African Journal of Applied Research
Vol. 12, No. 3 (2026), pp57-71
http://www.ajaronline.com
https://doi.org/10.26437/ajar.v12
Received May 3, 2025
Peer reviewed: December 12, 2025
Revised: February 19, 2026
Published: April 2026

THE ROLE OF AI IN ENHANCING CREATIVITY AMONG UNIVERSITY ART STUDENTS

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ABSTRACT

Purpose: This study examines the role of artificial intelligence (AI) in enhancing creativity among university art students, focusing on the AI tools they integrate into their creative workflows, how they use these tools, and the influence and challenges they pose to the artmaking process.
Design/Methodology/Approach: This qualitative study employs a case study design with 14 visual communication students from a public university, purposively selected. Data were collected through interviews and analysed thematically.
Research Limitation: The study is limited to a small sample from one public university and does not include quantitative measures of creativity or broader generalisation.
Findings: The fourteen student participants use a wide range of AI tools in their art-making, with each typically relying on at least three. Tools such as ChatGPT, Copilot, WhatsApp AI, Meta AI, Gemini, Claude AI, DeepSeek, Chroma AI, Notion AI, Qwen AI, DALL·E, DALL·E 2, Midjourney, ImageFX, DeepDream, Canva AI, Microsoft Bing Image Creator, QuillBot, and Grammarly are used by participants in creating art. AI supports the students across all stages of art-making, including ideation, image creation, design refinement, mock-ups, and text editing. It streamlines technical tasks, enhances conceptual clarity, expands creative possibilities, and improves efficiency by enabling early visualisation of ideas. However, it also shifts creative agency, risks overreliance on AI-generated outputs, and raises concerns about authorship and originality. Additionally, challenges such as cultural inaccuracies, difficulty interpreting prompts, low-quality outputs, and limited contextual depth reduce its reliability, particularly in culturally specific and image-based projects.
Practical Implication: The findings highlight the need for art education to integrate AI literacy while maintaining strong traditional creative skills and critical engagement with AI tools.
Social Implication: Effective integration of AI in art education can foster innovation while ensuring ethical awareness and cultural sensitivity in creative practices.
Originality/Value: This study contributes to emerging scholarship on AI in art education by providing empirical insights into how AI shapes students' creative processes, highlighting both its opportunities and limitations.

Keywords*: Artificial intelligence. artmaking. creativity. creative design. students*

ISSN: 2408-7920

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INTRODUCTION

The rapid advancement of artificial intelligence (AI) has significantly transformed practices across many fields, including education and the creative arts (Sakhno et al., 2025; Holmes et al., 2019). In recent years, AI-powered tools have become increasingly accessible to art students, offering new ways to generate ideas, visualise concepts, refine designs, and streamline technical processes (Rashid et al., 2025; Elgammal et al., 2017). Within art education, these technologies are reshaping how students approach creativity, problem-solving, and artistic production, raising important questions about their role in enhancing creative expression and the challenges they present.

Creativity is a core component of art education, underpinning students' ability to generate original ideas, experiment with forms, and communicate meaning through visual expression. AI-powered tools such as text, image, and design generators, and design assistants have the potential to enhance creativity by expanding students' access to diverse ideas, styles, and technical solutions (Rahman et al., 2025; Wei et al., 2025).

Despite the growing presence of AI in artistic practice, there is limited empirical research on its role in enhancing creativity and the challenges it presents to university art students, particularly through students' lived experiences. This study, therefore, explores the role of AI in university art-making contexts, how it enhances the creative process, and the challenges it presents. The research objectives are to identify the AI tools that art students integrate into their creative workflows; to explore the influence of AI tools on the development and expression of creative ideas in artmaking; and to identify the challenges associated with using AI tools in the creative artmaking process.

LITERATURE REVIEW

Application of AI tools for artistic creation

AI has become a pivotal driver of artistic creation, with diverse tools reshaping the way artists generate, manipulate, and refine artworks (Işık, 2024; Monser & Fadel, 2023). AI tools are defined by Braguez (2023) as "tools which are developed in the field of computer science known as artificial intelligence, aim to simulate human intelligence and perform complex functions, such as pattern recognition, experiential learning, and decision-making" (p. 2).

