International Journal of Engineering & Technology, 7 (3.30) (2018) 287-288

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

The Effectiveness of Android-Based Learning Media with Appy Pie toward Indonesian Economics Subject

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Abstract

This study aims to compare the effectiveness of android-based learning media in improving student learning outcomes in Indonesian economics subject.This quasi experiment research was used the Non-Equivalent Design Group design. The subjects of this research were the second semester of Economics student with Indonesian economics subject. From those subjects, student of class A were selected as experimental group and student of class B as a control group. Data analysis was performed by One-Way Analysis of Variance.The result of the research proved that the learning of Indonesian Economics subject using android-based learning media compared to powerpoint-based learning media, which is shown by the average gain score of students with android-based learning media is higher than power-point-based learning media.

Keywords: *Effectiveness, Learning Media, Android, Learning Outcomes.*

1. Introduction

Media is an essential component in the learning process which can help lecturers to create the learning process to be more effective and efficient. Media is functioned not only to facilitate lecturers delivering the material but also facilitating the students to catch the lecture material. Meaning, media is used not only for lecturers but also for students [1]. Based on the results of the research, it indicates that the development of media brings a positive impact in improving learning outcomes [2], and improves the quality of learning [3].

Programs in making an interactive and creative learning media are currently available. Not only has many kinds, but the way to use and to get it are also easy. The presence and advancement of ICT in this communications era is also provided assistance in delivering and presenting the learning materials and ideas to be more interesting and fun. On the other hand, the presence of ICT as a new technology challenges lecturers and teachers to master it so they can choose and utilize ICT effectively and efficiently in the learning process they manage. According to research result from Yoseph & darmini [4], it shows that ICT has a great impact to the learning process by offering new possibilities for learners and teachers. This possibilities impact to the performance and achievement of learners.

The development of ICT is also enabled the utilization of various types media such as mobile learning. Based on the research result from Mehdipour & Zerehkafi [5] mobile learning is one of the solution in facing education challenges.

Mobile learning is one of the various learning medias. Mobile learning has a high degree of flexibility and portability allowing students to access material, direction and information related to learning whenever and wherever. According to Huang, Jeng & Huang [6] mobile learning has features in the form of availability and accessibility of information networks, enable to involve learners in learning related to the different environmental circumstances, can help group works, increase the communication and cooperation in learning in the classroom and can deliver learning quickly.

Based on the result of research by Elfeky & Masadeh [7] mobile learning can improve learning outcomes because mobile learning enables learners to access lessons and assignments anywhere and anytime. While for teacher, mobile learning can help to upload teaching materials, determine the discussion and accept the students' tasks electronically.

The statements above show that learning requires the appropriate media, then the lecturer as facilitator is required to be able to use various learning media. Economic Education Department as one of prospective teacher's producer is required to continue developing the quality of learning process to produce competitive graduates. Therefore, the lecturer must change the conventional learning to mobile learning, then the lecturers are free to control the learning that is not only on face to face learning.

The problem studied in this research is: whether android-based learning media is more effective in improving the learning outcomes of Indonesian Economic Subject compared to powerpoint-based learning media?

2. Results

To test the differences influence of Indonesian Economics subject learning factor using android-based learning media with appy pie toward student learning outcome, the researchers using one way variance analysis. Decision-making and taking conclusions on the hypothesis test are conducted with a significance level of 5%. The criteria used in taking the conclusion is that if the error probability is <0.05 then the null hypothesis (Ho) is rejected and if the error probability> 0.05 then the null hypothesis (Ho) is accepted.

Hypothesis is H1: Android-based learning media is more effective than powerpoint-based learning media in improving the result of

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Indonesian Economics subject. Ho: Android-based learning media is not more effective than powerpoint-based learning media in improving the result of Indonesian Economics subject. The one-way variance analysis for the hypothesis is presented as follows

Table 4: Summary of one-way ANOVA test result

Learning media	mean	P
Android	30	0.00
Power Point	28	

Based on table 4, it is known that the calculation of effectiveness between android-based learning media and powerpoint-based learning media in improving the result of Indonesian Economics subject shows that the chance of error is smaller than the specified significance level, that is 0,05. Based on these results, it can be concluded that the null hypothesis (Ho) is rejected, meaning the android-based learning media is more effective than powerpoint-based learning media in improving the outcome of Indonesian Economics subject

3. Discussion

This section explores the discussion of the research result, it shows that android-based learning media is more effective than the powerpoint-based learning media in improving the outcome of Indonesian Economics subject.

In contrast to powerpoint-based learning media, android-based learning media can provide learning information to the right person at the right time compared to other learning technologies [8]. Mobile learning not only encourages the way we access information, but also helps learners to be innovative and be good problem solvers, [9]. Based on the data analysis for the first hypothesis testing, it reveals that the group with android-based learning media achieves higher mean score compared to the group that used powerpoint-based learning media. So there is an influence of learning models toward student learning outcomes, where android-based learning media is more effective than the powerpoint-based learning media in improving student learning outcome of Indonesian Economics subject

These results are in line with the research conducted by Elfeky & Masadeh [7] that shows mobile learning can improve the learning outcomes because trough mobile learning learners can access lessons and assignments anywhere and anytime. While for teacher, mobile learning can help to upload teaching materials, determine the discussion and accept the students' tasks electronically. The findings of this research are also supported by the results of research that shows the media development has a positive impact in improving learning outcomes [2], and improving the quality of learning [3].

The use of android-based learning media is more effective than powerpoint-based learning media in improving student learning outcomes. Mobile learning has a high degree of flexibility and portability that allows students to access material, instruction and information related to learning material whenever and wherever. According to Huang, Jeng, & Huang [6] mobile learning has features in the form of availability and accessibility of information networks, can involve learners in learning related to different environmental circumstances, can help the work in groups, increase the communication and cooperation in learning in the classroom and can deliver learning quickly.

4. Conclusion

Based on the results of hypothesis testing and discussion in the previous chapter, it can be concluded that android-based learning media is more effective than powerpoint-based learning media in improving student learning outcomes in Indonesian economics subject.

5. Suggestion

Based on the conclusions and implications of the research, the researchers propose these following suggestions: (1) to increase student interest and learning outcomes, every learning process needs to utilize android-based learning media (2) lecturers need to be trained about android-based learning media development in order to master skills in developing learning media in each subject he teaches, (3) Faculty Leaders need to provide facilities in the form of internet access to support the use of android-based learning media with appy pie.

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