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Development of a Mobile Learning-Based Digital Flipbook for Professional Teacher Education Vocational Programs

Johar Maknun^{1*}, Dinn Wahyudin², Yulia Rahmawati³, Asep Maosul⁴

^{1*}Department of Architectural Engineering Education and PUI TVET - RC Universitas Pendidikan Indonesia, ²Teacher Professional Education Study Program, Universitas Pendidikan Indonesia, ^{3,4}Culinary Education Study Program, Universitas Pendidikan Indonesia

Email: joharmaknun@upi.edu^{a*},

dinn_wahyudin@upi.edu^b, yuliarahmawati@upi.edu^c, asepmaosul@upi.edu^d

ABSTRACT

The main objectives of this research are developing Teaching Materials for the Vocational Teacher Professional Education Program Using M-Learning-Based Flip Book Maker Educational Media. In detail, the objectives of this study are to 1) analyse the need for developing teaching materials for the professional teacher education program Vocational using m-learning-based flip book maker educational media; 2) Develop teaching materials for the Vocational PPG Program using m-learning-based flip book maker educational media; 3) Implementation of PPG Vocational Program teaching materials using m-learning-based flip book maker educational media and 4) Knowing student responses to the use of Vocational PPG Program teaching materials using m-learning-based flip book maker educational media. Developing teaching materials that are technological developments is very important to increase the learning effectiveness of Vocational Professional Teacher Education. One of the efforts is Developing Teaching Materials for the Teacher Professional Education Program vocational Using M-Learning-Based Flip Book Maker Educational Media. The research results are expected to solve the learning problems faced by Vocational Professional Teacher Education in presenting learning media in the form of a flipbook maker based on mobile learning to improve the quality of the Vocational Professional Teacher Education learning process and outcomes. In this study, the development of mobile learning-based flip book maker educational media is used to facilitate the teaching and learning process and increase student motivation so that the teaching and learning process is more lively and vibrant.

Keywords: Flipbook, M-Learning, Vocational Professional Teacher Education

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INTRODUCTION

Indonesia's success in leading young Human Resources (HR) to face the industrial revolution 4.0 of which is determined by the

quality of Lecturers, Teachers, and other Educators, namely mastering: (1) Skills (in leadership and teamwork), (2) the Ability to adapt to new technologies and global challenges (Cultural Agility), and (3) have entrepreneurial skills (Entrepreneurship), including mastery of social entrepreneurship. The adoption of new

technology into the industrial revolution 4.0 is also marked by the ability of Indonesian human resources to make various innovative breakthroughs, increase the ability to optimally utilise information from the internet, expand access and improve 'Cyber Security' protection (Nasir, 2018).

The role of teachers in the 21st century from a global perspective will be very strategic in character-building efforts and improving the quality of human resources in each country. The role of the teacher in question is even more important when it is associated with issues and problems of globalisation, shifts in life values, the interplay of lifestyles between nations, environmental damage, and the tendency of humanity to return to its authentic identity. This condition further confirms the statement that: (1) quality education is a basic requirement for improving the quality of human resources in filling the universal era, and (2) countries that pay attention to the quality of education have experienced remarkable developments. Education in the form of quality human resources is a fundamental basic capital for developing countries and nations (Babu dkk, 2016).

In achieving such educational outcomes, strategic efforts are needed to improve the quality of various elements of teacher education, including vocational

teacher education. One of the efforts that can be made to improve the quality of teachers is by improving the quality of the professional teacher education program learning process. One of the important components in learning the professional teacher education program is the provision of teaching materials according to student needs and technological developments. To fulfil one of the needs for implementing professional teacher education program learning, this research seeks to develop professional teacher education program Vocational Teaching Materials using mobile learning-based flip book maker educational media (Ellsworth, 2005).

Media is an inseparable part of the teaching and learning process to achieve educational goals in general and learning objectives in schools in particular. Media that carry messages or information for instructional or teaching purposes are called learning media (Arsyad, 2000:2-3). Using teaching media in the teaching and learning process can generate new desires and interests, generate motivation and stimulation of learning activities, and even psychologically affect students (Hamalik in Azhar Arsyad, 2007:15).

