

Development of Literacy and Numeracy E-Comic as An Independent Curriculum Learning Method For Primary School Teacher

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Abstract

Literacy and numeracy e-comic is a type of digital comic designed to teach readers letters and numbers. It is beneficial for improving reading and counting skills as well as the ability to understand information through a more engaging and interactive medium. The purpose of this research is to study the potential of e-comics to improve literacy and numeracy as well as the benefits and problems associated with using them in formal and informal education. The study used literature and a qualitative approach. The results show that e-comics can serve as an effective and engaging learning tool to improve literacy and numeracy, both inside and outside the classroom. The emergence of various e-comics platforms also opens up new opportunities to improve literacy and numeracy through story customization, interactivity and user engagement.

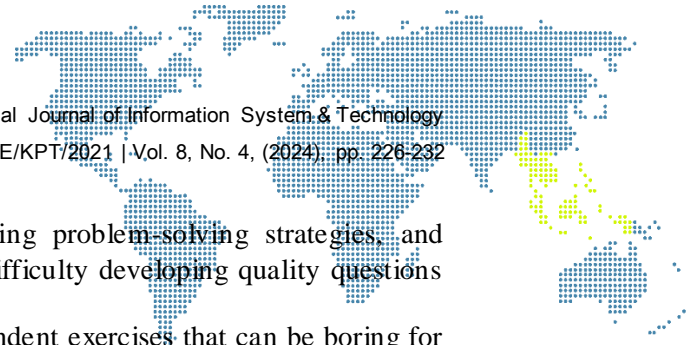
Keywords: E-comic, Literacy, Numerization.

1. Introduction

E-comic is one of the learning materials that fulfill these characteristics. Visual media with clear and consistent story illustrations are characteristic of comic media. Because comics are presented in the form of interesting stories, this helps students understand the contents of comics [1]. Comics are a funny and fun way to convey messages. Comics have the ability to attract students' attention because they are able to provide a more real picture [2]. Developing e-comics requires an understanding of the characteristics of literacy and numeracy learning, as well as the application of digital design skills to present interesting and educational content [3], E-comic or electronic comic is one of the learning media that can make the learning atmosphere more enjoyable because of its attractive appearance.

The program of growing interest in reading (Literacy) needs to be in line with the interests of students who want variety. According to the ICT-based Numeracy Literacy Book "The same thing when the ability to think using concepts, procedures, facts and mathematical tools (Numeration) which has a Personal, Socio-Cultural and Scientific scope". The Merdeka curriculum requires collaboration between the government, educational institutions, and the community. Joint efforts are needed to create an education system that is able to produce the next generation that is resilient and ready to face future challenges [4].

The need for programs in the implementation of learning is an absolute requirement for teacher professionalism in improving the quality of education. Teachers are the people who interact the most with students, besides being responsible for designing and implementing learning activities [5], teachers are also responsible for evaluating the learning activities carried out. Therefore, teachers must have professional qualifications and competencies to improve the quality of education. There are research results that show that students' ability to solve HOTS problems is very low [6]. Students have



difficulty in understanding the problem, developing problem-solving strategies, and drawing conclusions. Indeed, most teachers have difficulty developing quality questions in literacy and mathematic.

Existing learning is more likely to create independent exercises that can be boring for learners. Therefore, teachers teach students so that they are trained in learning based on literacy knowledge, students also lack habituation in practicing numeracy problems in the learning process. Due to the lack of teacher creativity in teaching, teachers only use books as the main learning tool and pay little attention to the use of other learning tools. Learning media should pay attention to the different abilities of each student to meet their individual needs, which will definitely make learning fun.

2. Research Methodology

The research method used in this study is descriptive qualitative research method [7]. This method will assist in gaining a deeper understanding of how comic literacy and numeracy influence teacher learning and student learning experiences in primary schools [8]. It will involve observations, interviews and content analysis to understand the qualitative elements of these learning innovations. Due to teachers' lack of creativity in teaching, teachers only use books as the main learning tool and pay little attention to the use of other learning tools. According to the Book of learning strategies "Learning media should pay attention to the different abilities of each student to meet their individual needs, which will definitely make learning fun".

