Design of Interactive Learning Multimedia Development in General Administration Subject

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Abstract

This study was a research and development. This study aimed to find out the feasibility and validity of interactive learning multimedia in general administration subject. Lectora Inspire-based interactive learning media was tried out through validation by media expert, linguist, material expert, practitioners, and with the students through learning process. The result of validation by material expert on the media developed obtained total score of 87.5% belonging to very good criterion, the result of validation by material expert obtained total score of 95% belonging to very good criterion, validation by linguist obtained total score of 100% belonging to very good criterion, and validation by practitioners obtained total score of 93.10% belonging to very good criterion. The result of validation conducted by expert was also supported with the result of feasibility test in product tryout obtaining score of 87.5% belonging to very good criterion. The conclusion of research was that Lectora inspire based interactive learning in general administration subject was valid and feasible to use as learning media in school.

Keywords: Design; Interactive Learning; Multimedia; General Administration;

1. Introduction

Education is an aspect that can build a state toward the better direction. Investment distributed through education will create competent human resources. Formal education occurs through learning in the class with teacher as the facilitator. Teacher plays the primary role in learning at school, particularly because teacher is the bridge of knowledge to all of students.

It is well-established that education world has passed through a very rapid science and technology development. Tim de Jong, Specht, Koper (2008: 42) said that learning media at school should be improved in order to follow technology development. The improvement of technology development willy-nilly should be compensated with teachers' ability in the learning in the class. One of formal school forms is Vocational High School (*Sekolah Menengah Kejuruan*, thereafter called SMK). SMK is a practical teaching-oriented school, without abandoning theoretic learning. SMK prepares its graduates to be ready-to-work. However, this expectation is, in fact, in contradiction with data of Central Statistic Bureau (BPS) on August 2017 in which the unemployment rate increases by 10 thousands people to 7.04 million people or 5.5 percents of total workforce. Unemployment rate is dominated mostly by SMK

graduates. Considering this fact, the teacher as facilitator at school should pay more attention to learning in the class in order to motivate the students to be the expected graduates.

In reality, many educators have not applied it. Based on the result of observation and interview with teachers in SMK Negeri 6 Surakarta, learning activity in general administration subject has not run optimally yet. This theoretic subject learning is conducted using conventional method, by utilizing blackboard as its media. Most students are preoccupied with themselves and attend the learning less enthusiastically. The students seem to be less active as well because they should be compelled by the teachers to express their opinion and to answer question. In addition, the less varying learning media makes the students talking with their tablemate during the learning process. It is confirmed with the result of interview with students mentioning that they are bored in attending the monotonous learning.

This present era enables the teachers to make innovation in the learning media they use. The fact that the proportion of students accessing internet to support their learning increases is the reason why teachers should master varying learning media. Anderson in Sukirman (2012: 28) states that learning media is the one allowing for the realization of direct relationship between a developer of subject and his/her students. So many software and technology-based media supports the creation of learning media out of conventional media. Eristi & Belet (2010: 31) states that technology support which aims to annihilate students' negative views, attitudes and reluctance about learning can make learning more effective.

Lectora inspire is one software that can be used by educators as a means of developing learning media. The media produced is learning multimedia. The rapid development of technology has allowed for the integration of multimedia technology into teaching-learning process, and multimedia provides a constructivist learning environment in which students can solve problem by means of self-exploration, collaboration, and active participation (Agarwal & Malik., 2012; Rias & Zaman., 2011, Gulliver & Ghinea., 2009). Through multimedia, reciprocal relationship between teacher and students can be created.

Lectora Inspire can work with animation, social media, power point, video, and responsive program design (Fasthea., 2015; Mas'ud., 2014). In line with this, Faruk (2014, p. 71) stated that one of one of the benefits using Lectora Inspire is there are so many templates for interactive learning media which can be chosen. In addition, this media is also completed with figure, animation, and questions that can be answered directly, thereby resulting in reciprocal relation between students and teacher. For that reason, this research and development is conducted to study the validity and the feasibility of Lectora Inspire Based-Interactive Learning Media Development Design in General Administration subject.

2. Methodology

This study was a research and development. Development research is different from educational research as the objective of development is to produce product based on the finding of need analysis. The media developed was then validated by media expert, material expert, linguist, practitioners, and ended with limited try out with several students as the users. The instrument used to collect data in this research consisted of observation, interview, questionnaire, and documentation.

a. Observation

Observation was used in this research to collect and to record important things during the learning and to observe the students in the process of trying out the product developed.

b. Interview

Interview was conducted in the beginning stage of preliminary study to find out prior condition of learning process in the research location.

c. Questionnaire

Questionnaire was used during evaluation before and after product tryout in material and media experts. Meanwhile, questionnaire for students is used to find out the response of students and teachers to the media developed.

d. Documentation

This documentation was used to collect data from research location, student name, teacher name and several guidelines in preparing the material used in learning media.

