile, Hybrid, and On-line Learning*

Hamalik, Oemar. (2005). *Psikologi Belajar & Mengajar*. Bandung : PT. Remaja Rosdakarya .

Hartley, Darin E.,(2001). Selling E-Learning, ASTD.

Heinich, Robert. (2005). *Intructional Media; and The New Technologies of Intruction.* New York: Macmilan Publishing Company.

Husamah. (2014). *Pembelajaran Bauran (Blended Learning).* Jakarta: Prestasi Pustaka.

Jones, C. and Shao, B. (2011) The Net Generation and Digital Natives: Implications for Higher Education Milton Keynes: Open University/ Higher Education Academy

Kuimova, Marina. Anastasiya Kiyanitsyna, and Alexey Truntyagin.(2016). E-Learning as a Means to Improve the Quality of Higher Education. *SHS Web of Conferences 28.* Pp 1-5.

Kumar A. (2017). E-learning and blended learning in orthodontic education. *APOS Trends Orthod* Vol;7:188-98.

Meimulyani, Yani and Caryoto. (2013) Media Pembelajaran Adaptif. Jakarta: Luxima.

Muhammad Ali, Syed Ali Raza, Wasim Qazi, Chin-Hong Puah, (2018) "Assessing e-learning system in higher education institutes: Evidence from structural equation modelling", Interactive Technology and Smart Education, Vol. 15 Issue: 1, pp.59-78,

Much. Fuad Saifuddin. (2017). Elearning dalam Persepsi Mahasiswa. Varia Pendidikan, Vol. 29, No. 2, pp. 102-109

Munir.(2008).Kurikulum Berbasis Teknologi Informasi dan Komunikasi. Bandung : Alfabeta.

Rasouli , Zahra Rahbania, Mohammad Attaran. (2016). Students' Readiness for E-learning Application in Higher Education. *Malaysian Online Journal of Educational Technology.* Vol 4 no 3.

Rayandra, Ansyar. (2011). *Kreatif Mengembangkan Media Pembelajaran.* Jakarta: Gaung Persada.

Rusman. (2010). *Model-Model Pembelajaran.* Jakarta : PT. Raja Grafindo Persada.

Rusman, dkk. (2011). *Pembelajaran Berbasis Teknologi Informasi dan Komunikasi.* Jakarta: Rajawali Pers.

Smaldino, Sharon E, dkk. (2012). *Instructional Technology And Media For Learning Ninth edition.* New Jersey Columbus, Ohio: PEARSON Merrill Prentice Hall.

Utami, Iga Setia. (2016). Implementasi E-learning untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Komputer Terapan*. Vol 2 No 2, 169-178.

W. Lee, C. M. M. Isa and W. Tahir. (2019) "Civil Engineering Student Perception

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Research of Applied Science and Education V15.i3 (360-367)

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Towards Blended Learning in A Malaysian Public University," 2019 IEEE 11th International Conference on Engineering Education (ICEED), Kanazawa, Japan, pp. 68-71.

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