



Analyzing Early Feedback: Survey Findings from Elementary Teacher Candidates for AI Comic Development Training Workshop

Ibrahim^{1)*}, Muhammad Syazali^{1)*}, Gita Prima Putra¹⁾

¹⁾Primary School Teacher Education, University of Mataram

*Corresponding Author: ibrahim14@unram.ac.id

Abstract: This research aims to investigate interest and readiness of prospective elementary school (SD) teachers towards training workshops comic-based development *Artificial Intelligence* (AI). Through surveys of 104 respondents, data was collected and analyzed to evaluate the level of interest, obstacles faced, and the urgency of such training. The results show that the majority of respondents (49%) expressed readiness to take part in the workshop, while 48.1% gave the answer "maybe willing". However, 2.9% of respondents showed disagreement with the workshop. The main obstacle identified was difficulty in drawing characters (76.9%) and writing story scripts (30.8%). Urgency for organizing such workshops lies in the potential to improve prospective elementary school teachers' skills in using new technology to support learning, while creating an innovative and learning environment relevant for students in this digital era. Thus, this research provides valuable insights for workshop organizers and educators in designing training programs that suit the needs and interests of candidate elementary school teachers in developing comics with artificial intelligence technology.

Keyword: Comics; Artificial Intelligence; Prospective Elementary School Teachers

INTRODUCTION

In today's digital era, technology has become an integral part of the learning process, providing new opportunities to increase student effectiveness and engagement. One technology that has received special attention is *Artificial Intelligence* (AI), which has promised to change the way we learn and teach (Bates et al., 2020; Yang et al., 2020). In the context of developing learning media, the use of AI can provide new capabilities in creating more interactive, personal and responsive content, including in creating comics as a learning tool (Batubara et al., 2022; Weng et al., 2024).

It is important to understand the role of comics in learning (Phoon et al., 2020). Comics have proven effective in conveying complex concepts in a way that is interesting and easy for students to understand (Kusumadewi et al., 2020; Zarvianti & Sahida, 2020). With a combination of images and text, comics can stimulate the imagination, facilitate understanding, and increase information retention. However, comic development traditionally requires skills in drawing and story writing, which not all educators may possess (Affeldt et al., 2018).

Therefore, this research is motivated by the need to explore ways to integrate AI technology in the development of comics as a learning medium, as well as to evaluate the interest and readiness of prospective elementary school teachers in participating in related training. Thus, this research is not only relevant for understanding the latest trends and developments in education, but also has practical implications in improving teachers' skills and competencies in using technology to support learning (Falloon, 2020).

The current educational context emphasizes the importance of lifelong learning and continuous professional development for educators. As a response to these changes, holding AI-based comic development training workshops can be an effort to provide support and training to educators in facing new demands and opportunities in digital education (Cantú-Ortiz et al., 2020).

By understanding prospective elementary school teachers' interest and willingness to take part in such workshops, this research can also provide insight into their needs and preferences in developing new skills. This

information can be a basis for workshop organizers to design programs that suit the needs and interests of prospective elementary school teachers, and ensure optimal success and participation.

This research can also pave the way for the development of broader strategies and training programs in integrating AI technology in education, as well as increasing the readiness and competence of educators in facing challenges and opportunities in the ever-growing digital education era. Thus, this research has the potential to make a significant contribution to improving the quality of education and learning.

METHOD

This research is a descriptive research. Descriptive research aims to describe observed characteristics and phenomena without producing causal inferences or conclusions (Sumuweng et al., 2022). In the context of this research, a descriptive approach was used to describe the responses of prospective elementary school teachers to the AI-based comic development training workshop. The respondents in this study were 104 prospective elementary school teachers. This research was conducted for 5 days, namely from 23 November 2023 to 27 November 2023. The data collection technique used a questionnaire in the form of a Google form. This questionnaire was distributed to gain an in-depth understanding of the experiences and perceptions of prospective elementary school teachers regarding the development of AI-based comics. The data analysis technique used in this research is descriptive. This technique is used to describe and summarize the characteristics of data collected through questionnaires, such as the number of prospective elementary school teachers who have previously developed comics, the type of platform used in developing comics, the obstacles faced by prospective elementary school teachers, the time required to develop comics, the reasons why they never developing comics, as well as the desire to take part in AI-based comic development training.

