

E-LEARNING AS A TOOLS TO IMPROVE STUDENT PERFORMANCE IN TEACHING AND LEARNING PROCESS

Haziana Abdul Halim, Rafidah Mohd Arif, Noor Suhani Sulaiman and Yanti Hidayu Aziz

Widad University College. Bim point, Bandar Indera Mahkota, 25200 Kuantan, Pahang, Malaysia.

Corresponding Author's Email: haziana@widad.edu.my

ABSTRACT: E-Learning is used as a catalyst in improving the quality of teaching and learning processes. Multimedia applications provide interactive features, navigation, attract students and also help students during the learning process. This paper focuses on: i) level student perceptions on multimedia e-learning as a method in teaching and learning process ii) to investigate the level of student's performance used multimedia e-learning. The study sample consists of two groups of students: group A for traditional approach of learning and group B of e-learning approach using Moodle as an e-learning platform. Tool of research is using questionnaires and log data from the activity in Moodle. The results of questionnaires are analyzed using SPSS software. From the analyzed data on students' perception of the traditional learning, 73.3% of the students disagree this method in improving them in understanding of learning. A total of 95% students express their agreement with the use of E- learning to increase student understanding. The studies show 90% of student's performance increase compare using traditional learning. The result has indicated that students have shown better learning performance using e-learning compared to traditional learning.

KEYWORDS: *ICT, E-Learning, Multimedia, Student Performance, traditional Learning;*

1.0 INTRODUCTION

Now days the tools used for teaching and learning proses is using Information and communication technology as a global requirement to exchange traditional teaching methods with a technology teaching based and learning tools (Ghavifekr & Rosdy, 2016; McKnight et al., 2016)). ICT is considered as one of the predominant factors in remodeling the country in the direction of future development. Ministry of Education, through the trendy Education Blueprint (2013-2025). E-learning provides opportunities in education sector especially in teaching and learning process and furnish improved flexibility and range for student interaction; cater for distinctive getting to know styles and make bigger the velocity and affectivity of interaction between teachers and learners. (Zare et al., 2016; Tyley, 2012; Chan, 2010).

The combination of ICT and e-learning has a positive impact in helping to improve student performance. According to (Sankey et al., 2011), the preparation of developing a quality, interactive and engaging curriculum by using educational technology can improve student performance and involvement. (Belfi et al., 2015) Overall, student knowledge increased as a result of using e-learning. This method also provides the opportunity for educators to diversify the more innovative way of education.

2.0 RESEARCH METHODOLOGY

The sample is divided into two groups, Group A (n = 20) using traditional learning methods and group B (n = 20) using E-learning method. The E-learning platform using Moodle provided teaching materials such as notes, quizzes, forums and chatting. The data collected from the log record in Moodle. Data will collect using the questionnaire. The questionnaires were distributed to the group A and B to determine the level of student perception and performances.