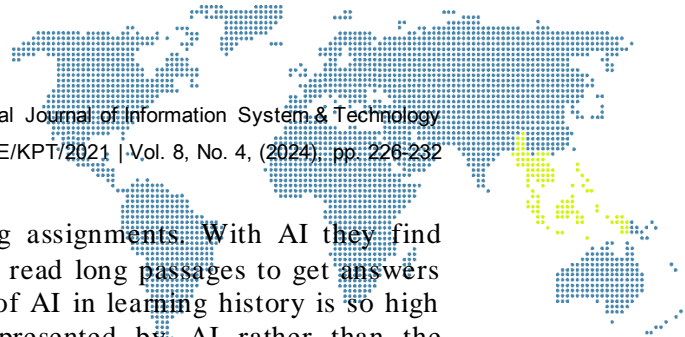
3. Results and Discussion

Artificial Intelligence (AI) is a branch of computer science that aims to develop systems and machines that can perform tasks that usually require human intelligence. AI uses algorithms and mathematical models that allow computers and other systems to learn from data, recognize patterns, and make intelligent decisions. There are several important concepts in the context of AI, including machine learning, neural networks, and natural language processing. The development of AI has a huge impact on various areas of life.

E-comic is one of the learning materials that fulfill these characteristics. Visual media with clear and consistent story illustrations are characteristic of comic media. Because comics are presented in the form of interesting stories, this helps students understand the contents of comics [9]. Comics are a funny and fun way to convey messages [10]. Comics have the ability to attract students' attention because they are able to provide a more real and tangible picture. This activity focused on attracting training with intensive mentoring through *exchange*, active participation, and full involvement by elementary school teachers.

The e-comic development includes creating an interactive e-comic that strengthens students' literacy and numeracy skills with various interesting short stories, accompanied by quality numeracy exercises. And a comic story that contains knowledge and education implemented by the Merdeka Curriculum. E-comic tools and materials that can be used to improve literacy and numeracy e-comics are computers/laptops to create scientific articles and use the Canva application to design e-comics. Steps for making elementary school learning e-comics with using the canva application as follows:

There is a stigma that studying Indonesian history is boring. Students have difficulty understanding the history material provided by the teacher because the teacher only focuses on storytelling skills and encourages students to follow the teacher's example and take notes, listen, and answer questions. This tends to lead to passive student behavior and ultimately causes students to understand the lesson less [11]. Due to difficulties in understanding the history material provided by the



teacher, students also rely more on AI in doing assignments. With AI they find easier to work on problems so they don't need to read long passages to get answers to the questions asked. This shows that the role of AI in learning history is so high that all students depend on the information presented by AI rather than the explanations that teachers and reading books provide.

a) Open a new screen in the canva app

Open the canva application and start with a blank page or choose an e-comic template with a predetermined theme. Then click+ design icon, select or set a page size of 25 x 20cm.

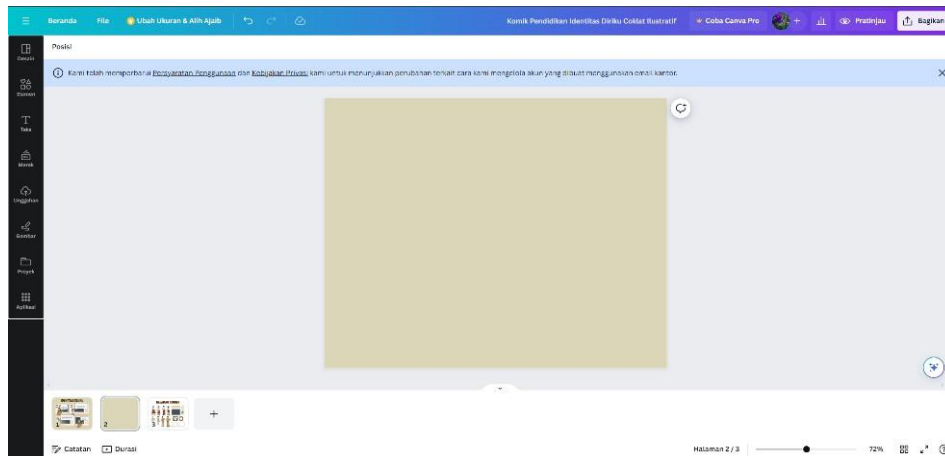


Figure 1. Comic Design View on Canva

b) Insert image elements into the screen

Click the element to search for image characters that match the e-comic to be created, search for several characters that match the e-comic to be created, when the character has been downloaded and matches the character needed then click the character download to be displayed on the e-comic then the character will appear on the design screen.

