Dinamika Pendidikan

The Development of Learning Video Media Based on Swishmax and Screencast O-Matic Softwares through Contextual Approach

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History Article

Keywords

Abstract

This research aims to develop a learning media video based on swishmax dan screencast o-matic softwares through contextual approach. The study used ADDIE development model which consisted of five stages, namely, analysis, design, development, implementation, and evaluation. Before using the learning video media, firstly it was tested by media experts and subject experts. Then; it needed students' feedback by using questionnaires about the media. The results of the experts and students' questionnaires show that the media is very good and feasible to be used. The effectiveness of the media was analyzed by t-test. The mean score of experimental class is 85.03; whereas the mean score of control class is only 79.00. By using t test scores, its score is 3.30 and more than 1.997; then Ho is rejected. Therefore; it can be concluded that learning by using the learning video media based swishmax and screencast o-matic softwares through the contextual approach is better than the conventional teaching on Organizational Behavior.

How to Cite

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INTRODUCTION

The development of Science and Technology in the globalization era supports the efforts to create and innovate the results of technology in the learning process. Along to the rapid development of education, it requested education institutions to adapt with the development of science. Many special attentions were directed to the development and advancement of education to improve the quality of education. In SN Higher Education, it explained that human resources were needed to compete in the international area, Organizational Behavior subject is a subject which is necessary to create the qualified human resources in institutions who would behave in the work place later.

Education is a conscious attempt to empower the humans. Powered human is a man who can think critically, independently, and can establish himself and the society (Aunurrahman, 2009). Education made people try to develop and explore the potential within themselves to deal with the life changes. Therefore, the issue of development in education requested the better attention and handling.

Aunurrahman (2009: 199) stated that there were some problems from sourced from internal factors; i.e.: (1) students' characteristics, (2) learning attitude, (3) learning motivation, (4) learning concentration, (6) ability to get the learning outcomes, (7) self-confidence, (8) learning habits. Then; the external factors which influenced the learning were: (a) the teacher, (b) the social environment, (c) the school curriculum, and (d) infrastructure.

Then, based on the observation at Semarang STEKOM, it showed that there were many students who thought that the Organizational Behavior subject was a difficult subject because they did not practice on the world of work. The problems of Organizational Behavior subject at STEKOM were varied. Learning was simply defined as everything which hindered the achievement of learning objectives. Students' said that their difficulty happened because of the lecturing teaching method. Students thought that it was not appropriate since the lecturers did not use any technology at STEKOM, the class management was bad, the learning media was not interesting so students were bored in learning and got the low scores. The learning video media-based on swishmax and screen o-matic softwares through the contextual approach were expected to create new innovations which could improve students' interest to learn the material.

The problems of the subject should be linked with everyday life or contextual because of the presence of contextual issues in the world of work, then the learning will be more interesting to know the application. There were some ways for a lecturer to deliver the subject material which could make students feel happy because they could relate the subject material to real-life contexts. For getting the successful learning process, the lecturer should select a learning approach which was appropriate to the goal and materials of the learning. One of the approaches was contextual teaching learning approach (CTL). Contextual approach was a learning approach which related the material studied to students' real-life everyday to find the meaning of the material to life (Komalasari, 2014).

Johnson (2002) defined CTL was the CTL system is an educational process that aims to help students see meaning in the academic subject with the context of their daily lives, that is with the context of their personal, social, and cultural circumstances. To achieve this aim, the system encompasses the following eight components: making, meaningful connections, doing significant work, self-regulated learning, collaborating, critical and creative thinking, nurturing the individual, reaching high standards, using authentic assessment.

With the contextual approach, the learning process took place naturally at students' activities work and experiences themselves. Farliana (2015) said about functional contextualism. Functional contextualism was trying to predict and influence using the concept based on empirics and rules. The approach revealed the strong adherence to the truth criterion which were very practical contextual in which the general rules and principles used to predict and influence the events.

The activities of contextual learning approach also needed the learning media and tools. Miarso (2004) defined that a learning media was everything used to distribute messages and could stimulate the mind, feelings, concerns, and the willingness to lear to encourage the process of learning in a deliberate, purposeful and controlled way.

