

The Development of Lectora Inspire-Based Interactive Learning on General Administration Subject

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Abstract

This study was a research and development type. The media developed was a lectora inspire-based interactive learning media in general administration subject. The procedure of research and development employed nine out of ten steps of Borg & Gall's research and development (1989). Data analysis was carried out using descriptive qualitative and quantitative analyses with t-test. Considering the result of analysis on the effectiveness of lectora inspire-based interactive learning media with t-test formula, it could be found that t-statistic value obtained in posttest of experiment and control class was 5.747, with ttable of 2.000172; thus tstatitic > ttable meaning that the improvement of learning outcome in experiment class was better than that in control class. The learning outcome of experiment class showed the mean post-test of 84.53, while that of control class showed the mean posttest of 71.73. The conclusion of research was that Lectora Inspire-based interactive learning media was feasible and was used effectively to improve the students' learning outcome. It was based on the result of t-test suggesting the significance value ($0.000 < 0.05$), indicating that there is a difference of learning outcome between experiment class and control class.

How to Cite

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INTRODUCTION

The more rapidly developing knowledge and technology requires Indonesian human resources to keep going forward and developing. To produce competent human resources, good education should be available. Recalling this, government always supports education process in Indonesia in order to be in line with the realization of 1945 constitution, to educate the life of the people. Vocational High School is one of formal education forms oriented to practical teaching, without abandoning the theoretical learning. It aims to direct the students to be competent graduates in work realm. Through the improved quality, the SMK graduates are expected to be competitive in global market. This quality improvement should be accompanied with the improvement of Human Resource (HR) in SMK conducted systematically and measurably.

The attempt the government takes, among others, is the policy of 2013 curriculum implementation. Education and Culture Ministry (2017) says that the procedure of 2013 Curriculum implementation, according to the MOU between Kemendikbud and Legislative Assembly, is conducted gradually, with the target of 100% implementation in 2018/2019. The implementation of 2013 curriculum has passed through more in-depth stage, the technology-based 2013 curriculum. The 2013 Curriculum emphasizes on the learning process using scientific method, in which several learning models are recommended: Discovery Learning, Problem Based Learning, and Project Based Learning. One supporting factor of learning process is the use of IT-based learning media.

Machumu, Zhu, and Sesabo (2016: 31) state that teaching-learning method changes as education technology changes. In this case, teacher should make learning innovation using an interactive learning media. Learning environment using an interactive learning media can help students build and analyze a problem (Kumar, Muniandy, Yahaya, 2016; Naz & Akbar, 2008; Zhang, 2005). Lectora

Inspire is a software developing within society, producing and interactive learning media with understandable feature to the beginner users. Çelik (2012) state that score of Lectora Inspire is 4,67 in terms of the quality competences. Lectora Inspire is chosen as the feature it contains is usable and understandable to the beginner users. This software produce an interactive learning media, the one equipped with figure, animation, and questions that can be answered directly, thereby generating reciprocal relation between students and teacher. The media aforementioned allows for more interaction so that the students' learning and satisfaction can improve. Fui-Theng & Mai (2014: 100) in their article suggests that teachers designing media using technology will increase the students' motivation in learning process and increasing the teacher's teaching creativity. For that reasons, this research develops and studies the Development of Lectora Inspire-based Interactive Learning Media in Vocational High School in General Administration Subject.