AI tools help artists experiment, try new styles and bring creative ideas to life. Innovative AI tools for making art include Generative Adversarial Networks (GANs), a generative art technique based on style transfer that enables artists to create new images that simulate a given instruction (Monser & Fadel, 2023). Elgammal et al. (2017) introduced Creative Adversarial Networks (CAN), a proposed modification of GANs that aims to deviate from the stylistic norms of applying one art style to another. The function of this tool is to partner in the creative process by creating artworks that do not fit into any known style category. It pushes creativity forward, not by copying, but by changing and challenging what already exists (Elgammal et

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al., 2017). By using tools such as CAN, art students push themselves to question conventions and to consider creativity as a process of making something different from what already exists, rather than just copying, thereby aiding creative research and theory.

Another group of AI tools for artmaking is Diffusion Models, which are used to create images. Ma et al. (2024) assert that "Diffusion models have recently gained unprecedented attention in the field of image synthesis due to their remarkable generative capabilities" (p. 1). A specific type, called Latent Diffusion Models (LDMs), generates high-quality, detailed images. These tools perform tasks such as unconditional image generation, text-to-image synthesis, and super-resolution (Rombach et al., 2022). Artists have used Latent Diffusion Models to generate 3D shapes (Vahdat et al., 2022), language (Lovelace et al., 2023), images (Wu, 2022), and many more. There are also texts to image AI tools like Imagen, DALL-E, and Clip latent. These tools combine language encoders with diffusion decoders to produce images (Saharia et al., 2022; Ramesh et al., 2022). Artists use these tools as creative backbones to generate many concepts quickly and refine them to their preference. This blend of human imagination and machine assistance is what Pareschi (2024) refers to as "Centaur art", which represents a unique intersection of human creativity and artificial intelligence.

Interactive AI systems that can draw alongside humans, such as co-creative drawing tools, are AI tools that support mixed-control modes in which AI co-draws with artists, balancing control between humans and machines. These tools build metacognitive, collaborative, and decision-making skills, helping artists learn to negotiate control, evaluate machine-generated suggestions, and reflect critically on their own processes (Issak et al., 2025). Ali Elfa and Dawood (2023) assert that these types of AI tools help artists overcome their human brain limitations during art creation, while a broader survey of AI co-created, generated contents by Singh et al. (2025) also emphasise that AI does not just serve as a tool in the creation process, but an active collaborator that brings its own suggestions and possibilities. These AI tools are built to support human creativity, not replace it. They help people think in new ways, explore fresh ideas, and stay actively involved in the creative process.

Humans remain at the center, and AI becomes the companion (Braguez, 2023; Rezwana & Maher, 2022). Despite the acceptance of AI tools for artmaking, some concerns have been raised about these tools' lack of authenticity, authorship, and autonomy (McCormack et al., 2019). Amidst these concerns, Braguez (2023) claims that "the use of AI tools in the art business is expected to expand and change over the next few years. AI technologies may play a bigger part in the creative process as they progress and become more widely available" (p. g.3).

Influence of AI on idea generation and conceptual development of artworks

At the idea-generation stage, AI tools act as accelerators in the early phases of creativity, producing abundant variations. It supports both divergent and convergent creative processes, two essential aspects of creative action, by automatically generating and curating ideas,

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expanding and developing a number of possible solutions that artists can refine or reinterpret, hence supporting creative idea generation (Griebel et al., 2020). Apart from generating ideas, these tools effectively align outputs with the artist's intent. Makokha (2022) argues that collaboration between humans and AI during creation can outperform human-only creation, suggesting that the collaborative process helps artists brainstorm and generate new ideas. A study by Akverdi and Baykal (2024) also supports the idea that artists who interact with generative AI tools in collaborative art become more efficient in the brainstorming and ideation stages, offering alternatives and reshaping design fields. In the educational context, Oustamanolakis (2024) argues, based on his review of the literature, that AI encourages new idea-generation strategies that cultivate creativity in students.

During conceptual development, raw ideas are shaped into structured artistic concepts. AI acts as an active tool in shaping the artistic framework, blending human intention with algorithmic interpretation. AI artistic tools influence how concepts are articulated, altering the original concept of space, time, natural logic, and aesthetics (Shen & Yu, 2021). AI systems reshape how art students think about composition, form, and meaning, and do not just produce the final works. AI prompts students to question their methodologies, creating a feedback loop between human and machine conceptualisation (Reynolds & Batley, 2024).