The role of teachers in the national dimension is very strategic to improve community human resources. Teachers as

professional educators are stated in Law Number 14 of 2005 concerning Teachers and Lecturers Article 1 (1), namely teachers are professional educators with the main task of educating, teaching, guiding, directing, training, assessing, and evaluating students in children's education early childhood through formal education, primary education, and secondary education. Meanwhile, the preparation of teachers as professional educators is stated in Government Regulation Number 74 of 2008 concerning Teachers and reinforced by Law Number 12 of 2012 concerning Higher Education Article 17 (1), which states that professional teacher education is higher education after the program undergraduate (academic) that prepares students for jobs that require specific skill requirements, 1) Knowledge of learners and how they learn and develop within social contexts; 2) Conception of curriculum content and goals: an understanding of the subject matter and skills to be taught in light of the social purposes of education, 3) And understanding of teaching in light of the content and learners to be taught, as informed by assessment and supported by classroom environment (Hammond & Bransford, 2005).

Form of restructuring or curriculum design coherently (vertical coherence) between curriculum content or content that

refers to the body of education science (body of knowledge). Curriculum content includes knowledge of teaching materials (content knowledge), knowledge of general pedagogical knowledge that applies to all fields of study, knowledge related to learning approaches and methods and their specific application in certain fields of study (content-specific pedagogical knowledge), knowledge of learners' characteristics, knowledge and skills in developing curriculum (curricular knowledge), knowledge and skills in developing assessment tools (assessment and evaluation), knowledge of the context of education (knowledge of the context of education), superior attitudes and behaviour accompanied by mastery of skills to adapt to the challenges of the 21st Century (future life skills). These skills include the 4 C's, namely the ability to be creative (creative skills), critical thinking (critical thinking); communication skills (communication skills), the ability to collaborate (collaboration skills) by utilising ICT that allows teachers to adapt to the challenges of the educational environment they will face (Tom, 1997).

An investment in educators is an investment in students, and teaching quality is widely recognised as the most essential in-school factor affecting student learning. Improving teaching quality begins by

attracting the best to the profession. One way to do this is to ensure that the teaching profession is respected. The responsibility we entrust to educators and their influence on the future of our country is too great to allow a public discourse that denigrates educators and belittles the profession (American Association of School Administrators -AASA and the American Federation of Teachers –AFT, 2017). Digital books are publications in the form of text and images in digital form that is produced, published, and can be read through computers or other digital tools (Andina, 2011). The same thing is written in the English Dictionary, which gives the term E-book to the electronic version of the book. An E-book is an abbreviation of an electronic book, a form of a book that can be opened electronically via a computer. At the same time, interactive is defined as an activity of mutual interaction (going in two directions) between the media and those who use it (users).

The digital book display design in great demand by the public is a digital book with three-dimensional e-book technology known as a flipbook, where pages can be opened like reading a book on a monitor screen (Riyanto et al. 2012). Flipbooks began to be developed for learning in schools. Research conducted by Ramdania et al. (2007) stated that using flipbook media

in learning can improve student learning outcomes. Students' interest influences this because it looks more attractive and interactive than printed books. This latest technology provides great opportunities for using digital books in science and distance learning (Gorghiu 2011). Things are needed in the development of digital books as learning resources, namely learners (learners), learning facilities and media, facilitators (teachers), and the availability of evaluations or tests (Shideqy & Lestari, 2010).

The interactive concept is most closely related to computer-based media. Interactions in computer-based learning environments generally follow three elements, namely: 1) sequential instructional sequences, 2) student answers/responses or work, and 3) adjustable feedback (Arief, 2009). Interactive media usually refers to products and services on digital computer-based systems that respond to user actions by presenting text, graphics, animation, video, audio, and others.

There are three main things teachers should master, especially in carrying out their main task of teaching. These three competencies are related to knowledge about students and understanding how students learn and develop their personalities in a social context, curriculum concepts,

especially about the content and objectives to be achieved in the learning to be carried out; and understanding of teaching about the material to be taught, the condition of the students who will be taught, how the assessment system is carried out including the classroom environment.

Therefore, Professional Teacher Education is the last line of maintaining the quality of teachers produced by higher education, in this case, LPTKs. (Kemristekdikti, 2017). In this study, the development of mobile learning-based flip book maker educational media is used to facilitate the teaching and learning process and increase student motivation so that the teaching and learning process is more lively and vibrant.).

