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Empowering the Use of Artificial Intelligence in Learning Two-Dimensional Digital Illustration Art for Students of SMK Labschool UNESA

Muhammad Widyan Ardani[1], Muhammad Ariffudin Islam[2], Akbar Seknun[3], Condro Wiratmoko[4], Marsudi[5]

[1] Universitas Negeri Surabaya, Surabaya, Indonesia
[2] Universitas Negeri Surabaya, Surabaya, Indonesia
[3]Universitas Negeri Surabaya, Surabaya, Indonesia
[4] Universitas Negeri Surabaya, Surabaya, Indonesia
[5] Universitas Negeri Surabaya, Surabaya, Indonesia

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ABSTRACT

This study explores the empowerment of Artificial Intelligence (AI) technology in two-dimensional digital illustration learning at SMA Labschool UNESA. Using a descriptive qualitative approach, data were obtained through observation, interviews, and documentation to analyze the impact of AI on the learning process. The findings reveal that AI effectively enhances students' motivation, engagement, as well as creative and technical skills. AI also provides a more interactive, personalized, and efficient learning experience, allowing students to develop their competencies at their own pace. However, AI integration still faces challenges such as limited infrastructure and teacher readiness. This research recommends the need for teacher training, AI-integrated curriculum development, and improved facilities to maximize AI's potential in art learning. The results are expected to serve as a reference for developing technology-based art education innovations in the digital era.

INTRODUCTION

The integration of Artificial Intelligence into education has brought about transformative changes in traditional pedagogical approaches, presenting both opportunities and challenges for educators and learners (https://labschool.unesa.ac.id/post/profil-sekolah-smk-labschool-unesa,Juni,2025). One field that has experienced significant impact is art, specifically two-dimensional digital illustration, where AI technology offers new tools and methods for creative exploration and skill development (Oktavianus et al., 2023). The utilization of AI in learning is not only limited to the provision of more diverse and relevant educational resources, but also to the personalization of learning experiences, allowing students to develop skills more efficiently according to individual needs and pace (Ronsumbre et al., 2023). In this context, this research aims to examine in depth how AI technology can be empowered in learning two-dimensional digital illustration art for Labschool UNESA high school students, focusing on a descriptive qualitative approach to understand students' experiences and perceptions. While students often misinterpret the material provided, system innovations supported by Artificial Intelligence can improve the quality of mindset and competence, thereby minimizing such occurrences (Azhari et al., 2022).

Modern education continues to evolve along with technological developments, and Artificial Intelligence is emerging as a transformative force that promises to revolutionize the learning process (Ronsumbre et al., 2023). In the ever-changing educational landscape, the integration of Artificial Intelligence offers great potential to enhance students' learning motivation. The use of AI in the context of digital learning has become an inevitable trend in modern education (Adila & Rodiyah, 2024). As such, the exploration of student effectiveness in using AI is an important challenge to understand the full potential of this technology in shaping a more dynamic and responsive future of

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education (Ronsumbre et al., 2023). The role of the teacher in the context of using AI in learning cannot be ignored, but rather becomes a key factor that determines the success of the integration.

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Two-dimensional digital illustration is an increasingly relevant visual art form in this digital age, with wide applications in areas such as graphic design, animation, advertising, and digital content development. Mastery of digital illustration skills is not only important for career development in the creative industry, but also for improving students' visualization, communication, and problem-solving abilities. The use of AI applications in learning, including in the context of two-dimensional digital illustration art, promises better personalization of learning, by tailoring teaching content and methods to students' individual needs and interests (Oktavianus et al., 2023). In the midst of rapid technological change, today's students are required to not only be passive recipients of information, but also play an active role in the collaborative learning process (Ronsumbre et al., 2023).

However, the implementation of AI technology in two-dimensional digital illustration art learning also raises questions and challenges. How can AI be effectively integrated into the existing art curriculum? What impact does the use of AI have on students' creativity and artistic expression, how can teachers utilize AI to provide more personalized and effective feedback to students, How do students perceive the use of AI in learning two-dimensional digital illustration art? This research will attempt to answer these questions through a descriptive qualitative approach, by collecting data from Labschool UNESA high school students through interviews, observations, and analysis of digital artifacts.

