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DEVELOPING CIVIC EDUCATION E-MODULE BASED ON PROJECT BASED LEARNING TO IMPROVE STUDENTS IN CIVIC LITERACY

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ABSTRACT: *The selection of the right media is certainly very influential on the success or failure of a teaching and learning process. Modules as one of the learning media must also adjust, one of the ways is by using electronic modules (e-modules). The limitations of print media such as student books in the effectiveness of their use open opportunities for the integration of supplementary teaching material with the latest information technology to support the achievement of 21st-century skills, one of which is civic literacy through an E-module.This study aims to develop Project-based learning-based civic education and e-modules to improve students civic literacy skills. E-module can be used as an alternative source of practical and contextual learning because it can be used anywhere and the material presented is relevant to real life. This research is research and development, adapting the ADDIE (analyze, design, development, implement, and evaluate). Based on experts judgments and limited testing, of Project-based learning civic education e-module and instrument civic literacy are feasible to apply in civic education learning to improve civic literacy.*

Keywords – E-module, Project Based learning, Civic Literacy

I.   INTRODUCTION

. Advances in science and technology have an impact on the development of education in the world, especially in Indonesia. In line with advances in technology and information, developments in the world of education must experience better changes as well [1], [2], [3], [4], [5]. In this regard, the development of the world of education requires teachers to know how to package learning to be more attractive and the skills needed by students can be facilitated in this 21st-century [6], [7]. The 21st century is an era in which the dynamics of scientific, technological, and social growth occur very rapidly [8], [9], [10]. Indonesia's 21st century skills are facilitated in the world of education through the 2013 Curriculum. Currently, Indonesia is aggressively developing the 2013 curriculum which is designed as a national curriculum, of which part of the curriculum has been used by schools in Indonesia [11].

The 2013 curriculum focuses on modern pedagogy by applying a scientific approach. The Scientific approach includes activities to observe, ask, try, present, conclude, and create for all subjects [12]. The government in the Regulation of the Minister of Education and Culture Number 65 of 2013 concerning Process Standards recommends suitable learning models to be implemented based on the 2013 Curriculum, one of which is the project-based learning model. Project-based learning is curriculum fueled and standards-based. Project-Based Learning is a learning approach that requires standard content in the curriculum. Through Project-Based Learning, the inquiry process begins by raising a guiding question and guiding students in a collaborative project that integrates various subjects (materials) in the curriculum , directly, students can see various major elements as well as various principles in a discipline that is being studied [13].

The application of Project-Based Learning has shown that this approach can make students experience a meaningful learning process, namely learning developed based on constructivism. Students are allowed to explore their own information through reading various books directly, making presentations for others, communicating the results of their activities to others, working in groups, providing suggestions or ideas for other people, and various other activities. All of them describe how adults should learn to be more meaningful.

Learning resources in the form of teaching materials are an important element in the formation of learning. The existence of teaching materials will help teachers design learning, while for students, teaching materials will help them master learning competencies. The government has made efforts to meet the need for teaching materials. Curriculum 2013 by providing Teacher Books and Student Books. The availability of Teacher Books is intended as a minimum guideline for teachers in implementing the learning process based on

the 2013 Curriculum, while Student Books are books provided to help students in the learning process and master the expected competencies. Based on the analysis of the Teacher's Book and Student's Book that has been carried out, the competences of 21st-century skills that are important for students to master have not been fully developed. Student books in printed form also have limitations in presenting the material. The limitations of print media open up opportunities for the integration of a supplement of teaching materials with the latest information technology to support the achievement of 21st-century skills through Student Books.

The teaching materials developed should be able to be used independently and be easily accessed by students. Modules can be a form of teaching material that is developed because modules have five main characteristics which are their advantages, namely self-instructional (facilitates independent learning), self-contained (contains all material), stand-alone (does not depend on other teaching materials), adaptive, and user-friendly (easy to use). As an effort to adapt to the development of the module era, it is made in electronic form so that it is more practical and efficient. This is in line with research conducted [14] regarding a form of technology development in learning that must produce products, one of which is learning media which is used as a learning resource. [15] added that this global generation is very sensitive to technology, meaning that they have the superior ability to use technology to develop knowledge. This great potential should be maximally utilized by the teacher so that learning can be carried out in a directed and effective manner.