3. Result and Discussion

The development of interactive learning multimedia conducted referred to Borg and Gall's product development model, but it was only limited to validity and feasibility tests on the interactive learning multimedia in general administration subject. The procedure can be explained as follows:

a. Need Analysis

This research focused on general administration learning intended to the 10th Office Administration graders of SMK Negeri 6 Surakarta. This activity of Lectora Inspire-based interactive learning media research and development for general administration subject started with need analysis. Need analysis is the early step before developing the media, so that the need should be identified to follow up the preparation of media planned in the beginning of design. This analysis aims to obtain data and supporting information in developing media so that the media produced will later suit the media users' need. This need analysis was conducted by the author by conducting observation and interview in the research.

Considering the need analysis conducted, it can be concluded that teachers find difficulty in delivering several learning materials and teachers manage the learning less creatively. In this case, teachers also find difficulty in preparing creative and innovative learning media that can trigger the students' learning spirit and activity, thereby in turn expectedly improving the learning outcome of general administration. This development of learning media is supported with adequate infrastructures such as LCD, laptop/ computer, and projector screen. The Lectora Inspire-based interactive learning media for this general administration subject can be used either during the learning in the class or independently, so that the presence of media development is expected to support the learning process. The students can master the material more easily and better so that their learning outcome can improve, thereby improving their activity in learning.

b. Planning

Product development plan should be equipped with learning set and research instrument. It can be explained as follows:

1. Product

The product devised to be developed is:

   a) An interactive learning multimedia prepared for general administration subject to be used by teachers and students using Lectora Inspire software
   b) Feature contained in this media included: basic competency, material, and evaluation question
   c) Needing desktop set such as computer or laptop to operate this media

2. Learning Set, Which Consists of:

   a) Syllabus
   b) Learning implementation plan (thereafter called RPP)
   c) Learning material

3. Research Instrument

The research instrument developed consisted of validation and questionnaire sheets.

a) Validation Sheet

Validation sheet is intended to material expert, media expert, linguist, and practitioners assessing the feasibility of Lectora Inspire based learning product. The feasibility of validation sheet to be used passes through the following procedure:

   a) Preparing outline referring to literature review
   b) Preparing validation sheet based on the outline
   c) Consulting the validation sheet with counselor
   d) Proposing the assessment of feasibility to material expert, media expert, linguist, and practitioner.

b) Questionnaire

Questionnaire is intended to the students attending the learning using an interactive learning multimedia product. The feasibility of questionnaire to be used passes through the following procedure:

   a) Preparing outline referring to literature review
   b) Preparing validation sheet based on the outline
   c) Consulting the validation sheet with counselor

c. *Development of Interactive Learning Multimedia Product*

1. Preparing Prototype of Interactive Learning Multimedia

Preparing the prototype of interactive learning multimedia is the stage in which the author designs the early electronic module to be validated and tried out internally later by experts and practitioners and externally by students. The format of interactive learning multimedia consisted of beginning, main, and end parts.

The product developed in electronic media using Lectora Inspire software can be accessed using computer or laptop and the display of feature contained in learning media developed is as follows:
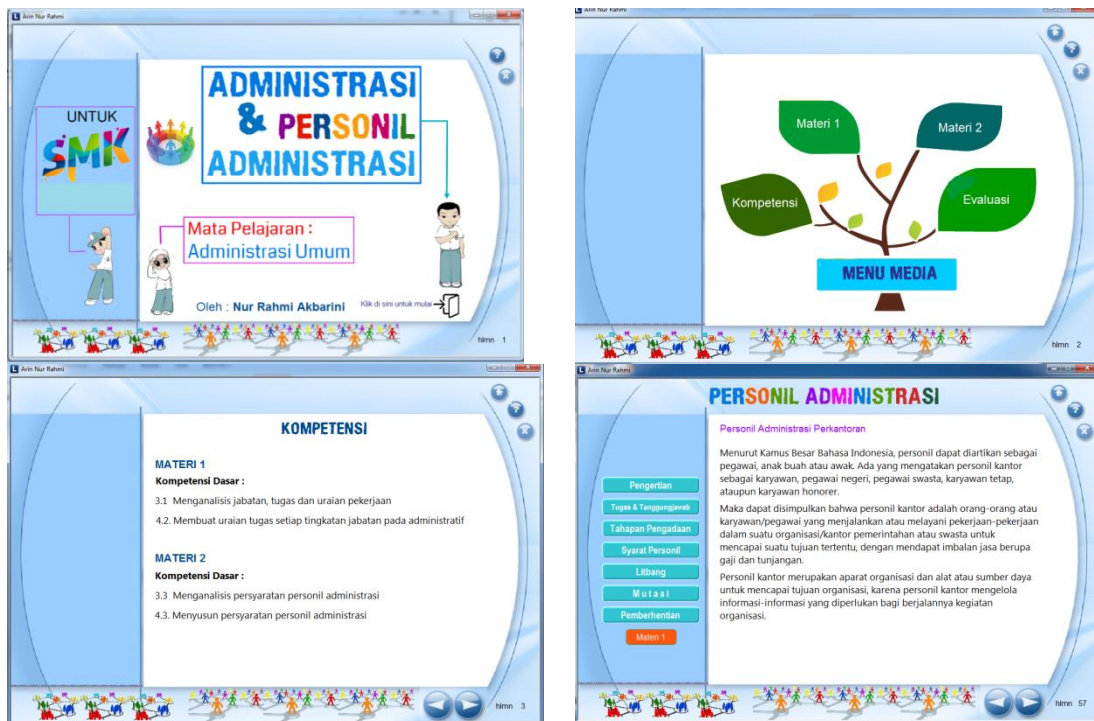