Dewi (2012) suggested that in learning, the teacher's role was the facilitator and the motivator who led and guided students to think critically and analytically to solve the problem. Each student had the different opinion about a certain topic, so students were trained to learn how to respect each others. At the end, students did not only acquire the cognitive abilities, but also social skills in learning

It was supposed that students' uncompleteness scores happened due to the less effective learning media used by teachers (Marlina, 2012). Thomas and Novitarini (2011) stated that good teaching could use media which could help the teachers in delivering the learning materials. The learning media had two important roles: (a) the media as a teaching aid (dependent media), and (b) the media as a learning resource which was used solely by students independently (independent media) were systematically designed to achieve the learning objectives (Rusman, 2011).

One of the learning media was a learning video. Rizky (2012) suggested that this medium could be understood by students because it provided supports for the process of interactive communication between the teacher and students. Through the video, the learning became more attractive, shorten the learning time, and could enhance the learning activity. For the learning video, it was expected to attract attention and improve students' interest to be more excited in the learning process.

The effectiveness of learning media using audio-visual filmstrip showed that students' responses to the media were good and the learning process was also good, then, it could be said that it was effective (Prihatanti, 2013). By using learning video media, it was expected that students were not bored and excited to follow the lesson so the materials could be well-absorbed and consequently, it increased students' learning outcomes. In this case, the learning video media which could be used were Wire Cast, Screen O Matic, Camtasia Studio and others

Berns (2001) studied on "Contextual Teaching and Learning: Preaper Students For The New Economy", he stated that contextual learning was a concept of teaching and learning which helped the lecturer to connect the subject matter content to real-world situations, and motivated the student to make connections between knowledge and application for the life as a family member, a citizen, and a worker and involved in the learning process. Then; Davis (2011) did a research entitled "Retooling Perspectives on Technology's Role in Language Education". He stated that the use of Screencast O Matic would improve aspects of students' knowledge during the learning process because it had the materials, components, and the instructions students should do.

It was also supported by the research of Priowirjanto, et.al. (2013) who said that Screencast o-matic was a software which could be used on the operating systems of Windows XP, Windows Vista and Windows 7. Screencast-o-matic could also record webcam activity. This recorder screen was usually used to record and then share it on youtube or blog. Suryanto (2014) also argued that Screencast-o-matic was a software which could record all media e-learning into a video tutorial which teachers could make the learning as if it was in the classroom as an learning video and it could be shared through various models.

If the difficulties were not handled; it was impossible to make students understand the material well. The main problem was the time limitation of face to face interaction between the lecturer and students. Hence; using swish max and screencast o-matic application which was easy to operate and could produce the excellent displays. Moreover, the appearance, animation effects and sound effects were varied and were not boring.

Based on those studies, the questions of the research were: (1) How do we develop the learning video based on swish max and screencast o-matic software with contextual approach on Organizational Behavior subject? (2) Are students' learning outcomes who receive learning with the learnig video based on swish max and screencast o-matic with contextual approach better than students who do not get the treatment on Organizational Behavior subject?

METHODS

It was a research and development study which involved the quantitative and qualitative researches. It was conducted at Accounting Computerized department on STEKOM Semarang in May 2015. The population of the study were 3rd semester students in the academic year of 2014/2015 and there were 2 two classes as the samples.

The method of the study was ADDIE design (Analysis, Design, Development, Implementation, Evaluation). ADDIE Model was developed by Dick and Carry (2001) to design a learning system. The steps of the development model were: First, Analysis ; it was a process of needs assessment, identifying the problems (needs) and task analyze, the second was the design phase; it was designing the learning media. The media design was first created; the study would create learning videos on Organizational Behavior subject. The third stage was development; it was realizing the design which was ready to be implemented. At the design stage, if the design was using the new conceptual model; the development was prepared by making the new model such as SAT RAT, media and learning media at the deve-

lopment stage (Development) prepared or made learning tools with model / new methods such as SAT RAT, leaning media and learning materials. Then, the media was validated and the materials would be implemented by the media and material experts. The fourth stage was Implementation. In the implementation stage, the researchers applied learning video based on swishmax and screencast o-matic softwares with contextual approach. The fifth stage was Evaluation; it was when the researchers conducted an evaluation/ formative assessments to determine students' learning results after implementing the learning media.

To determine the feasibility of the product, it was necessary to be tested and validated by the experts. The validation of the product could be done by presenting several specialists or experts who were experienced to assess the new designed product. The validators of the learning video were the subject matter experts and the media experts. The experts were the lecturers at STEKOM Semarang who had experiences on computer science and economics. The product revision was made after the validation phase. It was done to revise the parts of products which needed to be repaired and completed.