Benefits and challenges of using AI tools in artmaking

AI offers new modes of creative expression and engagement by assisting artists with new tools and techniques to enhance their work (Yusa et al., 2022). Studies by Garcia (2025) argue that AI in art represents a cultural shift that requires a reassessment of our understanding of art. Investigation by Oksanen et al. (2023) also reveals that the analytical power of AI enables the processing of large-scale datasets. Because of this ability, AI can be trained to act like a painter, a DJ, a performer, or even a music partner. Artworks produced with increased computational effort yield high-quality creations that evoke likability and positive emotions (Grassini, 2025). Furthermore, AI tools in art education assist students in cultivating a more detail-oriented approach to their works, which encourages exploration and experimentation with their creative ideas, resulting in a profound comprehension of the possibilities presented by AI tools (Hutson & Cotroneo, 2023)

Challenges of using AI tools include deficits in creativity and originality. AI can mix and remix ideas from what it has learned, but it does not feel emotions. It lacks the emotional depth and personal touch that traditional human-made art has. These issues need to be considered as AI continues to grow in the art world (Braguez, 2023). Research by Grassini and Koivisto (2025) indicates that, in complex multimodal interpretation tasks, AI has significant potential and the capacity to produce semantically varied concepts; however, human-perceived originality remains unparalleled. AI's creative deficiencies are evident in its inability to develop extensive narratives across visual and textual art forms (Liu, 2023).

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Ethical issues, such as copyright ownership, arise as people question who truly owns art created by AI. Another concern is intellectual property, since AI often learns from existing artworks created by real people. People also want to understand how AI systems make decisions and who should be held accountable when something goes wrong (Dawood, 2024). A biased dataset restricts the quality of AI-generated art. When the training data lacks variety, the AI struggles to produce fair, balanced, or genuinely creative results. It can only generate what it has repeatedly seen, limiting the diversity of its output (Piskopani et al., 2023).

Research on DALL·E, an effective AI creative tool, reveals privacy concerns and the potential for AI-generated artworks to render artists jobless. These are two significant challenges associated with AI art (Zhou & Nabus, 2023). As reported by Oksanen et al. (2023), experimental investigations on human responses to AI art have revealed that, while most individuals do not distinguish between human-made and AI-made art, human-made art was appreciated more than AI-made art in certain studies.

METHODOLOGY

The study used a qualitative case study design to gain an in-depth understanding of the role of AI in enhancing creativity and the challenges it poses for university art students. Purposive sampling was used to select fourteen final-year visual communication students from a public university in Ghana for data collection.

Data were collected through interviews in three sections: AI tools that art students integrate into their creative workflows and how they do so; the influence of AI tools on developing and expressing creative ideas in artmaking; and the challenges of using AI tools in the creative artmaking process. Content validity was used to review the interview guide, ensuring its accuracy and credibility by confirming its alignment with the research objectives and revising it based on expert feedback. The fourteen students were informed about the study, its purpose, and the voluntary nature of their participation. An interview schedule was then agreed upon with the participants for the interviews to take place.

Data were analysed using Braun and Clarke's (2006) six-phase thematic analysis process, encompassing data familiarisation, coding, theme generation, theme review, theme definition, and report writing. Confidentiality was maintained by excluding personal identifiers and by securely storing all raw data.

FINDINGS AND DISCUSSION

AI tools that art students integrate into their creative workflows

The fourteen student participants use twenty different AI tools to create their artworks. These include ChatGPT, Copilot, WhatsApp AI, Meta AI, Qwen AI, Whisk AI, ImageFX, DALL·E, DALL·E 2, Midjourney, Gemini, QuillBot, Grammarly, Claude AI, Microsoft Bing Image

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Creator, DeepSeek, Canva AI, Chroma AI, DeepDream, and Notion AI. On average, each of the fourteen participants uses three or more AI tools to create their artworks. This shows that the participants combine different AI tools, as noted by Işık (2024) and Monser and Fadel (2023), to support their art creation.

Participants use ChatGPT, Copilot, WhatsApp AI, Meta AI, Whisk AI, Midjourney, Gemini, Claude AI, and DeepSeek for ideation and concept development, helping them better understand project questions and how to execute their projects. Both text and image prompts are generated using these AI tools. Some participants shared this as follows:

> When I am given a project, I put the project question into a chart to guide me on how to do the work. Based on the information the chart provides, I take the ideas in bits, and it shows me specifically how to do each part of the project.