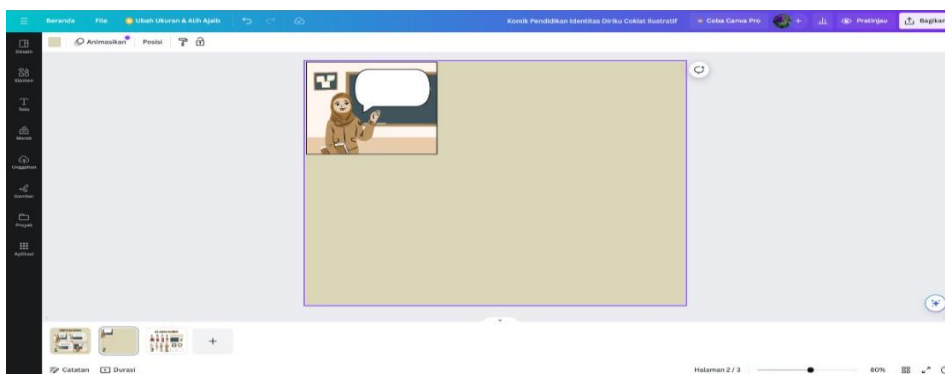


Figure 2. Comic Design View on Canva

c) Insert text into an image element

To make the e-comic more interesting, create a conversation by choosing a conversation bubble with a frame and color that matches the theme of the e-comic to be created. On the e-comic design page, click the text mark or icon with the T mark on the Canva tool. After that, enter the text that will be made into the conversation bubble in the picture above, if there is a text color in the conversation bubble that does not match then click the A icon on the canva tools then select the color to be made.

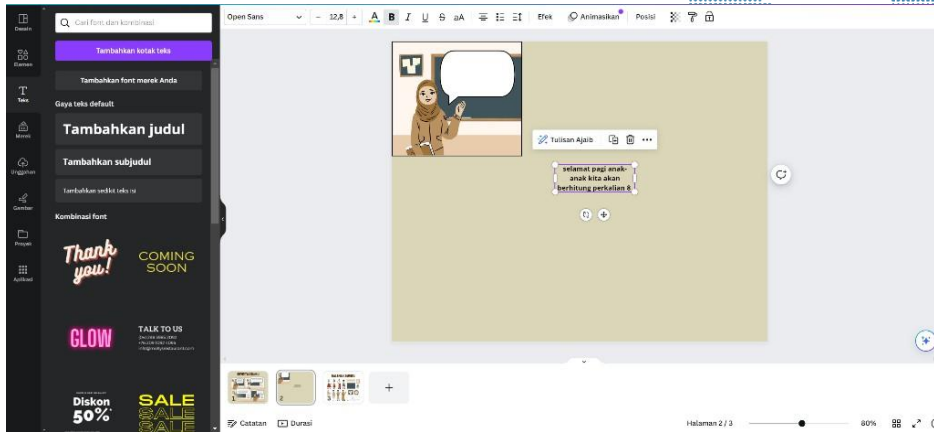


Figure 3. Comic Design View on Canva

d) Completion of e-comic design on canva application

Do the same as step 2 to insert the image into the screen, then add text to the

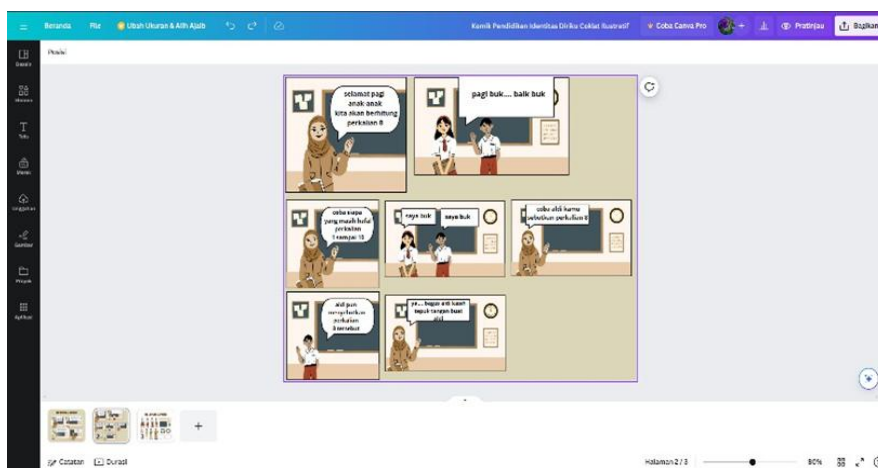


Figure 4. Comic Design View on Canva

Conversation bubble like step 3, make it until the e-comic design is complete. After the image character design is complete, continue to adjust the size of the conversation bubble or bubble frame as desired as well as the colors, text, icons, and image characters so that everything matches. Once everything is in place, the e-comic can be published or shared.



Figure 5. Comic Design View on Canva



Figure 6. Comic Design View on Canva

The information in figures 5 and 6 are the results that have been designed and generated from the Canva application, making it easier for teachers to explore their knowledge to students to make it look interesting and fun during the teaching and learning process at school.