Data were analyzed by qualitative and quantitative descriptive analysis techniques. The qualitative descriptive analysis technique was used to process the data on the review of media experts, subject matter experts, students and the lecturers. Then; data qualitative assessment scores were taken from the questionnaires which were distributed to the media experts, subject matter experts and students. Data were analyzed by using Likert scale which would be described qualitatively.

Quantitative descriptive analysis method was a method of data processing by compiling systematically in the form of numbers or percentages, the object of the study, to get the general conclusion. The object of the study was the perception of respondents regarding to the feasibility of video media products based on swishmax and screencast o-matic softwares with contextual approach.

RESULTS AND DISCUSSION

The validation results of the learning video through contextual approach from the experts can seen Table 1.

On Table 1, it clearly showed that the feasibility percentage for the fourth validators were on excellent criteria with the percentage of each expert was 88.75%, 92.5%, 81.25%, 95% or they were in the range from 81% to 100%.

$$\text{Percentage} = \frac{286}{20 \times 4 \times 4} \times 100\% = \frac{286}{320} \times 100\% = 89.06\%$$

Based on the calculation above, the percentage was 89.06%

Before the instrument was tested to the class which would be examined, it was first tested on a class to be analyzed the validity, the reliability, level of difficulty and the distinguishing features.

The instrument was tried out at the 3rd semester students for a class. The test results were used to determine students' ability on Organizational Behavior subject and to determine whether the instrument could be used in the study or not.

To know the validity of the item, it used product moment correlation formula. If $r_{xy} \geq r_{table}$, so the item was valid. From the calculation by the number of students were 34 and the significance level was 5%, the t-table = 0.339. Then, item number 1, 2,5, 6, 7, 8, 9, 10 were invalid because the scores of $r_{xy} > r_{table}$.

Then; to know about the reliability of the instrument, it used Alpha formula. Then value of r11 if it was consulted with reliability criteria questions test. If $r_{11} > r_{table}$, it means reliable and if $r_{11} < r_{table}$, it means unreliable. With the significance level was 5% and n = 34 , so r table = 0.339. From the calculations, the value r count = 0.70. Because r-count> r-table; 0.70> 0.339 , it was reliable.

Analysis and Data Interpretation
Initial Data Analysis

Initial data analysis was conducted to determine whether the experimental class and control class set off from the same starting point. The results of the pretest could be used for initial data

Table 1. The Validation and Assessment Results of The Media and Materials Experts

Name	Observation Scores	Maximum Scores	Feasibility	Criteria
The Media Expert I	71	80	88.75%	Excellent
The Media Expert II	74	80	92.5%	Excellent
The Materials Expert I	65	80	81.25%	Excellent
The Materials Expert II	76	80	95%	Excellent

analysis. The steps of the initial data analysis were Table 2.

Table 2. The Normality Test at The Initial Data

Class	N	L_0	L_{table}	Decision
Experimental	36	0.1152	0.1477	Normal distribution
Control	36	0.1192	0.1477	Normal distribution

From Table 2, it was clear that $L_0 < L_{table}$ on the level of α = 5% with n1 = 36 and n2 = 36, so H_0 was accepted . It could be concluded that students' learning outcomes in the control class and experimental class derived from normal distributed population.

Homogeneity test

To test the homogeneity of the sample, it used Bartlett test. Based on the calculation, the obtained $\chi^2_{count} = 0.759$. The results were then consulted with χ2table. To = 5% by dk = (ni - 1) = (2-1) = 1 of the critical value obtained Chi Square.= 3.81. Because $\chi^2_{count} = 0.759 < \chi^2_{table} =$ $\chi^2_{hitung} < \chi^2_{tabel}$ 3.81 then Ho was accepted, so it can be concluded that the samples came from the same variance or homogeneous.

Final Data Analysis

Final data analysis was used to calculate the posttest results data to know whether any differences on students' learning outcomes between the experimental class and control class. The steps were:

Normality Test

Table 3. The Normalit Test of The Final Data

Class	N	L_0	L_{table}	Decision
Control	36	0.0596	0.1477	Normal distribution
Experimental	36	0.1384	0.1477	Normal distribution

Homogeneity test

To test the homogeneity of the sample, it used bartlett test. Based on the calculation, χ^2_{count} = 1.388. The result was then consulted with χ^2_{table} for α =5% by dk = (ni - 1) = (2-1) = 1 and the Chi Square critical value was .= 3.81 then Ho was accepted, so it could be concluded that the samples were from the same variance or homogeneous.