RESULT AND DISCUSSION

This research aims to determine the initial response of prospective elementary school teachers regarding the AI-based comic development training workshop. AI-based comics are a type of comic that uses themes, concepts or elements related to artificial intelligence (Fang et al., 2023; Shi et al., 2023; Wati et al., 2023). AI-based comics feature stories that emphasize the development of artificial intelligence as the main plot, often exploring ethical dilemmas surrounding AI rights and human-AI interactions in a world of advanced technology (Hakeu et al., 2023; Sumuweng et al., 2022). In a futuristic setting dominated by advanced technology, the main characters engage in scientific adventures involving conflict between humans and AI, often eliciting character growth and combining elements from various genres to create complex and immersive narratives (Bahtiar et al., 2023; Rahmatullah et al., 2020). The results of distributing the questionnaire related to the question "Have you ever developed learning media in the form of comics?" presented in Figure 1 below.

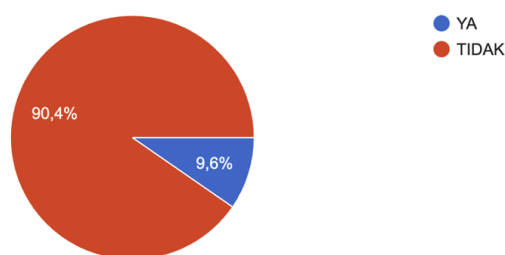


Figure 1. Involvement of Prospective Teachers in Developing Comics

Figure 1 shows that of the 104 respondents, 94 prospective elementary school teachers or around 90.4% of the total prospective elementary school teachers have never developed comics. Meanwhile, only 10 prospective elementary school teachers or around 9.6% of the total prospective elementary school teachers have experience in developing comics. This shows that the majority of prospective elementary school teachers do not have experience in developing comics, while a small number of them already have this experience. This can be a basis for evaluating the need for training or skills development in the use of comics as a learning medium among prospective elementary school teachers.

The factors that cause the involvement of prospective elementary school teachers in developing comics are limited, namely the limited knowledge and skills in developing comics as a learning medium among prospective elementary school teachers (Murti, 2020). Many prospective elementary school teachers are not familiar with

comic creation techniques or are unsure how to integrate comics into the curriculum (Anggito & Sartono, 2022). Lack of access to resources such as software or comic development guides, as well as lack of support from educational institutions or training providers (Khotimah & Hidayat, 2022). In addition, perceptions about the effectiveness of comics as a learning tool and a lack of awareness of their potential in education can also influence prospective elementary school teachers' decisions not to use comics (Topkaya & Doğan, 2020). Not only that, some prospective teachers consider creating comics to be a complicated task or require high artistic skills, so prospective elementary school teachers feel uncomfortable trying it (Lewkowich, 2019). These things together can cause the majority of prospective elementary school teachers to have no experience in developing comics, while only a small portion of prospective elementary school teachers have done so.

A questionnaire was also distributed to find out the responses of prospective elementary school teachers to the question "What platform is used to create story scripts?" This question aims to find out what platform or software is usually used by writers or story creators to create story scripts. This can be a special application or software designed for creative writing, such as Microsoft Word, Google Docs, Scrivener, or other applications and software that make the process of writing and organizing story manuscripts easier. By knowing the most commonly used platforms, one can choose a tool that suits their needs and preferences in the story writing process. The results of distributing questionnaires regarding this matter are presented in Figure 2 below.