METHODS

This study was research and development. Research and development are different from educational research as the objective of development is to yield product based on the finding of field test, and then when there is some weaknesses in the product developed, it will be revised. Sugiyono (2016: 40) the difficulty in research and development into four levels: studying without testing (not developing product and not testing/trialing the product), testing without studying (testing the validity of preexisting product), studying and testing in the attempt of developing the preexisting product, and studying and testing to create a new product. The more difficult the research and development level, the more and the more detailed is the procedure the author should conduct. The product developed can be used as the learning media, thereby improving the learning outcome of students in Office Administration Specialty in SMK Negeri 6 Sura-

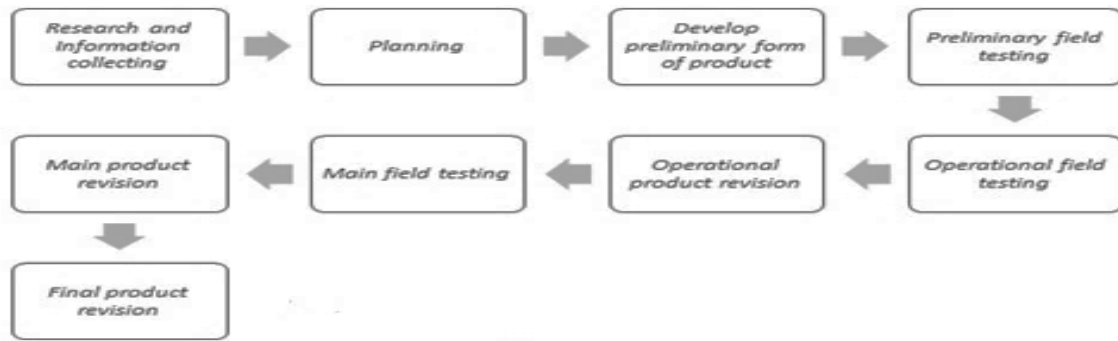


Figure 1. R&D Procedure

karta in the School Year of 2017/2018. The development model to which this research refers was Borg and Gall's development design. Borg and Gall (1989) divides R & D procedure into 10 steps. Those steps are illustrated in the figure above.

The instrument employed to collect data in this research consisted of : 1) Observation in this research was employed to collect and to record important things during learning process and to see the students in the process of trialing the product developed. Arikunto (2013: 200) stating observation divide into two types, observasi sistematis dan observasi non sistematis; 2) Interview was conducted in the beginning stage of preliminary study to find out the prior and subsequent condition of learning process in the research location. It is in line with Sugiyono (2012: 36) that the interview is not only used as a preliminary study to find the problems to be researched, but also used if researchers want to know things more deeply from the respondents; 3) Questionnaire was used during evaluation before and after product trial in material and media experts. Meanwhile, questionnaire for students was used to find out the students and teachers' response to the media developed; 4) Test was conducted with the students after using the product developed, the learning media in learning process; 5) This documentation was used to collect data from research location including students' name, teachers' name, and some guidelines in developing material used in the learning media. The procedure of research and development employed nine out of ten steps of Borg & Gall's research and de-

velopment. This study using Pretest-Posttest Control Group Design. Data analysis was carried out using descriptive qualitative and quantitative analyses with t-test.

RESULT AND DISCUSSION

The development of lectora inspire-based interactive learning media conducted by author refers to Borg and Gall's product development model, which limited to 9 stages. The stages consist of research and information collecting, planning, the development of lectora inspire-based interactive learning media product, preliminary field testing, main product revision, main field testin, operational product revision, operational field testing, final product revision. Firstly, research and information collecting, need analysis stage is the basis of learning media development. The author's objective of conducting analysis is to obtain data and information supporting the learning media development process. This need analysis is conducted through observation and interview during the research process. Considering the result of in-depth observation conducted by the author, the following data are obtained: a) Material Analysis, analysis is conducted using qualitative method on the result of observation conducted in general administration subject. From the observation conducted in the class, the author found that in delivering learning material, teachers use only one handbook and learning system only dictating the students to record the material. It makes the students bored and passive. This inhibiting factor affects the achievement of

learning objective that in turn will affect the effectiveness of students' learning outcome. To anticipate this, a new learning media is needed, in this case the Lectora Inspire-based interactive learning media that can stimulate imagination and creativity of students and support the learning process; b) Media analysis stage is conducted using qualitative method on the result of interview conducted with the teachers of archiving subject. In this stage, the author acquires information from the teacher assuming general administration subject needing learning media developed, that is, the Lectora Inspire-based interactive learning media. In developing learning media, analysis on the learning objective to achieve and media analysis are needed.