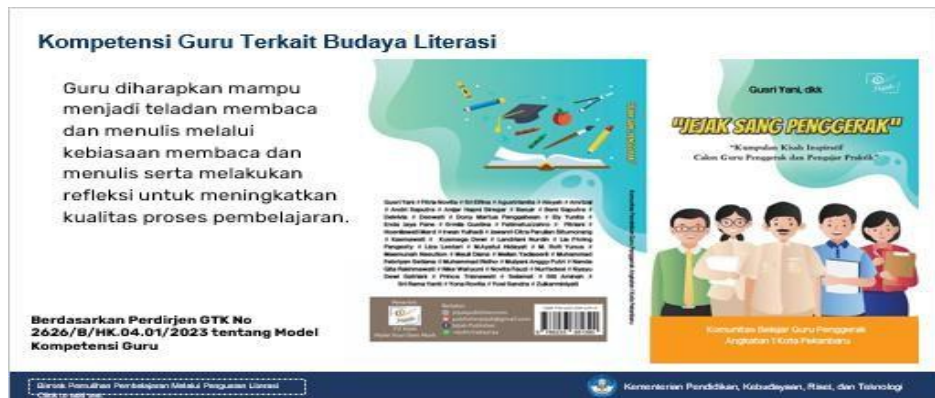
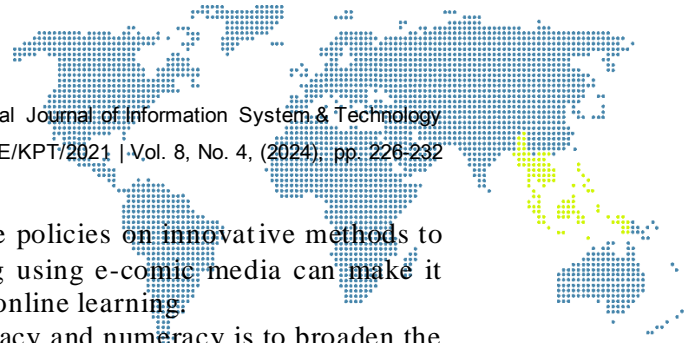


Figure 7. Exposure view of Perdirjen on Teacher Competencies

Figure 7 shows that the Literacy and Numeracy targets are adjusted to the conditions in each school according to the direction of Permendiknas and the school principal. The purpose of e-comic itself in the world of education e-comic media is designed according to the needs of students and the material to be taught can increase students' literacy and numeracy skills, handle the limitations of time, energy, and place during the learning process and facilitate interactive learning methods teachers. The e-comic media is a designed to increase students' interest and motivation to learn, especially in online learning.

4. Conclusions

This research is expected to provide benefits to several user parties, for students: This research is expected to attract attention and can help students become more active in learning and improve student understanding with literacy and numeracy learning through the use of E-Comic as a learning medium that can reduce the boredom that students often experience in the learning process. For teachers: By using e-comic as a learning medium that can help and improve teachers' technological skills in delivering material, e-comic allows the learning system to be not only interesting but also more creative so as to improve the quality of interaction between teachers and instructors which can help create a more interactive learning atmosphere. For schools: E-comic media can improve the quality of learning as an



alternative way to present material and help make policies on innovative methods to improve more efficient learning media. Learning using e-comic media can make it easier for students to access or reach distance or online learning.

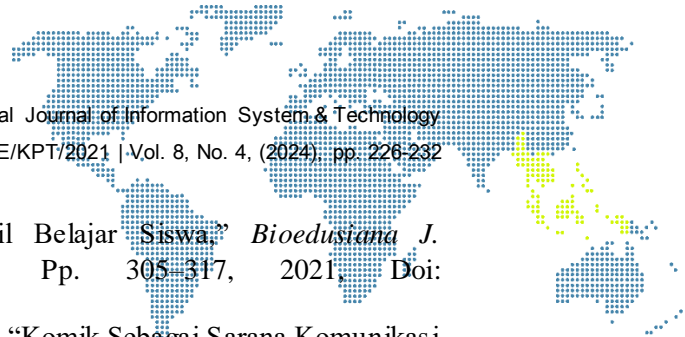
The conclusion of the scientific article on literacy and numeracy is to broaden the understanding of analyzing information encountered in various forms. This numeracy literacy e-comic is very influential for students to increase awareness and develop literacy and numeracy skills and assist teachers and students in helping to achieve learning objectives. This e-comic media can also facilitate students in the learning process both offline and online. E-comic literacy and numerization is also very helpful for teachers in increasing student activeness in learning and can reduce student boredom in the learning process in class or outside the classroom.

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