The Effectiveness of Developing Digital Comic Media in Online Learning at SMK Nusatama Padang

*Maswati, Anni Faridah

Master Program of Technology and Vocational Education, Postgraduate of Engineering, Universitas Negeri Padang
*E-mail: maswatimaswati2@gmail.com

ABSTRACT

This study aims to improve student learning outcomes on the subject of food safety through the development of digital comic media at SMK Nusatama Padang. This research is development research with a 4-D model. The data in this study are the results of qualitative research given by experts/teachers and students through a given questionnaire. Then the daily test value and practice value. The results showed that: The use of digital comic learning media can improve student learning outcomes by looking at differences in learning outcomes from the pretest and posttest. Posttest learning outcomes are higher than the pretest. Therefore, comic media is recommended for use by teachers in learning food safety.

Keywords: Effectiveness, Media, Learning, Comics, SMK Nusatama

INTRODUCTION

Education has a very important contribution to improving the quality of a person. Likewise with a country, of course, education has a very important role in improving the quality of the nation and progress of a country. According to Law no. 20 concerning the "National Education System", Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character and skills needed by themselves, society, nation, and state.

2020 was a tough year for all of us, until now Indonesia is still being hit by the COVID-19 pandemic (Putra, 2021). This pandemic has greatly impacted all sectors including education. To minimize the spread of COVID-19, several local governments have decided to implement policies to dismiss students and start implementing learning methods by learning from home (Bhamani et al., 2020). By KEMENDIKBUD circular letter No. 4/2020 concerning "Implementation of education policies during the emergency spread of COVID-19" recommends carrying out a learning process from home through Learning from home. Learning from home or Learning from Home is carried out with a Distance Learning (PJJ) system. According to Izza (2021), The online learning system is a learning system that is carried out without face-to-face meetings between teachers and students. Where teachers and students do learning together, at the same time, but in different places using digital platforms or applications and using internet networks, such as Whatsapp, telegram, zoom meeting, google meet, google classroom, quiet school, teacher's room, and other applications.

According to Wahyuningsih (2021), The change in the learning system that occurred suddenly (due to the COVID-19 pandemic) from conventional to online learning certainly

had an impact on teachers to prepare the materials, models, and learning methods used. Not infrequently teachers experience difficulties in mastering IT so the learning process does not take place optimally. In terms of students, they tend to only take attendance lists and are not very actively involved in learning, which can result in a decrease in learning motivation, learning concentration, and an impact on learning achievement. Almost all educational units experience the same thing, as well as at SMK Nusatama Padang, one of which is in the Food Safety subject, experiences problems in online learning, namely a lack of student motivation in learning, mastery of IT by teachers, especially senior teachers or teachers who are used to teaching conventionally when faced with online learning cannot be carried out optimally, and parents of students, especially from the lower middle-class economy, have not been able to meet the needs of implementing online learning such as laptops, smartphones, pulses/quotas, and other infrastructure facilities that support the implementation learning.

Chandra et al (2019) revealed that the existence of learning media and technology is meant for educators and students. Because learning media and technology can help achieve learning goals. Media is used as a tool for conveying messages or information to educators and students in the learning process. This is in line with the explanation of Musdalifah (2019), that media is a means of transforming or conveying messages. The use of learning media is an important component of the learning process at school. The cognitive theory of multimedia learning emphasizes the combination of learning media in the teaching and learning process so that it can increase improvement in terms of academic performance. Technological developments can be combined with the advantages of comics to produce useful learning media for students, including digital comic media.

One of the interesting media for students is comics. Musdalifah (2019) explains that digital comics or e-comics are the technological transformations of comic media from the beginning of printed comic books to digital comics in electronic format. While using book-making software, students will be more interested in learning because it contains a more attractive display. In addition, comics function to convey instructional messages because comics are reading that the average student enjoys. According to Pranata&Yulianti (2021), a person will learn maximally if he communicates or interacts with a stimulus that fits his learning style.

This digital comic learning media is suitable for use in all learning, this can be proven by the existence of previous studies such as research Sambada (2016) findings show that the development of character value-based digital comics as an accounting learning medium on the basic competence of inventory accounting is included in the very feasible category. Likewise the results of research Ilyana (2016) "Development of Educational Comics Dream of Moni as a Media for Learning Financial Literacy Personal Budget Competence for Elementary School Students, included in the medium category". Learning Accounting on the Basic Competency of Preparing Service Company Financial Statements for Class XI Senior High School, is included in the very feasible category.

Related to this, researchers choose digital comics to be applied in learning Food Safety because learning Food Safety is important as a product subject, especially for basic culinary skills. When learning Food Safety, students pay more attention to texts in student books and explanations so that students are passive and less motivated to think critically. The use of innovative learning media is indeed very important. Thus, it is necessary to develop innovative learning media such as digital comics so that the learning process becomes more interesting and students are more enthusiastic about learning so that student learning outcomes are maximized.