The material contained in the learning media developed refers to the curriculum prevailing. In media analysis stage, the author found that there is no interactive media supporting the learning in the class. In this case, general administration teachers still teach using conventional method; as a result, the lesson delivered is less acceptable to the students. Teacher still find some difficulties in giving visual example; c) User Analysis, the author develops Lectora Inspire-based interactive learning media in general administration subject, thereby can be used by teacher in delivering material in the class. Teachers can operate laptop, LCD and sound system in the class to support the learning thereby facilitating the operation of Lectora Inspire-based interactive learning media. This media is expected to change the students' perception on the boring and saturating general administration subject; c) Learning Infrastructure, the observation is conducted in SMK Negeri 6 Surakarta, constituting the model school, so that the infrastructure in this school is very adequate thereby supporting the learning process using Lectora Inspire-based interactive learning media. Based on need analysis conducted, it can be concluded that teachers find difficulties in delivering some learning materials. In this case, teachers also find difficulties in developing a creative and innovative learning media

that can trigger the students' learning spirit and motivation, thereby expectedly improving their learning outcome in general administration subject. In developing Lectora Inspire-based interactive learning media should be supported with adequate infrastructures such as LCD, laptop, and speaker.

Secondly is planning, the product development plan should be equipped with learning set and research instrument. Learning set prepared in this research including syllabus, learning implementation plan, and material. Meanwhile, the instruments prepared in this research are validation, questionnaire, and test sheets. Third is the development of Lectora Inspire-based interactive learning media product, this Lectora Inspire-based interactive learning media begins with preparing text, image/picture, and video needed in learning material. The material organized in this media has been adjusted with syllabus. The product is developed in electronic media form using Lectora Inspire that can be accessed through computer or laptop, the display of main features contained in the learning media developed is as follows:



Figure 2. Display of main page

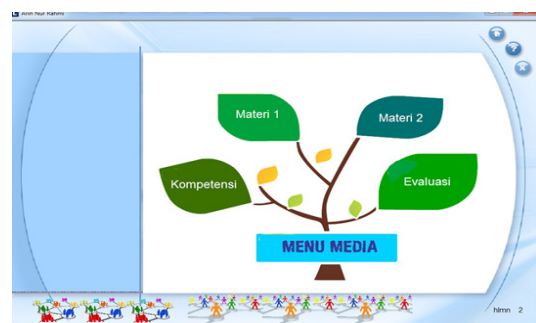


Figure 3. Display of media menu



Figure 4. Display of learning material

Fourth, Preliminary field testing this stage involves the students as preliminary field test group. The draft learning media developed and consulted with (validated by) media expert, material expert, linguist, and practitioners is then trialed to obtain the assessment on the feasibility of media developed. From the result of preliminary field test using questionnaire, it can be seen that the students' response to Lectora Inspire-based interactive learning media scores 87.5% with very good criterion. The result of preliminary field test can be explained Table 1.

Fifth, Main Product Revision this stage is conducted to revise the product based on

students' questionnaire assessment and recommendation from the preliminary field test. Revision is made to accomplish the product to be used in the main field test. Sixth stage is Main Field Testing, the main field test involves 20 students. The main field test is conducted using Lectora inspire-based interactive learning media. The learning process is conducted in four meetings, and in the end of the third meeting, the students conduct product assessment using questionnaire and in the fourth meeting, posttest is conducted. From the result of main field test using questionnaire, it can be found that the students' response to Lectora Inspire-based interactive learning media scores 92.12% belonging to very good criterion. Thus, the Lectora Inspire-based learning media is feasible to use in the learning process. In addition, the learning outcome of students improves from 66.8 to 82.4 after the treatment with the learning using Lectora Inspire-based learning media.