Fig. 1 Display of interactive learning multimedia

2. Product Validation

In this research, validation was conducted by media expert, material expert, linguist, and practitioners. The result of validation is as follows:

a) Media Expert Validation

Validation made by media expert aims to acquire information about the assessment on interactive learning multimedia in general administration subject. The result of validation assessment by learning media expert is elaborated in Table 1.

Table 1 Summary of Interactive Learning Multimedia Validation Result in General Administration Subject by Media Expert

No	Indicator of Media Assessment	Assessment Scale				
		Σ ni	Σ N	%	Score	Criteria
1	Content	34	40	100%	85%	Very Good
2	Objective and benefit	28	32	100%	87.5%	Very Good
3	Characteristics of learning media	43	48	100%	89.58%	Very Good
	Total Score	105	120	100%	87.5%	Very Good

Source: Result of data processing in 2017

The result of assessment on the interactive learning multimedia content by media expert is 34 points from the highest score of 40. The result of assessment on the objective and benefit of interactive learning multimedia by media expert is 28 points from the highest score of 32 points. The result of assessment on the characteristics of interactive learning multimedia by media expert is 43 points from the highest score of 48. The total score is 105 points from the highest one of 120 points. Thus, the score of media expert validation is 87.5%.

Product revision not only refers the score of individual questionnaire assessment items, but is also obtained from the media expert's recommendation. The recommendation given by media expert is that the media has been developed attractively, but its display is still very simple (e.g. powerpoint), so the author should likely revise the media with the better display.

Fig. 2 Display of media before revision

Fig 3 Display of media after revision

b) Learning Material Expert Validation

Validation by material expert aims to obtain the assessment on material and administration personnel material in interactive learning multimedia in General Administration subject, to find out whether or not the content of material in the media developed reflects on the suitability and the appropriateness of material content. The result of learning media validation is presented below.

Table 2 Summary of Interactive Learning Multimedia Validation Result in General Administration Subject by Material Expert

No	Aspect	Assessment Scale				
		Σ ni	Σ N	%	Score	Criteria
1	Content feasibility	20	20	100%	100%	Very Good
2	Presentation feasibility	37	40	100%	92.5%	Very Good
	Total Score	57	60	100%	95%	Very Good

Source: Result of data processing in 2017

The result of assessment on the feasibility of interactive learning multimedia content by material expert is 20 points from the highest score of 20 points. The result of assessment on the feasibility of interactive learning multimedia presentation by material expert is 37 points from the highest score of 40 points. Total score is 57 points from the highest one of 60 points. Thus, the score of material expert validation is 95%.

Product revision not only refers the score of individual questionnaire assessment items, but is also obtained from the material expert's recommendation. The recommendation given by material expert relates to discussion question, in which the word identification is replaced with description because the discussion question instructs the readers to explain in detail the occupation in organization position.