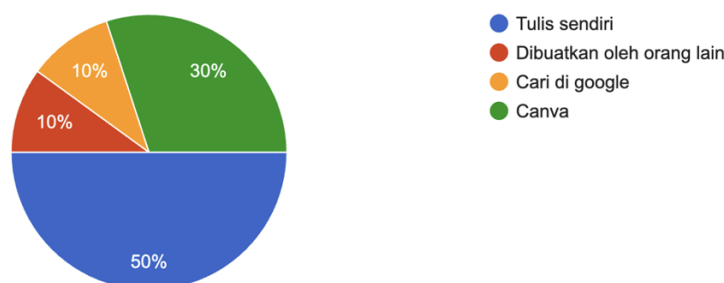


Figure 2. Comic Development Platform

Figure 2 above shows that from a sample of 10 prospective elementary school teachers who had developed comics, 50% of them wrote story scripts themselves. This shows that half of the respondents prefer to create their own story scripts directly. In addition, 30% of the total prospective elementary school teachers use the Canva platform to create their story scripts. This shows that some respondents use this online graphic design tool as an alternative to create story scripts with the design features it provides. Meanwhile, 10% of respondents used the method of searching for manuscripts on Google and asking other people for help to create them. This shows that a small percentage of respondents prefer to search for existing manuscripts online and rely on the help of others in creating their story manuscripts. Thus, this data provides an overview of the variety of methods used by prospective elementary school teachers in creating their story scripts, which can be a basis for understanding their preferences and needs in the writing process.

The questionnaire was also distributed with the aim of finding out the obstacles or barriers faced by prospective elementary school teachers when creating learning media in the form of comics. These can include technical challenges, such as a lack of skills in drawing or using graphic design software, as well as conceptual obstacles, such as the difficulty of conveying complex concepts in a limited visual format. Additionally, other obstacles include time constraints, lack of resources, or even uncertainty about the effectiveness of comics as a learning tool. By knowing these obstacles, the Service Team in the AI-based comic development training workshop can identify areas that need to be improved or developed in the process of creating comic learning media, as well as find solutions or strategies to overcome these obstacles. The results of distributing questionnaires regarding this matter are presented in Figure 3 below.

Figure 3 shows that of the sample who had been involved in developing comics, 70% of prospective elementary school teachers experienced problems in writing story scripts. This shows that the majority of respondents face difficulties in compiling interesting narratives or stories in comic format. Meanwhile, 40% of prospective elementary school teachers experience problems in making drawings. This indicates that some respondents have difficulty drawing or creating illustrations to support the stories in comics. Thus, this data highlights two important aspects that can be the focus of further development or training for prospective

teachers, namely writing effective story scripts and the ability to create images that support learning media in the form of comics.

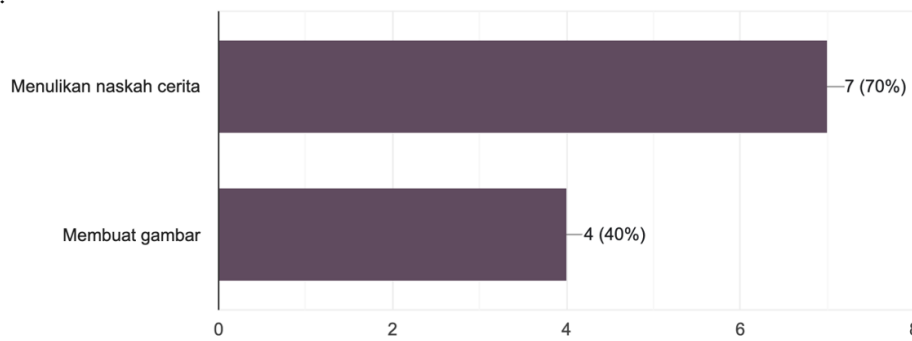


Figure 3. Obstacles in Comic Development

A questionnaire was also distributed to find out the estimated time needed by prospective elementary school teachers to develop learning media in the form of comics. These questions can help in planning and timing for a comic development project, as well as in assessing prospective elementary school teachers' level of readiness and involvement in the process. By understanding how long it will take, prospective elementary teachers can manage their schedules more efficiently and identify stages that may require more time or attention. The results of distributing questionnaires regarding this matter are presented in Figure 4 below.