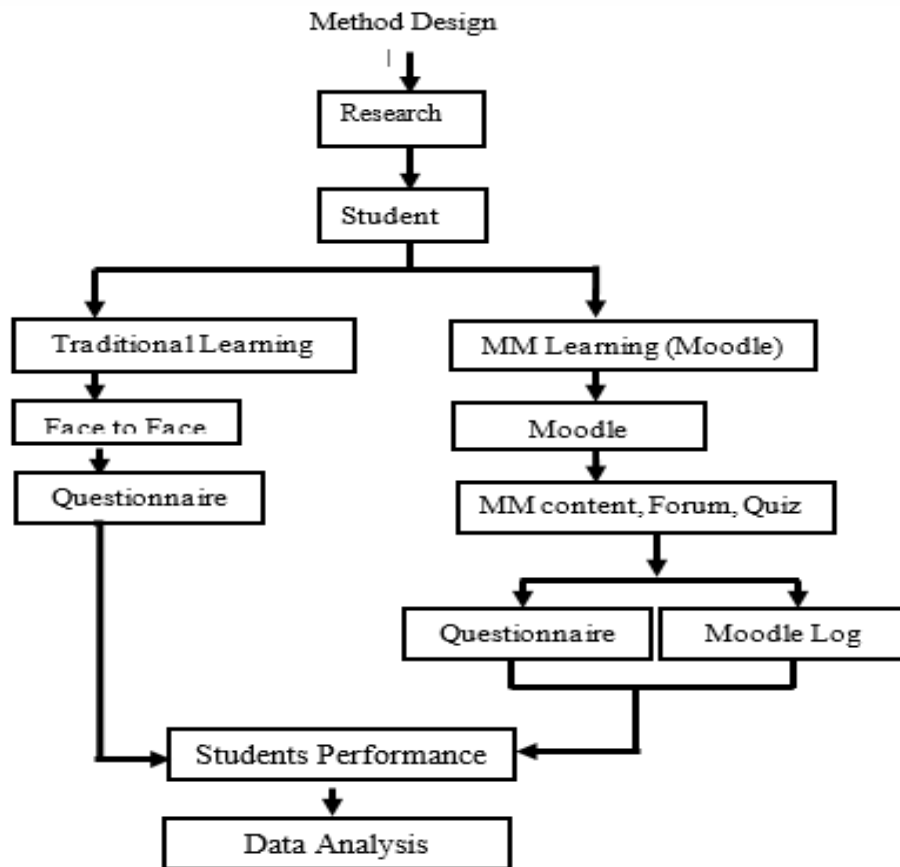


Figure 1: A research framework

3.0 RESULTS AND DISCUSSION

Data sampling was done to identify student’s perception and performance using traditional learning and E-Learning. The differentiate performance between E- learning and traditional learning are shown in table 4.1. From the table 4.1 the data analyses show the marks student get after taken quiz using traditional methods and E- learning method (online quiz) 5%. The average marks student got used multimedia learning is 3.5. The result is better than using traditional learning in which the average is 2.6. It can be stated that the use of multimedia learning in answer quiz gives students a substantial increase compared to the traditional use of learning.

Table 4.1: Quiz Performance

Student Performance in Quiz	
Multimedia Learning	Traditional Learning
3.5	2.1
2.5	2.2
3.6	2
4	2
3.8	2.4
4.2	3.3
1.5	1.75
4	3.4
4	2.9
4.2	2.2
2.9	2

2.5	2.3
3.9	2.4
3.9	2.5
2.7	2.6
2.8	3.1
4	2.5
4	2
4	4.3
4	3.8

*- The average marks: i) Multimedia Learning 3.5 ii) Traditional Learning 2.9

4.0 SUMMARY

The results of the data analysis can be concluded that the students have a very good perception of e-learning. Based on the students' performance in this result found, there are significant differences in student learning using E-learning than students are using traditional methods. Using the online quiz in e-learning provided, we find that students more confident and enjoy answering the questions. It's because the student is able to answer the question at anytime and anywhere. E-learning is an innovation in the reformed education system intended to replace the existing education system. E-learning can be a significant contribution in teaching and learning as a process of teaching and learning more interactive. Hopefully, by using multimedia learning can improve student performance and to provide a method of teaching and learning interesting and fun.

5.0 REFERENCES

Applied E-Learning and E-Teaching in Higher Education. (2010). Applied E-Learning and E-Teaching in Higher Education. <https://doi.org/10.4018/978-1-59904-814-7>

Belfi, L. M., Bartolotta, R. J., Giambone, A. E., Davi, C., & Min, R. J. (2015). "Flipping" The Introductory Clerkship in Radiology: Impact on Medical Student Performance and Perceptions. *Academic Radiology*. <https://doi.org/10.1016/j.acra.2014.11.003>

Chan, E. S. K. (2010). Hybrid learning: Teaching for quality learning at university. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. https://doi.org/10.1007/978-3-642-14657-2_42

De-Marcos, L., Hilera, J. R., Barchino, R., Jiménez, L., Martínez, J. J., Gutiérrez, J. A., ... Otón, S. (2010). An experiment for improving students performance in secondary and tertiary education by means of m-learning auto-assessment. *Computers and Education*. <https://doi.org/10.1016/j.compedu.2010.05.003>

Gambari, A.I; Shittu, A. T; Ogunlade, O.O; Osunlade, O. R. (2017). Effectiveness Of Blended Learning And ELearning Modes Of Instruction On The Performance Of Undergraduates In Kwara State, Nigeria.pdf. *Malaysian Online Journal of Education Science*.

Ghavifekr, S., & Rosdy, W. A. W. (2016). Teaching and Learning with Technology: Effectiveness of ICT Integration in Schools. *International Journal of Research in Education and Science*. <https://doi.org/10.21890/ijres.23596>

Khasawneh, R., Simonsen, K., Snowden, J., Higgins, J., & Beck, G. (2016). The effectiveness of e-learning in pediatric medical student education. *Medical Education Online*. <https://doi.org/10.3402/meo.v21.29516>

McKnight, K., O'Malley, K., Ruzic, R., Horsley, M., Franey, J. J., & Bassett, K. (2016). Teaching in a digital age: How educators use technology to improve student learning. *Journal of Research on Technology in Education*. <https://doi.org/10.1080/15391523.2016.1175856>

Mohammadyari, S., & Singh, H. (2015). Understanding the effect of e-learning on individual performance: The role of digital literacy. *Computers and Education*. <https://doi.org/10.1016/j.compedu.2014.10.025>

Rodgers, T. (2008). Student Engagement in the E-Learning Process and the Impact on Their Grades. *International Journal of Cyber Society and Education Pages*.

Snowball, J. D. (2014). Using interactive content and online activities to accommodate diversity in a large first year class. *Higher Education*. <https://doi.org/10.1007/s10734-013-9708-7>

Strang, K. D. (2016). Predicting Student Satisfaction and Outcomes in Online Courses Using Learning Activity Indicators. *International Journal of Web-Based Learning and Teaching Technologies*. <https://doi.org/10.4018/ijwlтт.2017010103>