Seventh, operational product revision his stage is conducted to revise product based on the students' questionnaire assessment and recommendation obtained from the main field test stage. Revision is made to accomplish the product to be used in operational field test. Eighth, operational field testing is considering the result of t-test (independent samples test) during pretest in experiment and control classes, it can be found that the significance value of t-test is 0.714. This value is higher than 0.05, meaning that H0 is not supported, and tstatistic of $-0.784 < t_{table}$ of 2.00172. It indicates that there is no significant difference of

Table 1. Summary of Preliminary Field Test Result using Questionnaire

No	Aspect	Σ iv	Σ N	%	Score	Criteria	Notes
1	Media aspect	125	144	100	86.80%	Very Good	Feasible
2	Material Presentation Aspect	127	144	100	88.19%	Very Good	Feasible
3	Benefit aspect	168	192	100	87.50%	Very Good	Feasible
Total Scores		420	480	100	87.50%	Very Good	Feasible

Source: Processed Data (2017)

Table 2. Summary of the Result of Students' Assessment in Main Field Test

No	Aspect	Σni	ΣN	%	Score	Criteria	Notes
1	Media Aspect	447	480	100	93.12%	Very good	Feasible
2	Material Presentation Aspect	434	480	100	90.41%	Very good	Feasible
3	Benefit Aspect	593	640	100	92.65%	Very good	Feasible
Total Score		1474	1600	100	92.12%	Very good	Feasible

Source: Processed data (2017)

students' average learning outcome between experiment and control classes during pretest; furthermore, experiment class is treated using Lectora Inspire-based interactive learning media, while control class is not.

The result of posttest shows that the mean posttest score is 84.53 for experiment class and 71.73 for control class. Considering the result, it can be seen that experiment class has higher score than the control class does. The posttest score of experiment class before using Lectora inspire-based interactive learning media is 68 and the posttest score after the treatment using Lectora inspire-based interactive learning media is 84.53. The increase in the mean score of students' learning outcome in general administration from before (pretest) to after (posttest) the treatment suggests that the Lectora inspire-based interactive learning media effectively improves the students' learning outcome in general administration subject.

The result of independent sample test during posttest in experiment and control class shows significance value of t-test of 0.000. This value is higher than 0.05, meaning that H_0 is not supported, and tstatistic of 5.747 > ttable of 2.00172. It indicates that there is a significant difference of students' average learning outcome between experiment and control classes. The result reveals that the experiment class has learning outcome better than the control class does, meaning that the exper-

iment class using Lectora Inspire-based interactive learning media obtains mean posttest score higher than the control class not using Lectora Inspire-based interactive learning media.

The learning is considered as effective when it can improve the students' learning activity and outcome. It is in line with Anurrahman (2009); Trianto (2009); Hamzah (2011) explaining that basically, the effectiveness is intended to answer how far the learning objective has been achieved. From the result above, it can be concluded that lectora inspire-based interactive learning media improves the students' learning outcome effectively. Ninth, final product revision in this stage, the final revision is made to produce the final product ready to use generally with material limitation and student characteristics. The result of final product is as follows:



Figure 5. Display of front page after revision



Figure 6. Display of media menu after revision



Figure 8. Display of evaluation after revision



Figure 7. Display of material after revision



CONCLUSION

Considering the result of research, it can be concluded that the Lectora Inspire-based interactive learning media effectively improve the learning outcome of students. The use of Lectora Inspire-based interactive learning media can improve the students' learning outcome with significance value of $0.000 < 0.05$, meaning that there is a significant difference of mean score between experiment class (after treatment) and control classes. The author suggests the use of Lectora Inspire-based interactive learning media for teachers and adapted to the learning materials. Considering the conclusion, author suggests the use of Lectora Inspire-based interactive learning media for teachers and adapted to the learning materials.

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