Hypothesis Test

After doing the posttest from the instrument test of the study, it got $\overline{x}_1 = 8,0$ and $\overline{x}_2 = 9$, $n_1 = 36$, $n_2 = 36$ dan $s = 7,74871$ so $t_{hitung} = 3,0$. Then, it was consulted with the t_{tabel} . From the table, the distribution of t with dk = 70 and $\alpha = 5\%$, then $t_{tabel} = 1,997$.

Because $t_{tabel} < t_{hitung}$ so Ho was rejected, it could be concluded that students' learning outcomes through the learning video media based on Swish max and Screencast O-matic Softwares with contextual approach on Organizational Behavior subject were better than the learning using the conventional one or "Learning video media based on swishmax and screencast o-matic softwares with contextual approach" was significant and effective to be used on Organizational Behavior subject.

In this study, the learning was done by using contextual approach using learning video media based on swishmax and screencast o-matic softwares. It was used to attract students' attention in the learning process.

Hadi (2011) stated that the learning process included three components; they were input, process and output. The input components were students' behavior, learning materials, the tool or the media. The process components were learning strategies, utilization of learning media. And the output components were students' result study or their achievements.

The findings of the study were described as the starting point on the further studies why the learning video media based on swishmax and screencast o-matic softwares with contextual approach on Organizational Behavior subject were better than conventional learning. The other descriptions were also discussed to clarify why the media development based on swishmax and screencast o-matic softwares with contextual approach influencing the learning achievement of Organizational Behavior subject.

The development of learning video media with contextual approach based on swishmax and screencast o-matic softwares could help students' learning process in understanding the concept of Organizational Behavior. The video did not only assist students to learn, but also as a tool to improve students' appeal in the learning process. The media could improve students' motivation in the learning process so it would be exciting and more

striking in students' minds.

Generally, the development of learning video media based on swishmax and screencast o-matic softwares with contextual approach on Organizational Behavior subject could be said successful. The success could be seen from the post test data of students' learning outcomes. The learning outcomes were improved because the various learning process through developing a learning video media with contextual approach.

The results of hypothesis testing showed that the development of video-based on learning media and screencast software swishmax o-matic with contextual approach on Organizational Behavior subject was better than conventional learning. Suryanto (2014) argued that the creation of models of learning by using screencast o-matic as a learning medium could support the teaching and learning process and did not just implement the teaching materials, but also created the learning scenarios to invite the involvement of learners actively and constructively in the learning process ,

It was also stated by Utami (2014) that the learning videos could display colorful images and sound to arouse desire and interest in learning so students did not get bored in receiving the materials, encourage motivation and stimulation of learning, increase students' memory of the material presented, and influence the students' psychology.

By choosing the proper learning approach context, students could be directed to the idea not only concentrate the learning inside the classroom, but the were encouraged to link the life aspects in their daily real life. Thus; the development of learning media based on swishmax and screencast o-matic softwares with contextual approach on Organizational Behavior subject was an alternative way to fulfill students' needs. Students could optimize their ability, reasoning and skills to improve the learning outcomes. It was agreed by Suryanto (2014) who stated that there was an improvement of students' learning outcomes in e-learning method using screencast o-matic.

CONCLUSION

Learning video media based on swishmax and screencast o-matic softwares with contextual approach on Organizational Behavior subject which was suitable to the higher education community was produced by ADDIE learning model.

Based on the testing by the Media Expert and the Materials Expert, it showed that Learning video media based on swishmax and screencast o-matic softwares with contextual approach was a feasible media for students since it got scores from the Media Expert was 88.1% and the Materials Expert was 90.6% , and students' responses was 87%.

The learning process through the development of media based on swishmax and screencast o-matic softwares with contextual approach was better than students who received the conventional learning in the control group on Organizational Behavior subject in the academic year of 2014/2015. It was evidenced from the results of t-test; it was $3.01 > 1.997$ then Ho was rejected. Students' learning outcomes in the experimental class (III A) who was using the learning media based on swishmax and screencast o-matic softwares with contextual approach was better than students who received conventional learning in the control class (III B) on Organizational Behavior subject on the Accounting Computerized Department in STEKOM Semarang. The mean score at the experimental class was 85.03 and at control class was only 79.00.

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