Another shared, "I use it in the first stages of my work, I use it to do research and information gathering on the artwork that I want to do." Another indicated, "If I am given a project, and I do not have a clear idea of it or a good idea of it, I use both Copilot and ChatGPT to help me better understand the project and its requirements." Another also expressed,

> Sometimes I just copy and paste the questions from my Projects into it and ask it to provide a step-by-step process I can use to do the work. Sometimes I tell it to give me samples of the work I am doing to look at and do mine.

Participants' use of multiple tools suggests that each platform offers unique strengths that support different stages of idea generation, project requirement clarification, and the development of both text and image prompts. This pattern indicates a good level of digital literacy among the participants and reflects an emerging trend in which artists blend various AI resources to enhance creativity, improve efficiency, and refine project execution. As indicated by Braguez (2023), AI tools help artists to experiment, try new styles and bring creative ideas to life.

ChatGPT, Copilot, Meta AI, Gemini, Chroma AI, DeepSeek, and Notion AI are also used by the participants to generate appropriate prompts for AI tools, obtain images for their projects, identify suitable colour codes, schemes, and typography for their designs, develop layouts and artistic statements, and create captivating and catchy titles for their artworks. This shows a sophisticated and strategic integration of digital technologies into participants' art practice to support multiple aspects of their creative process. This suggests that the students view AI not merely as a supplementary tool but as an integral part of their workflow, enhancing both the conceptual and technical stages of their artistic production.

ChatGPT, Copilot, and Qwen AI are also used to generate mock-ups of projects, showing participants how their final artworks might look. This helps them assess and improve their work. A participant shared that,

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> I take the work to ChatGPT and put it in action on a mock-up to assess. I do that on several mock-ups to assess. So, if the final work does not look appropriate, I use Photoshop or Adobe Illustrator to make the necessary adjustments.

Another participant added,

> I use Copilot to generate image representations for my concepts to see what the concept will look like in image form. Although both Copilot and ChatGPT produce unrealistic images, they still give an idea of the final work.

Another indicated, "I use Qwen to generate mock-up models to fix my work for assessment. At times, my colleagues and I do the assessment."

Monser and Fadel (2023) confirm AI's ability to simulate a task. This practice allows the students to evaluate the potential outcomes of their artworks, make informed adjustments, and enhance the quality of their projects. This highlights how AI is not only a tool for ideation but also a resource for iterative improvement and critical reflection in the creative process.

Participants use Copilot, DALL·E, DALL·E 2, Image FX, Midjourney, DeepDream, Canva AI, and Microsoft Bing Image Creator to generate, create, and manipulate images.

A participant shared, "I ask the DALL·E 2 AI to design an artwork based on the principle of balance. Then I ask it to add a touch of Renaissance and Surrealism art styles, within 1 to 2 minutes, it can do that." This participant added that "I have taken an image of myself, I can use Image FX to change the outfit I am wearing in 10 seconds, which can take 2 hours to complete in Photoshop."

Another participant articulated that "I use Microsoft Bing Image Creator to generate images for my artworks in situations where I am unable to get scenes I need to take pictures and use for my works, or I cannot get them from other means." This highlights the students' reliance on AI for visual creation and manipulation. This indicates that the students actively integrate AI into the image-making process to explore creative possibilities, experiment with styles, and refine visual elements. It also reflects a shift in art practice where AI becomes a key resource for both generating new imagery and enhancing artistic experimentation.

Copilot, QuillBot, and Grammarly are used to paraphrase and rephrase text content and correct grammatical errors in art projects such as brochures, magazines, posters, and books.

A participant shared, "If I have to create a poster or brochure, I use it to paraphrase my text content based on my target audience and also ensure that the text content is correct in terms of sentence structure". This indicates that the participants actively leverage AI to enhance the textual quality of their art projects, ensuring that materials like brochures, magazines, posters, and books are polished, professional, and effectively communicate their intended messages. This highlights the role of AI in supporting both the creative and communicative aspects of artistic works.