The development of teaching materials can be developed with a learning model that is considered capable of improving student learning outcomes [16]. [17] shows that the problem-based civic education module is feasible and effective for improving students' conceptual understanding in learning materials. In other words, this problem-based module can improve students' activities and critical thinking skills in solving authentic problems. Integrating technology in education, especially related to online-based learning, brings a new revolution and enables the achievement of high understanding and learning outcomes [18]. [19], [20], stated that the use of e-modules can increase student learning attractiveness because it provides interactive material. Various components of electronic modules presented online (text and images, videos, simulations, and feedback questions) are considered effective by students as learning experiences [21].

Relevant research was carried out [22], namely e-modules which were developed to support customization learning service companies, E-modules were developed using the Adobe-flash CS6 application, and the development used the ADDIE model. Research on e-module development [23] states that the e-module developed can improve students' science process skills as evidenced by the N-gain result of 0.6 which is in the moderate category. E-Module is an interactive information technology-based module that facilitates investigations, displays images, audio, video, animation, and is equipped with an evaluation test as feedback for learning [24]. E-Module based on Project-Based Learning is designed as a learning resource and media that refers to the characteristics and syntax of Project Based Learning [25].

The characteristics of the E-Module contained in the Project-Based Learning stage consist of problem solving instructions, video observation of problems, formulating problems, formulating hypotheses equipped with civic education information, presenting data, presenting data analysis results, presenting conclusions, learning summaries, evaluating processes, and evaluation of results [26]. The advantages of E-Module make it easier for students to recognize subject matter that has the potential to provide better understanding of concepts and guide students to solve problems independently so that they can train and foster high-order thinking skills that have an impact on students' conceptual understanding [27]. Display objects in the form of images, audio, animation, and teaching materials on the E-Module are able to accommodate the improvement of students' process skills, namely observation, communication, asking questions, applying concepts, making hypotheses and predicting phenomena presented in the E-Module [28].

In the era of globalization, civic education should be able to increase civic literacy which has the ability to think to solve individual problems and issues in society so that they can play a role as good citizens. One of the keys in facing the challenges of the 21st century is civic literacy, which is the ability of individuals to understand and apply the concept of civic education in real life. Civic literacy at this time can be a guide that must be owned by every individual both in everyday life and in the world of work. Individuals who have civic literacy can use their knowledge to solve problems in everyday life. The challenge for developing civic literacy into Civics is not only the skills of teachers, but what needs to be paid attention to is the instant culture of accessing information through internet media. This culture causes netizens to be less sensitive in responding to any information and is often talkative about disseminating invalid information to other netizens. They may have been equipped with easy means of obtaining information and affordability of communication tools for all groups, but the mental preparation of internet media users has not yet fully worked out.

The results of research [29] show that the civic literacy of students in Tasikmalaya Regency is very low. The results of this study explain that the average civic literacy ability of Indonesian students is only able to recognize basic facts, they have not been able to relate this ability to various topics, issues in society, let alone apply concepts [30]. This condition triggers the need for efforts to continuously improve civic education learning in schools. Based on the various problem studies that have been described, the researcher is interested

in conducting a study by developing a project-based learning e-module for civic education to improve students' civic literacy skills.

II.   METHODS

The development model used is the ADDIE development model consisting of Analyze, Design, Develop, Implement, and Evaluate [31]. This research was conducted only up to the development stage, namely through expert validation, limited testing, and revision of the results of expert validation as well as limited trials.

Data analysis was obtained through the following steps: a) tabulating all data obtained from each product validation sheet and assessment instrument; b) calculating the average score of each aspect of the assessment given by the appraiser using the equation, and c) converting the average score into category scores. The quality of the product developed will be known by changing the data from a quantitative score to an interval with a scale of five [32].

III.   RESULT AND DISCUSSION

The quality of education is influenced by the availability of learning facilities, the use of time, and the use of learning media or teaching materials [33]. So for the achievement of activities in learning can develop cognitive, psychomotor, and affective abilities in order to achieve optimal learning outcomes [34], [35], [36]. So that learning requires media, where there are learning media in hard file form such as learning books, LKS, modules, and handouts [37], [38], [39]. As for soft files such as e-modules, e-books, and slides [40], [41].