METHOD

This study aims to produce learning media for urban youth in West Java in the form of a Flipp book. In making videos using a flip book, the manufacturing method developed by Villamil-Molina consists of four stages: development, preproduction, production, and postproduction (Casanova & Molina, 1997).

At the development stage, adjusting the concept of multimedia products began to be compiled and formed based on existing ideas. At this stage, the author performs three techniques in collecting data for making flip book videos: library research, observation, and interviews. In this second stage, make preparations to work on multimedia products. This stage is important in

making a flip book video. The design includes making video plots, scripts, and storyboards, making videos used in each scene. Furthermore, the output of the animated video is determined, including the format, resolution, framerate, and duration. In the next stage, the flip book learning media product that has been made enters the testing stage.

RESULT AND DISCUSSION

Digital books are publications in the form of text and images in digital form that is produced, published, and can be read through computers or other digital tools (Andina, 2011). The same thing is written in the English Dictionary, which gives the term E-book to the electronic version of the book. An E-book is an abbreviation of an Electronic book or electronic book and is a form of a book that can be opened electronically via a computer. At the same time, interactive is defined as an activity of mutual interaction (going in two directions) between the media and those who use it (users).

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Android is an open-source operating system, the same as when you use the Linux operating system with its various distribution variants. You can download the Android operating system for free if you want to know how the program code is used. Or, even more, you want to modify the android operating system. And it is legal and allowed (Irsyad,

2016). The learning process that still uses less varied media that only focuses on the teacher (Teacher Center) causes low learning outcomes, lack of motivation to learn, is not fun in the learning process, and has meaning for students.

The model of sustainable teacher professional development is carried out by taking into account five main components: 1) Professional teaching standards, namely professional standards that seek to advance the vision of the teaching profession and communicate appropriately, 2) Standards for assessing, namely assessment standards based on evidence during teaching and learning activities, 3) Implementation standards that address the important details of evaluation, namely the implementation standards of how teachers conduct evaluations, who is involved, how long it takes, and how the evaluation results are conveyed to related parties, 4) Standards for professional context, which relates to the standards of teaching and learning processes in schools, available facilities and infrastructure, educational facilities, including the physical environment and social environment in schools, 5) Standards for systems of support, namely system standards that regulate teacher careers, how teachers can have the opportunity to improve their abilities and competencies, through a teacher career development system and a continuous training system (Fowler & Leonard, 2021).

This is one of the obstacles to achieving educational goals. The learning media used previously were less varied, so students could not understand concepts, causing low learning outcomes. And learning that does not involve

students directly will also lead to low student interpersonal skills. Kvisoft Flipbook is a powerful software that converts PDF files into digital publication flip pages. This software can change the appearance of PDF files to be more attractive, like a book (Erna, Elfizar, & Dewi, 2021).

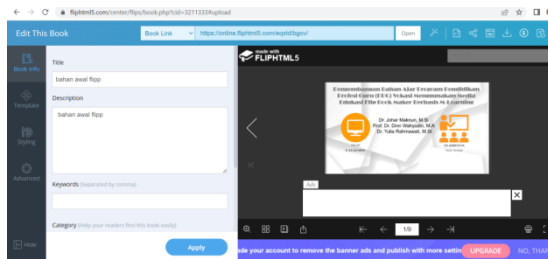


Fig.1 Initial view of making flip book maker media



Fig.2 Media flip book maker is ready to use

The development of teaching materials that are by technological developments is very important to increase the learning effectiveness of the Vocational PPG Program. One of the efforts made is Developing Teaching Materials for the Vocational Teacher Professional Education Program Using M-Learning-Based Flip Book Maker Educational Media.

CONCLUSION

In achieving such educational outcomes, strategic efforts are needed to improve the quality of various elements of teacher education, including vocational teacher education. One of the efforts that can be made to improve the

quality of teachers is by improving the quality of the professional teacher education program learning process. One of the important components in learning the professional teacher education program is the provision of teaching materials according to student needs and technological developments. To fulfil one of the needs for implementing professional teacher education program learning, this research seeks to develop professional teacher education program Vocational Teaching Materials using mobile learning-based flip book maker educational media. Developing teaching materials that are technological developments is very important to increase the learning effectiveness of Vocational Professional Teacher Education. One of the efforts made is Developing Teaching Materials for the Vocational Teacher Professional Education Program Using M-Learning-Based Flip Book Maker Educational Media.

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