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The influence of AI tools on developing and expressing creative ideas in artmaking

From the participants, AI promotes a better understanding of art projects by explaining complex words and sentences and helping to appropriately structure art designs through the use of suitable layouts, colour schemes, images, typography, and more. This enables participants to create more effective designs, as the AI provides guidance on how to develop their artworks. The integration of AI helps participants focus their artworks appropriately and enhances art designs by allowing them to explore new creative possibilities in diverse ways. The students expressed this as follows:

> It has helped me develop my creative skills. The kind of artistic styles that the AI tools provide, my personal art skills do not match them. They are way more advanced than my skill set at the moment. In the aspect of decision making, it has allowed me to make informed decisions about which techniques to apply by hand and digital means. On colour theory, AI has really helped me understand the theory of colour as well as the psychology of colour application.

Another shared that "it has helped me to explore diverse art and design styles and learn about them. Exploring new styles, techniques, etc., helps to learn and enhances skills." According to the participants, this opportunity helps overcome creative blocks in the artmaking process.

Another added, "AI improves my creativity and idea generation process. AI helps me to understand my target audience and provides me with the kinds of design trends that they prefer." This shows that AI serves as both an instructional and inspirational tool for the students, enhancing the quality, clarity, and innovation of students' art projects. According to Griebel et al. (2020), AI integration supports both divergent and convergent creative processes by providing artists with diverse ideas from which they can select and develop. It helps artists become more efficient during the brainstorming and ideation stages, offering alternatives and reshaping design fields in ways that cultivate creativity in students (Akverdi & Baykal, 2024; Oustamanolakis, 2024; Makokha, 2022).

The integration of AI also saves participants time in artmaking. All participants acknowledged that AI makes the artmaking process easier and faster. The participants articulated this as follows: "If I am working without AI, I have to do everything myself, which takes a lot of time, and I have other projects to work on, so with the right prompt, I easily get ideas for my work." "When working on intricate illustrations, AI helps me quickly test different artistic stylistic approaches that will take me hours to explore manually." "Personally, ChatGPT makes the ideation process easy for me." "AI helps me in the brainstorming stage to get ideas very fast. It helps me to analyse ideas to identify which one works best". "It makes it easy for me to complete my work by showing me samples of what to do."

As Li (2024) explains, AI tools can generate many concepts quickly. By reducing the time required to complete tasks, AI allows students to focus more on creativity and experimentation rather than routine or repetitive work. The unanimous acknowledgement by participants that

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AI makes artmaking easier and faster highlights its practical value as a tool that streamlines workflow and supports productive output.

Participants noted that when they need to create an image of something they cannot draw or photograph, providing the right prompt in AI can help them generate the desired image. This observation highlights AI's role as a creative support tool, enabling it to visualise ideas that may be difficult or impossible to produce manually. By using precise prompts, students can generate images that expand their artistic possibilities, overcome technical limitations, and experiment with concepts that might otherwise be inaccessible. This demonstrates how AI can serve as both an imaginative and practical resource in the artmaking process. AI integration in artmaking provides participants with the opportunity to visualise their ideas from the very beginning of the design process.

A participant shared that "AI helps to bring my vision to light through inputting my prompts on what is in my head and having AI give a visual representation." Another shared that "For Midjourney and DeepDream; it helps to visualise concepts quickly through image generation." This early visualisation supports more informed decision-making, helps refine concepts before execution, and encourages creative experimentation. By providing a clear preview of potential outcomes, AI enables students to plan and develop their artworks more efficiently and effectively, enhancing both the quality and originality of their creative process.

A participant indicated that with AI now, he has gotten the liberty to work with images which are not restricted with copy right issues because, according to him, "when I give the AI tool a prompt on a design or scene, the idea is coming from me" so for this participant, any image he gets from AI simply emanates from his imagination. According to Dawood (2024), copyright ownership issues rise as people question who truly owns art made by AI. This situation, as expressed by the participant, illustrates how AI empowers students to create original images without worrying about copyright. By generating visuals from their own prompts, participants retain creative ownership, as the ideas originate from their imagination. This highlights AI's role in fostering originality and providing a safe, flexible space for experimentation in the artmaking process.