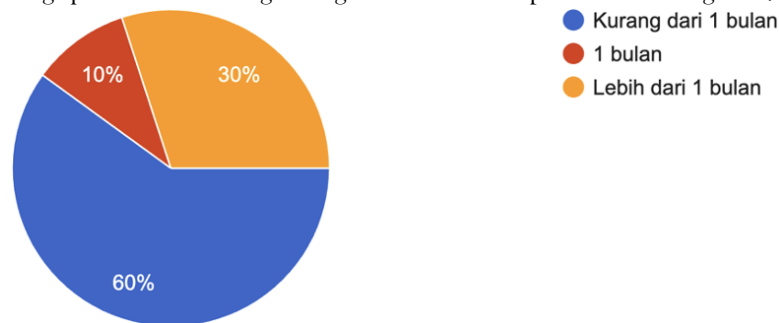


Figure 4. Estimated Time in Comic Development

Figure 4 shows that of the sample who had developed comics, 60% of prospective elementary school teachers reported that they spent less than 1 month developing comics. This shows that the majority of respondents were able to complete comic development in a relatively short time, perhaps due to their level of skill or experience. Meanwhile, 10% of prospective elementary school teachers reported that it took them 1 month to complete comic development, while 30% said that it took them more than 1 month. This shows that a small percentage of respondents experienced difficulties or challenges that extended the time needed to complete their comic development projects. Thus, these data provide an overview of the variations in the time required by prospective elementary school teachers to develop comics, which can be a consideration in planning and managing similar projects in the future.

Apart from presenting data on respondents who have ever developed comics, data is also presented on respondents who have never been involved in developing comics. Respondents who had never developed comics were asked questions about why they had never developed learning media in the form of comics. By knowing why prospective elementary school teachers have never developed comics as a learning tool, we can identify the factors that influence their decision or ability to do so. These may include technical obstacles such as a lack of skill in drawing or using graphic design software, conceptual obstacles such as a lack of understanding of the effectiveness of comics as a learning tool, or other factors such as a lack of time or resources. By understanding these obstacles, we can find solutions or strategies to overcome these obstacles and facilitate the development of comic learning media in the future. The results of the questionnaire distribution are presented in Figure 5 below.

Figure 5 shows that 76.9% of prospective elementary school teachers stated that difficulty in drawing characters was the main factor preventing them from developing comics. This shows that the majority of respondents experienced problems in the artistic aspects of creating comics, such as drawing the required characters or illustrations. In addition, around 30.8% of prospective elementary school teachers stated that

difficulties in creating story scripts were an obstacle for them in developing comics. This shows that some respondents experienced difficulty in compiling interesting narratives or stories in comic format.

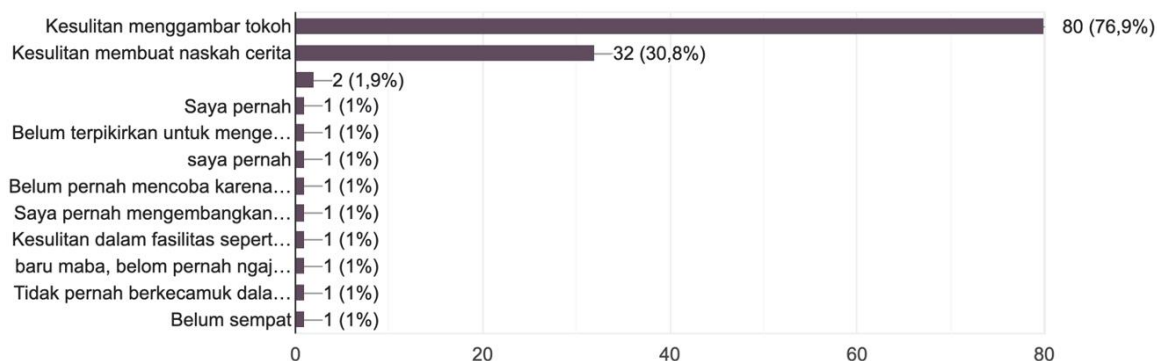


Figure 5. Reasons why prospective elementary school teachers are not involved in comic development

Apart from these reasons, several prospective elementary school teachers also stated other reasons for never developing comics, including never having tried, never thought about it, difficulties in terms of facilities, not having the time, and never getting involved in comics. This shows that there are various factors that prevent or hinder prospective elementary school teachers from developing comics as a learning tool, including factors such as lack of motivation, lack of opportunity or access to resources, and lack of understanding of the potential and benefits of using comics in education. By understanding these reasons, we can identify areas that need to be improved or developed in supporting prospective elementary school teachers in developing comics as a learning medium.