Based on the description above, the researcher wants to use a technology-based learning media, namely digital comic media. The subject of this digital comic research will be

applied at SMK Nusatama Padang. Researchers chose SMK Nusatama Padang as a place to research because the existing media did not match the characteristics of students' learning needs in learning Food Safety. The use of digital comics as a learning medium is considered suitable because apart from the advantages of using comics, the packaging of comics as a digital learning medium feels very close to students who are familiar with and attached to technological developments. In addition, the form of digital comics is light because it only needs to process image files that are not too large, making it easier to access than other digital media, even on an unstable connection.

METHODS

The method used in this research is development research (Driptufany et al., 2021). Widodo et al (2021) add Development research is a process for developing and validating products used in learning to support solving practical problems in the world of education, especially learning problems in the classroom or laboratory. To produce certain products, research that is like needs analysis is used, and to test the effectiveness of these products so that they can function in the wider community, research is needed to test the effectiveness of these products.So this type of research and development is research that is used to produce certain products and test the effectiveness of these products. The development model used in this research is the Four D model (Kurniawan &Dewi, 2017). The research subjects were class X students of the Culinary Department at SMK Nusatama Padang who actively used smartphones. The type of data used in this development research was primary data, meaning that data was obtained directly from research subjects, namely from media experts/experts, learning content experts, students, and teachers who carry out Food Safety learning. The data referred to here are the results of qualitative research provided by experts/media experts, teachers, and students through a given questionnaire.

RESULTS

Food safety subject (Sanitation, Hygiene, and Occupational Safety in the Food Sector)" Is one of the Basic Subjects of the Expertise Program (C2) Culinary Administration. This subject provides knowledge, skills, and attitudes related to aspects of sanitation, hygiene, occupational safety, and health (K3) in the food sector, especially catering.At SMK Nusatama Padang, the subject of Food Safety is a vocational subject that has 12 Basic Competencies for one academic year, each meeting consisting of 2 JP. According to Dimiyati&Mudjiono (2006), learning is a process organized by the teacher to teach students how to learn how to acquire and process knowledge, skills, and attitudes. Thus, it can be said that learning Food Safety is a process carried out by the teacher in teaching students to acquire knowledge, skills, and attitudes so that students can think critically and can practice according to learning objectives.The problems that occur in learning Food Safety are from the results of the pre-research that the researchers did. The author himself feels that it is difficult for a teacher to teach by relying on a textbook and power point where the media is still teacher centered. Teachers also experience difficulties in conveying material because students tend to be passive in participating in learning. In addition, only 2 hours of lessons at each meeting is not enough to convey material and do

the practice.This resulted in many student learning outcomes that were not what should be expected. As a result, many students do not pass the KKM. Of course, this is very detrimental in terms of time for both teachers and students. According to Sanjaya (2011) Problems also arise, namely regarding the learning process. Sometimes in the learning process, there is a communication failure. Learning materials or messages conveyed by the teacher cannot be received optimally, meaning that not all learning materials can be understood properly by students, and the lessons conveyed by the teacher are not digested by students. To avoid all of that, the teacher develops learning strategies by utilizing various media and learning resources that are creative and innovative.

According to Andriani (2010) Media is one of the determining factors for the success of learning. Through the media, the teaching and learning process can be more interesting and fun. Using technological media such as smartphones or computers helps students in the learning process. While digital comics are a learning medium that functions to convey instructional messages because comics are a reading that students generally enjoy reading, in which comics have storylines and characters that play roles in a story. According to Pranata, a person will learn maximally if he communicates or interacts with a stimulus that fits his learning style. Digital comics function well as visual communication learning media, where this learning context refers to the communication process between students and learning resources. Digital comics are simple comics presented in certain electronic media. Therefore, the authors are interested in making digital comic media for this Food Safety subject. Digital comics are a learning medium that students can learn anywhere.

The development of digital comic learning media is a series of processes or activities carried out to produce a digital comic learning media that is valid, practical, and effective. For a more detailed discussion, it can be described as follows:

3.1 Discussion of Learning Media Validation

The validation of this digital comic learning media was obtained from the validator's responses regarding the validity of the developed digital comic learning media. The validators consisted of 4 people, namely two media validators (validators from Universitas Negeri Padang/UNP) and two material validators (one lecturer for the Food Safety course majoring in IKK FPP UNP and one teacher for Food Safety at SMK Nusatama Padang).From the validator, a validity questionnaire was obtained which was filled in by each validator and discussion by showing the digital comic learning media. In the learning media validator, the validation was 0.88 and 0.87 with a very high validity category, while the material validator gave an assessment of 0.90 and 0.93 with a very high validity category. Based on the suggestions and assessments from the validator both in terms of content and design, a revision of digital comic learning was carried out by the suggestions given by validator, so that the digital comic learning media that was developed was feasible to be tested as a learning resource in the subject of Food Safety.An opinion by Arikunto (2014) is that Validation is a measure that shows the level of reliability or validity of a measuring instrument. Distributing validation sheets to several validators consisting of education experts with 20 assessment aspects being assessed. Thus, it can be said that digital comic learning media can improve learning outcomes.