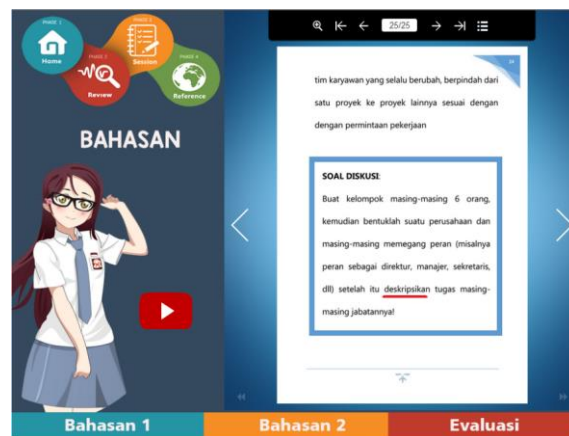Fig. 4 Discussion question before revision

Fig. 5 Discussion question after revision

c) Linguist Validation

The validation is conducted by linguist to get assessment on the language used in interactive learning multimedia in General Administration subject in order to find out whether or not the language used is appropriate to and suitable with the students' understanding.

Considering the result of validation assessment conducted by linguist, the author then summarizes and analyzes using descriptive percentage system. The summary of linguist validation result is presented in Table 3.

Tabel 3 Summary of Interactive Leaning Multimedia Result in General Administration Subject by Linguist

No	Aspect	Assessment Scale				
		Σ ni	Σ N	%	Score	Criteria
1	Language assessment	44	44	100%	100%	Very Good
	Total Score	44	44	100%	100%	Very Good

Source: Result of data processing in 2017

Table 3 shows that the result of validation on the Lectora Inspire-based interactive learning media conducted by linguist obtains score of 100%, with very good criterion. The result indicates that the interactive learning multimedia in general administration subject by linguist is feasible to use in learning process.

d) Education Practitioner Validation

Validation conducted by education practitioners aims to explore information about input to find out the feasibilities of content, presentation, and language used in the media.

Table 4 Summary of Interactive Learning Multimedia Validation Result in General Administration Subject by Practitioners

No	Aspect	Assessment Scale				
		Σ ni	Σ N	%	Score	Criteria
1	Content Feasibility	54	56	100%	96.42%	Very Good
2	Presentation Feasibility	30	32	100%	93.75%	Very Good
3	Language Feasibility	24	28	100%	85.71%	Very Good
	Total Score	108	116	100%	93.10%	Very Good

Source: Result of data processing in 2017

From table above, it can be found that the result of validation on the interactive learning multimedia in general administration subject by practitioners shows that the score of content feasibility aspect is 96.42% with very good criterion, that of presentation feasibility is 93.75% with very good criterion, that of language learning feasibility is 85.71% with very good criterion and total score is 93.10% with very good criterion. The result of assessment shows that the Lectora Inspire-based interactive learning media in general administration subject by practitioners is feasible to use in learning process.

d. *Product Try Out*

This step involves students in product tryout group. The draft learning multimedia that has been developed and consulted with (validated by) media expert, material expert, linguist and practitioners is then tried out to obtain the assessment on the feasibility of media developed.

Tryout is conducted using an interactive learning multimedia by following the Learning Implementation Plan (RPP) that has been developed. Furthermore, the students fill in the questionnaire to give assessment on the media used in the learning. There are 20 assessment items divided into three aspects: media, benefit, and material presentation to the students assessed by the students. The result of questionnaire and recommendation given by students in initial field test is presented in Table 5.

Table 5 Summary of student questionnaire result in product tryout

No	Aspect	Σ ni	Σ N	%	Score	Criteria	Notes
1	Media Aspect	125	144	100	86.80%	Very Good	Feasible without revision
2	Material Presentation Aspect	127	144	100	88.19%	Very Good	Feasible without revision
3	Benefit Aspect	168	192	100	87.50%	Very Good	Feasible without revision
	Total Score	420	480	100	87.50%	Very Good	Feasible without revision

Source: Result of data processing in 2017

From table above, it can be seen the result obtained from the limited tryout using students' response questionnaire in giving assessment related to aspects. The assessment on media aspect of the Lectora Inspire-based interactive learning media obtains score of 86.80% with very good criterion, that on material presentation to students obtains score of 88.19% with very good criterion, and that on benefit aspect to students obtains score of 87.50% with very good criterion, so that the total score obtained in limited tryout is 87.50% with very good criteria. Thus, the interactive learning multimedia is feasible to use in learning process.

Conclusion

Considering the result of research, it can be concluded that the interactive learning multimedia is valid and feasible to use in general administration learning. The result of validation conducted by material expert on the media developed obtains total score of 87.5% with very good criteria, that by learning media obtains total score of 95% with very good criteria, that of linguist obtains total score of 100% with very good criteria, and that by practitioners obtains score of 93.10% with very good criteria. The result of validation conducted by experts is also supported with the result of feasibility test on product tryout obtaining score of 87.5% with very good criteria. Thus, the output of current research can be used as the learning media for teachers.

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