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The development of Patukangan local sites Situbondo e-module for history learning by using Dick and Carey model

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Abstract. Curriculum 2013 was developed to meet the needs of students and environment demands. Relevant with the rapid development of technology, educators are required to have learning innovation. Learning innovation can be performed by educators by the application of technology in facilitating students. One form of learning innovation stuff is the developing electronic modules that is affecting the Z generation. Z generation represents a generation that is adequate towards technology and has a valid desire for independent learner. Based on the need assessment of students at SMAN Situbondo, it showed that 71% of the learning resources used in Situbondo Regency were Text Books or Student Worksheets, and 86% of students need learning resources about their local history. This research aimed to solve the curriculum and utilize the technology gap, particularly local history learning. The research and development method used was the Dick and Carey model. The data collections of the research used interviews, questionnaires and tests. The validation results of the development of the local history e-module showed the results of the content expert validation as much as 78.94%, learning design expert validation as much as 86.67%, language validation was 80%, and individual test was 93.33%. Based on the results of the research, e-module for local history learning was able to be used as learning resource for the students.

1. Introduction

History subject, in the 2013 curriculum has a strategic position. Especially on the formation of character in the life of a nation and country that is dignified, has a sense of nationalism and love for the motherland, and encourages students to be able to face the challenges of the times [1]; [2]. The time allocation of history subject in the 2013 curriculum receives more time than other subjects. However, the results of a study of learning designs designed by educators, the learning materials tend to be on national history [3]; [4]. The development of material has not facilitated the optimization of the potential of local history around the environment of students, in accordance with the demands of basic competencies.

The curriculum provides opportunities for the development of local history around students. 100% local history material has space to be integrated in the history curriculum [5]. So students are facilitated to be more actively explore and find information independently, and develop insights, skills, and understanding of local history events [6]. Learning local history is ideally able to develop the potential of students to love and preserve historical relics in their immediate surroundings.

History material was developed based on the integration of Basic Competencies (KD) into relevant learning content [1]. KD 3.6 "Analyzing the Development of Community Life, Government and Culture during the Hindu-Buddhist kingdom in Indonesia and shows examples of evidence that still applies to people's lives today". The results of the analysis of the need for the development of these materials in class X were 90%. Thus, the development of this material was needed in learning at school.

The results of the study of the Textbooks and Worksheets, local history material has not been published in the two sources of high school history learning. KD 3.6 which explains the local history



material, but in the Textbooks and Worksheets there was only material about national history and did not contain material about local history[3]. In addition, the scope of the history learning material was found that the material in the electronic school book (BSE) lacked detail and was too short in its explanation even though the arrangement was in accordance with KI and KD in the curriculum. The limitations of these learning resources might be a problem that impacts the learning process and student competencies. Therefore, it was necessary to develop teaching materials or learning resources in the form of local history learning modules.

In addition, some researchers also raised the problem of learning history. The results showed that the new paradigm in the 2013 curriculum brought several fundamental changes in the design of instructional designs undertaken by educators, especially in the formulation of objectives, the preparation of research instruments, and the implementation of scientific approaches, as well as models, methods and strategies in learning [5]. However, the fact that there is the ability of educators in developing learning designs, is not based on a correct theoretical foundation but based on 32.7% of research, 44% of experience, 23.35% of intuition.

The results of the performance analysis aimed at finding out the problems at SMAN 1 Situbondo, SMAN 2 Situbondo and SMAN 1 Panarukan, found the following problems: (1) 65% of educators only conveyed the learning objectives at the beginning of the new KD and for the subsequent learning did not; (2) 74% of educators did not develop their own material and only focused on material that was already available in books, the material used were only LKS (Student Worksheet) and Textbooks; (3) 44% of students were less active in learning and less able to solve problems faced; (4) 83% of the learning methods used so far had only been fixed on a few methods and educators were more likely to use the lecture method and even in the teaching and learning process educators in the classroom had not really applied the syntax appropriately; (5) 90% of the learning media used were PPT and LCD, this was because in delivering the teacher's material the lecture method was given more priority; (6) 71% of learning resources used in Situbondo were Textbooks and Worksheets, both of these learning resources were less able to facilitate students in increasing historical awareness (7) 86% of the need for additional teaching materials that are able to facilitate students to increase awareness of the local history of their residence; (8) 71% of learning evaluation activities, students faced the multiple choice questions at the level of understanding, did not facilitate to increase the students' awareness of history.

The complexity of the history learning problems above could be solved through the use of technology to facilitate students. Utilization of technology in the 21st century needs to be developed to meet the learning needs of students [7]. The development of this 21st century learning material in general, revealed great variations in the way it was designed and taught, learning material was included as a content of discussion of learning activities. By developing this material, it is able to meet the needs of the 21st century, both in pedagogy and academic sciences, by teaching that is well designed by educators in practice [8]; [9]; [10]; [11].

21st century skills known as 4C (Communication, Collaboration, Critical thinking and problem solving and Creativity and innovation) are absolutely needed in the era of Industrial Revolution 4.0 [12]. In addition, 4C skills are closely related to the curriculum of 2013. Educators as the agent of change are required to follow the development of technology and design creative and innovative learning [5]. One of forms of technology utilization as the learning innovation is the development of electronic module which influenced on the existence of Z generation. Z generation refers to a generation that is brilliant of technology and has a strong desire of self-directed [2]. So, technology-based e-module becomes a part of learning material which can support today's learning. One of learning sources which can be developed is e-module for local history learning. The development of this e-module was designed to facilitate the students to learn independently [13]. Thus, by the existence of e-module for local history learning, the students can learn with or without the educator.