3.2 Discussion of Practicality of Digital Comic Learning Media

Data on the practicality of digital comic learning media was taken through trials carried out at SMK Nusatama in class X Catering. The practicality assessment of digital comic learning media was taken from two responses, namely the response from the teacher and the response from students. The practicality assessment of digital comic learning media by the teacher was obtained with an average of 0.90 and a percentage of 90%. these results

indicate that this digital comic learning media is "Very practical" and makes it easier for teachers to carry out the learning process and assist teachers in explaining the concept of food safety learning materials.In addition to teacher/practitioner assessments, the practicality of digital comic learning media is also assessed based on student responses. The practicality assessment of digital comic learning media by students obtained an average of 81.25% in the very practical category. These results indicate that this digital comic learning media is very practical and can make it easier for students to carry out the learning process and understand the concept of Food Safety learning material.

Ezi (2017) argues that to measure the practicality of media is to see whether teachers/lecturers (and other experts) consider that the media is designed to be easy and can be used by teachers and students. Thus, practicality is related to the convenience of teachers and students in using the products that have been developed to be implemented in the learning process.There are several practical uses of using learning media in the teaching and learning process, namely: 1) learning media can clarify the presentation of messages and information so that it can expedite and improve learning processes and outcomes; 2) learning media can increase and direct students' attention so that it can lead to learning motivation, more direct interaction between students and their environment and the possibility for students to study independently according to their abilities and interests; and 3) learning media can overcome the limitations of the senses, space and time.The use of media in learning can generate new desires and interests, increase motivation, and design learning activities. The presence of digital comic learning media is also said to be able to help increase students' understanding. Presenting information is more interesting, making it easier to interpret data and obtain information. So, in this case the practicality of the media can improve learning outcomes.

3.3 Discussion of the Effectiveness of Digital Comic Learning Media

The effectiveness of digital comic learning media in this research is used to make it easier for students to understand learning material. The effectiveness of developing digital comic learning media in the subject of Food Safety by conducting pretest and posttest trials. According to Sugiyono (2013) that research and development methods are research methods used to produce certain products and test their effectiveness of these products. Thus it can be concluded that development research is a research method used to develop a product and then test its effectiveness.The results of data testing the effectiveness of digital comic learning media are known through the assessment of increased student learning outcomes before and after using the digital comic learning media. Then the average score of student learning outcomes after using the media is analyzed to see the level of achievement learning outcomes in subject of Food Safety by adding up the values.

The standard that is an indicator of success in student learning outcomes is the Minimum Completeness Criteria, namely > 75 by the provisions of the 2013 curriculum used at SMK Nusatama Padang for productive subjects. From this value, the average score is taken for each student.Based on the results of students' pretest and post-test learning, there was a score of before using the media, namely 70.04, and the score after using the media increased to 84.41. "Assessment of known student learning outcomes is analyzed by the t-test. The results of the t-test analysis show that arithmetic> t table (9.23> 2.01) then H0 is rejected, and Ha is accepted. So, there are significant differences between before and after the use of digital comic learning media. Thus, it can be said that the average score of students after using the media is higher than before using the media.Thus it can be said that the digital comics developed are by the opinion of Sanjaya (2011) which says that: 1) the media to be used must be by the objectives to be achieved; 2) must be by the learning material; 3) must be by the needs and conditions of students; 4) must be by the ability of

the teacher in its operation; and 5) must pay attention to the effectiveness and efficiency of the media that is made to be used in learning. Based on Sanjaya (2011), the Dissemination stage was carried out. The dissemination or dissemination stage is carried out by applying this digital comic learning media in the teaching and learning process on the subject of Food Safety. Dissemination can also be done through a process of transmission to related learning practitioners in a particular forum. Researchers have tried to disseminate this digital comic to the Aisyiyah SUMBAR Tourism Vocational School.

This dissemination stage was carried out to know the implementation of media use. From the results of the author's interviews with teachers who teach Food Safety, it is known that student activities during the learning process using digital comic learning media can be said to be good and increase student motivation. And also, this media makes it easier for teachers to teach. It is the author's hope for further learning that this digital comic learning media should be disseminated to Tourism Vocational Schools where there is a Culinary Department that also has a Food Safety subject related to this digital comic media.The role of learning media is very necessary to realize the learning outcomes of this Food Safety subject. The learning media in question are media that support and facilitate the delivery of teaching materials so that the concepts of Food Safety are easy and can be understood by students. Digital comic learning media is one of the right solutions to apply because it can describe material that is abstract with storylines and characters, the time used is relatively short compared to developing manually, and the learning process can be done repeatedly outside the classroom.

CONCLUSIONS

Based on the results of research on the development of digital comic learning media that has been carried out, it can be concluded that 1) The digital comic learning media products produced are in the form of PDFs for Food Safety learning; 2) This development research produces a digital comic learning media that is valid, practical, and effective, for learning Food Safety. The digital comic learning media developed is based on the syllabus for the subject of Food Safety; 3) Digital comic learning media in Food Safety learning has been tested and declared valid, namely 0.88 and 0.87 in the very valid, practical category with values of 90% and 81.25% in the very practical and effective category to be used as learning media in Food Safety subjects; and 4) The use of digital comic learning media can improve student learning outcomes by looking at differences in learning outcomes from the pretest and posttest. Posttest learning outcomes are higher than the pretest.

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