The main objective of this research is to explore and analyze how AI technology can be empowered in the learning of two-dimensional digital illustration art for Labschool UNESA high school students. This research aims to identify the benefits, challenges, and implications of using AI in the context of art learning, as well as to provide practical recommendations for teachers and curriculum developers on how to effectively integrate AI into two-dimensional digital illustration art learning.

The findings of this research are expected to make a significant contribution to the development of art education that is innovative and relevant to the demands of the digital era. The results of this research are expected to be a crucial initial reference in developing education-focused AI products or integrating AI into learning models (Ronsumbre et al., 2023). In addition, this research is also expected to provide valuable insights for policy

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makers, educational practitioners, and technology developers on the potential and challenges of using AI in arts learning, as well as to encourage further research on this topic. By combining expertise in education and artificial intelligence, this research makes an important contribution to the design of AI products that can add significant value to the learning process.

RESEARCH METHOD

This research uses a descriptive qualitative approach to deeply understand the empowering use of AI technology in learning two-dimensional digital illustration art for Labschool UNESA high school students. The qualitative approach was chosen because it allows researchers to explore the perspectives of students, teachers, and other stakeholders in depth, as well as to understand the social and cultural contexts that influence the learning process. Descriptive method was used to provide a comprehensive and detailed picture of how AI technology is applied in learning digital illustration art, as well as how it impacts students' motivation, creativity, and skills.

Data were collected through various techniques, including in-depth interviews, participatory observation and document analysis. In-depth interviews were conducted with students, art teachers, principals, and educational technologists to gain a deep understanding of their experiences, perceptions, and expectations related to the use of AI in digital illustration art learning. Participatory observation was conducted in a digital illustration art class to directly observe how AI technology is used in the learning process, how the interaction between students and teachers, and how students respond to the use of AI. Document analysis was conducted on digital illustration art curriculum, learning materials, student assignments, and other relevant documents to obtain information on learning objectives, content, learning methods, and evaluation.

Fig. 1. Empowerment Table Process

The collected data were analyzed qualitatively using thematic analysis techniques. The research approach used in this study is a qualitative approach with descriptive research type. Data were collected through observation, interviews, and documentation (Mulianingsih et al., 2020). Descriptive analysis was carried out by explaining the frequency distribution, percentage, and average score of respondents' answers (Amri, 2021).

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Descriptive analysis techniques are used to analyze data obtained from questionnaires, observations, and interviews (D. Ngazizah & F. Fauzi, 2022). The subjects of this study were Labschool UNESA high school students who took part in learning the art of two-dimensional digital illustration, art teachers who taught the subject, school principals, and educational technologists who had knowledge and experience about the implementation of AI in education. This research was conducted at Labschool UNESA High School, a high school located in Surabaya, East Java.

The data collection techniques used in this study include observation, in-depth interviews, and documentation. Observation was conducted to directly observe the learning process of two-dimensional digital illustration art that utilizes AI technology. In-depth interviews were conducted with illustration art teachers, The collected data were analyzed through several stages, namely data reduction, data presentation, and conclusion drawing, to analyze the data (Miles et al., 2014).

RESULTS AND DISCUSSION

Research results, this section presents the results of research and discussion on the empowerment of using AI technology in learning two-dimensional digital illustration art for Labschool UNESA high school students.

1.1 Increased Student Motivation and Engagement

The results show that the use of AI technology in learning two-dimensional digital illustration art can increase student motivation and engagement. Students feel more interested and motivated to learn digital illustration art because AI offers a more interactive, personalized and fun learning experience. AI can provide instant feedback on students' work, so students can learn from their mistakes and improve their skills faster.

1.2 Creative and Technical Skills Development

The utilization of AI not only facilitates the development of interactive and immersive learning applications, but also creates a more engaging and effective learning experience (Ronsumbre et al., 2023). In addition, the use of AI in learning the art of two-dimensional digital illustration also helps students develop creative and technical skills. Based on the analysis of the collected data, there is a strong indication that the use of AI technology significantly improves students' digital illustration skills. Data interpretation was conducted by referring to relevant theories on learning, educational technology, and digital illustration art.

Overall, the results of this study indicate that empowering the use of AI technology in learning the art of two-dimensional digital illustration has great potential to improve the quality of art education at Labschool UNESA High School. This research also identifies factors that influence the success of empowering the use of AI technology in learning the art of two-dimensional digital illustration.