In this development research activity, the first activity carried out is analyzing needs by observing and interviewing school teachers about how to use teaching materials, learning models, and student civic literacy at the school, then analyzing curriculum and teacher's books and student books and analyzing KI and KD which then determine the Civic education material to be used. After that, it was concluded that there is a need to develop e-modules for Civic education based on project-based learning to improve students' civic literacy skills in the material of national identity, rights, and obligations of citizens. The second stage is the planning or design of the product, where at this stage the product is made using the Moodle software. Moodle is software that can be used in building e-learning concepts. Various types and forms of learning material can be used on this Moodle device [42].

Moodle can be operated online and consists of: (1) Cover, this section includes the title, school logo, login page (https://emodul.online/), description of learning material for each meeting and product description; (2) Dashboard, in this section, consists of my courses which include material at each meeting, a summary, and bibliography [43]. In learning activities in e-modules are made based on steps from the project-based learning model which are visualized with the features contained in the moodle such as the video watching feature, which describes the form of student-oriented steps on the next problem after watching the video students will be asked a question which is an overview of the steps to organize students to learn which is then equipped with the flash info feature, then the let's investigate feature is an overview of the steps to guide students to investigate or experience individually or in groups, then they speak up feature is a description of the steps to develop and present the work of the activities at the previous step. the step of analyzing which contains a description of the material as a reference for the series of learning that has been carried out and the last is the explore your knowledge feature which contains description questions to measure students' abilities after learning which is a description of the evaluation step of the problem-solving process.

In the last stage, development is the realization of the activities in the previous stage. Product designs that have been compiled are developed based on the following stages: (1) the concept of media, a process of selecting or developing media based on context, resources, working conditions, culture, and practicality. In this case, the concept used is member login, where students can log in and log out of the e-module server. This is done to simplify the process of developing the product to be used; (2) media development system; (3) Visualization, is an element that is developed based on a display that is easily understood by new users. This section can be developed through a process of expert validation and limited testing. The visualization used is javascript-based which manages interactive features, displays, and is easy to understand. At this stage, the analysis and validation of the e-module civic education based on project-based learning was carried out on the material of national identity, rights, and obligations of citizens by the validator in terms of materials, media, and limited trials or legibility tests on six students with two people each. low, medium, and high ability students. The purpose of this validation is to determine the feasibility of a product in the form of a project-based learning-based e-module civic education that has been developed from the validation results of project-based learning-based e-module civic education in the form of values and suggestions. The value of the score obtained from the validator is converted into quantitative data with a scale of 5 in determining the feasibility of a project-based learning-based e-module civic education that has been developed.

E-modules are the effectiveness of materials that can build competencies and assess the need for learning [44], [45], [46]. For this reason, the teaching materials used by researchers are technology-based and

are developed so that they become products in electronic [47]. The teaching material is in the form of an E-module which contains a unit of material concept that can be displayed with an electronic device in the form of a computer [48]. Among them, E-modules can be used as learning media because they have advantages that can be accessed anywhere and integrated content by video, audio, and images that help understand lessons [49], [50], [51]. The advantages of e-modules include [52], [53] Economical manufacturing budget, more efficient to carry, strong and will not be worn out by time and can be equipped with images, video, audio, and animation. software that supports the creation of e-modules [54].

The e-module concept of civic education prioritizes the appearance or presentation of learning material in the form of images [55], besides that the civic education learning model has several advantages [56], [57], [58]. make learning more fun, can encourage students to complete their learning activities [59], help students be more focused and understand the material being studied, and provide opportunities for students to compete, explore and achieve [60], [61].

IV.   CONCLUSION

First, project-based learning-based civic education modules are teaching materials made online that are practical, flexible, and independent so that they can facilitate students' civic literacy skills in order to solve problems in everyday life and to meet global challenges. Second, based on data analysis that has been carried out, the e-module of civic education based on project-based learning is suitable for use in terms of material and media with very good categories. Third, based on the results of the analysis of the civic literacy instrument, it is found that the instrument is suitable for use and is in a good category. Fourth, based on a limited trial of e-module civic education products based on project-based learning in terms of student readability, it is very suitable to be used for the implementation stage in seeing the increase in student civic literacy.

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