E-module for local history learning was developed through Dick and Carey development model [14]; [15]. In addition, e-module was developed by using eXe application (R-learning X HTML Editor), the design of this e-module was made as interesting as possible because later this e-module will be completed

by pictures and videos. The aim of this e-module for local history was used to improve the students' learning outcomes that has been validated by experts.

2. Methods

This research was a research and development by using Dick and Carey model. The data analysis used were qualitative and quantitative data analysis. Quantitative analysis was used to describe the module quality developed based on the research of experts (experts of design, language and content or material). While, the qualitative data analysis were gained from the data of observation, interview and documentation. These data were used to find out the improvement of the students' learning outcomes or the cognitive results. The data obtained than were analyzed by using the percentage formulation, as follows:

$$SA = \frac{\Sigma SP}{\Sigma SM} \times 100\%$$

Descriptions:

- SA = Final score
- ΣSP = Number of all respondents' answers
- ΣSM = Number of all the ideal score of 1 item

The improvement of the students' learning outcomes were known from the results of pre-test and post-test that were calculated through the formula of improvement. The improvement data of the students' learning outcomes were calculated through the following formula:

$$\text{Rumus peningkatan} = \frac{Y1 - Y}{Y} \times 100\%$$

Descriptions:

- Y1 = post-test Y value
 - Y = pre-test value
- (Source: Sudijono, 2009)

3. Results and Discussion

3.1 Result of the Experts Validation of E-Module for Local History Learning

The expert validation is a feasibility test dealing with the material, language and design of learning existed in the e- module for local history learning. The result of data analysis of the expert validation on the subject content obtained the percentage value as much as 78.94%. Then, the validators gave comments and suggestions to improve the products related to: (1) figure consistency, (2) figure source. The result of validation of learning design expert obtained the value as much as 86.67%. The validators also gave suggestions and comments for the products improvement related to source giving in each figure. The result of validation of language expert obtained the value as much as 80%. The validators of language expert gave suggestions related to less standard grammar. E-module draft was improved according to suggestions and critics given by the expert.

3.2 Result of Product Trial

The result of product trial success was judged based on the improvement of learning outcomes before and after the use of e-module for local history learning, measured through small group and big group tests.

3.3 Result of Small Group Test

The small group test involved 9 students of class X IPS 3 of SMAN 2 Situbondo. The small group test was used to measure the students' learning outcomes. The following are the values of pre-test and post-test obtained from the small group test.

Table 3. Acquisition of Pre-test and Post-test Values of Small Group Test

No	Name	Values	
		Pre-test	Post-test
1	MF	50	85
2	ATP	40	85
3	VDP	45	90
4	AF	40	85
5	SAP	50	80
6	RP	45	70
7	DD	50	85
8	RAS	30	65
9	DYDS	30	65
Total		380	710

(Source: field documentation)

Based on the primary data obtained on table 3, the total of pre-test value was 310 and post-test value was 710. According to the improvement formula of learning outcomes, therefore it was known that the improvement of learning outcomes as much as 86.84%.

3.4 Result of Big Group Test

The big group test involved 35 students of class X IPS 3 of SMAN 2 Situbondo. The following are the pre-test and post-test values of big group test.

Table 3. Acquisition of Pre-test and Post-test Values of Big Group Test

No	Name	Values	
		Pre-tets	Post-test
1	AS	45	85
2	ATP	50	90
3	ANT	30	85
4	AF	50	75
5	AT	45	80
6	AP	35	80
7	DD	30	95
8	DN	25	85
9	DYDS	40	75
10	DA	60	80
11	DARS	55	80
12	FDA	65	90
13	FW	45	75
14	HAR	45	85
15	HA	40	95
16	HGA	40	90

17	JASH	50	85
18	KBP	40	80
19	MF	25	85
20	MJ	50	85
21	MTS	40	80
22	NA	35	75
23	NF	30	75
24	PFI	45	85
25	QNI	45	80
26	RP	40	90
27	RARP	40	95
28	SBN	40	85
29	SDNA	50	75
30	SAP	40	80
31	TSN	45	80
32	TPAA	45	75
33	UZU	40	90
34	VDP	50	80
35	WDP	50	85

(Source: field documentation)

Based on the results of the students' learning outcomes on table 3, obtained the total values of pre-test of 1500 and post-test of 2910. According to the improvement formula of learning outcomes, it was known that the improvement of learning outcomes as much as 94%. This value was then matched into a category table of learning outcome results and it was obtained the data that the result of the improvement of the students' learning outcomes was categorized as very high. Therefore, it can be concluded that there was an improvement of the students' learning outcomes after using e- module for local history learning.

4. Conclusions

E-module development for local history learning on history subject for class X of Senior High School with Dick and Carey model, it can be concluded that:

- 1) The product developed was an effective learning material to improve the students' learning outcomes in history learning. Before the trial was done, the product had undergone the process of experts' validations on the content of subject, learning design and language. The result of expert validation on content of subject reached the percentage of 78.94%, validation of design expert of learning reached the percentage of 86.67% and the validation of language reached the percentage of 80%.
- 2) In the small group test occurred the improvement of learning outcomes as much as 86.84%. In the big group test occurred the improvement of learning outcomes as much as 94%. Therefore, it can be concluded that there was an improvement of the students' knowledge value (in the big group) after using e-module for local history learning.

Based on the results of the research above, it can be concluded that the product of e-module for local history learning on Indonesia history subject class X of SMA with Dick and Carey model that had

been developed and validated and got good result. E-module for local history learning was also able to improve the students' learning outcomes on the history subject.

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