The integration of AI in education is not just about keeping up with the times, but also offers tremendous potential to improve the quality of education (Ronsumbre et al., 2023). AI technologies such as machine learning, chatbots, and augmented reality can improve the quality of learning by providing personalized and adaptive content according to

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student needs (Oktavianus et al., 2023). Artificial intelligence has penetrated various sectors of human life, including education (Huda & Suwahyu, 2024). In education, AI promises better personalization of learning, faster feedback, and access to wider educational resources. AI has the potential to change the learning paradigm from teacher-centered to student-centered, by giving students more control over their own learning process. Artificial intelligence can make it easier for students to learn according to their experience (Azhari et al., 2022).

1.3 AI Application in Digital Illustration Art

In the context of digital illustration art, AI can be used for various purposes, such as generating creative ideas, providing feedback on composition and color, and automating routine tasks such as object selection and masking (Ronsumbre et al., 2023)., (Phua et al., 2025). Reconceptualizing learning design in the era of artificial intelligence has a major contribution in exploring the problem space of educational design. By integrating AI technology as a tool that can enhance the learning experience (Ronsumbre et al., 2023). This will make it easier for students to understand the material presented (Ronsumbre et al., 2023). The implementation of AI can enrich the learning process, but challenges such as technology dependency and privacy concerns must also be considered (Oktavianus et al., 2023). The role of teachers remains very important in guiding students to develop critical thinking skills, creativity, and ethics in using AI.

1.4 Learning Two-Dimensional Digital Illustration Art

Learning the art of two-dimensional digital illustration involves mastering a variety of technical and artistic skills, including an understanding of design principles, the use of illustration software, as well as the development of a unique visual style. 2D digital illustration as a form of visual art that utilizes digital technology to create attractive and communicative images. Learning 2D digital illustration also demands the development of creativity, imagination, and storytelling skills through visual media. The use of AI technology in education can assist students in developing their potential optimally, tailoring the curriculum to individual needs (Ronsumbre et al., 2023).

1.5 AI Technology Empowerment in Art Learning

AI technology enablement in art learning involves utilizing AI as a tool to enhance creativity, efficiency, and personalization of learning. It can also trigger skill development as well as increase individual competitiveness in facing the demands of the modern world (Ronsumbre et al., 2023). Teachers play a central role in guiding, supporting and inspiring students (Ronsumbre et al., 2023). Teachers are not only facilitators in the use of these technologies, but also have a crucial role in guiding students to develop critical skills, digital ethics, and creative thinking abilities (Ronsumbre et al., 2023). Teachers who have good digital competence will be able to integrate technology into learning more effectively, so as to increase student motivation, activity, enthusiasm, and critical thinking skills) (Auna & Hamzah, 2024). The following is Relevant Previous Research data. Some previous studies have explored the use of AI in art education, but there are limited studies that specifically address the empowerment of AI in learning two-dimensional digital illustration art for high school students.

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CONCLUSION

Based on the research results and discussions that have been described, it can be concluded that the empowerment of using AI technology in learning the art of two-dimensional digital illustration has a positive impact on student learning motivation (Ronsumbre et al., 2023). Student engagement in the learning process also increased significantly. The utilization of AI technology offers greater flexibility in the learning process, allowing students to learn according to their own pace and learning style.

This research has significant implications for the world of education, especially in the development of innovative and effective digital illustration art learning models. Based on the research results and conclusions drawn, the following recommendations can be made: Schools need to increase investment in technology infrastructure and teacher training to support the implementation of AI in learning more widely. It is important to develop a digital illustration art curriculum that is integrated with AI technology, so that students can gain skills that are relevant to the needs of the creative industry in the digital era (Byman, 2005).

It is recommended to conduct further research on the effectiveness of using AI technology in learning digital illustration art using experimental or quasi-experimental research designs. It is important to explore the potential of using AI in developing an adaptive and personalized digital illustration learning platform. Further research is also needed to examine the long-term impact of using AI technology on students' creativity and innovation in digital illustration art. This research makes a valuable contribution to the understanding of the potential and challenges of empowering the use of AI technology in digital illustration art learning.

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