The distribution of the questionnaire also aims to determine the interest or interest of prospective elementary school teachers in participating in a workshop related to comic development, even though prospective elementary school teachers do not have skills in creating stories or pictures. This question assumes that the workshop will provide an easy and fast way or method to develop comics, even for people who do not have special skills in creating stories or images. By knowing a person's interest in attending such a workshop, organizers or decision makers can assess the potential success and level of participation for such an event. This can also provide insight into participants' needs or desires related to developing new skills in comic creation. The results of distributing questionnaires regarding this matter are presented in Figure 6 below.

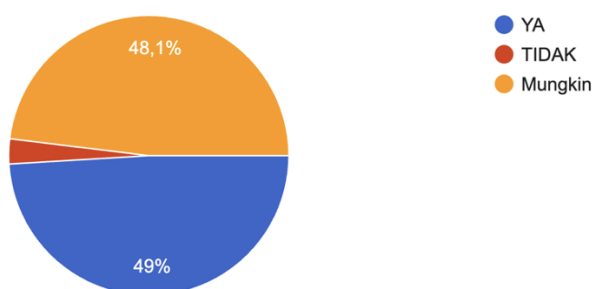


Figure 6. Interest of Prospective Elementary School Teachers in Participating in AI-based Comic Development Training Workshop

Figure 6 shows that of the total 104 respondents who filled out the questionnaire, 49% of them stated that they were willing to take part in the training workshop. This shows that almost half of the prospective elementary school teachers surveyed are interested in obtaining training in comic development using AI. In addition, 48.1% of respondents answered "maybe willing" to take part in the workshop. This shows that almost half of respondents are still open to attending a workshop, but they may have additional considerations or need more information before making a final decision.

On the other hand, only 2.9% of respondents stated that they were not willing to take part in an AI-based comic development training workshop. This shows that a small portion of respondents are not interested or may have objections to the concept of using artificial intelligence in comic development.

Overall, this data shows that there is considerable interest among prospective elementary school teachers in AI-based comic development training workshops, although there are also some who are still considering or have objections to the idea. This can be a basis for workshop organizers to design programs that suit the needs and interests of prospective elementary school teachers in developing comics using artificial intelligence.

The considerable interest from prospective elementary school teachers in AI-based comic development training workshops shows great potential for improving the skills of prospective elementary school teachers in using new technology in learning (Anggito & Sartono, 2022). With advances in artificial intelligence technology, comic development can become more efficient and accessible for educators (Fallon, 2020). Such workshops can help improve digital literacy and technology-relevant teaching skills, thereby preparing teachers to face the demands and changes in future education. Additionally, incorporating AI in comic development can enrich students' learning experiences with more interactive and engaging content. Therefore, the urgency to provide such workshops is to ensure that prospective elementary school teachers have the necessary skills and knowledge to integrate technology into their teaching, thereby creating an innovative and relevant learning environment for students in this digital era.

CONCLUSION

From the results of the research and discussion, it can be concluded that the considerable interest of prospective elementary school teachers in the AI-based comic development training workshop shows great potential for improving their skills in using new technology in learning. Although a small percentage of respondents still considered or had reservations about the idea, the majority showed significant interest in obtaining training in comics development using AI. This shows the urgency to provide training that suits the needs and interests of prospective elementary school teachers in developing comics with AI technology, thereby preparing them to face the demands and changes in future education, while creating an innovative and relevant learning environment for students in this digital era.

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