Challenges associated with using AI tools in the creative art-making process

Sometimes, the AI tools do not provide the exact information that participants request. This means that, at times, the AI tools may not understand the given prompt or may have limited knowledge about the information and ideas being requested. Participants explained this as follows: "I needed information on something specific to the Ghanaian culture and their original names. ChatGPT and WhatsApp AI provided some information, but when we inquired with locals from these cultures themselves, they said the information was not correct." Another participant added that "sometimes AI lacks cultural relevance." When I am working on Ghanaian or African-based ideas, I do not get the appropriate ideas I need for such projects" Another participant also shared that,

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> At times when I use DeepSeek, the information I get is not completely accurate. At times, I know the information, so I can tell that what DeepSeek has given is incorrect. At times, too, I compare the information from DeepSeek with other sources, like books and Google, and I find that the information from DeepSeek is not correct.

When AI fails to provide the exact information or misunderstands prompts, it can disrupt the creative workflow. This suggests that effective use of AI depends not only on the tool's capabilities but also on the user's ability to craft precise prompts and navigate the tool's knowledge boundaries. Piskopani et al. (2023) note that if the training data is not diverse, the AI struggles to create content that is fair, well-rounded, or truly innovative, instead generating what it has repeatedly seen, which limits diversity in its output. This suggests that many AI models are trained on datasets that inadequately represent African cultural contexts, symbols, aesthetics, and experiences. As a result, they struggle to generate ideas that align with culturally specific themes, leading to inaccurate outputs. This limitation emphasises the need for more diverse and inclusive training data and reinforces the importance of human cultural expertise in guiding creative work involving AI.

Thirteen of the fourteen participants find it difficult to provide prompts that are easily understood by AI tools, and some tools, such as Gemini, take longer to generate information. Participants shared their views as follows: "The challenge is how to give the AI the correct prompt on my ideas and concepts so it can give me the appropriate content that I need". Another stated "how to put together an appropriate phrase to search for what I want. Because if I do not input an appropriate phrase or prompt, I will not get what I want because the AI will not get correct understanding." Another made known that "When I describe what I want to the AI tools, they don't give me exactly what I want I have to keep modifying my search phrases till I get what I want." This difficulty suggests that students may lack sufficient skills or experience in communicating their ideas in ways that align with AI systems' processing requirements. Delays from some AI tools indicate performance limitations that may disrupt workflow and reduce efficiency. These issues emphasise the need for training in prompt engineering to help participants interact more effectively with AI tools in artmaking.

Participants reported that some AI tools, such as Copilot and Meta, do not provide the exact images they request, while WhatsApp AI produces very low-quality images. In some cases, participants do not receive the images specified in their prompts. A participant noted that "AI is not good at generating local context Ghanaian images." Another shared that "at times, even after inputting the correct phrase, AI does not give the appropriate image on the concept you input." Another added,

> DALL.E, the free version, you have a number of images that you can generate in a day, so if I'm not getting what I want, and then I keep searching, and I reach the day limit, I have to wait for the following day.

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Most of the participants articulated that some AI images lack depth and context; they are not real and are incomplete. As soon as you see it, you know it's AI-generated. A participant stated that,

> In the SDG project, I saw that some of my colleagues used AI images, and when I asked them, they confirmed. Before AI, I knew the kind of work they were doing, then with AI, I saw that their work had improved, but their work did not look original.

Another shared that "some images from AI cannot be manipulated to suit my preferences with respect to my projects."

This suggests that AI may struggle with both specificity and accuracy when generating images. This further suggests that current AI models may lack sufficient local or culturally diverse data, emphasising the need for improved training datasets and more context-aware AI systems in artmaking. These situations reveal practical and qualitative limitations in AI-generated art. The daily generation limits of free version AIs restrict experimentation, causing delays when multiple attempts are needed to achieve the desired image. These challenges underscore both usability constraints and AI's current limitations in producing fully detailed, authentic artworks, highlighting the importance of human judgment and intervention in the creative process.

CONCLUSION

The fourteen student participants use a wide range of 20 AI tools in their art-making, with each typically relying on at least 3 tools.

Tools such as ChatGPT, Copilot, WhatsApp AI, Meta AI, Gemini, Claude AI, and DeepSeek support ideation and concept development, helping students understand project tasks and generate both text and image prompts. ChatGPT, Copilot, Meta AI, Gemini, Chroma AI, DeepSeek, and Notion AI assist with creating effective prompts, producing images, selecting colour schemes and typography, designing layouts, and crafting artistic statements and titles. ChatGPT, Copilot, and Qwen AI help students visualise final outcomes by producing mock-ups. Image-generation tools like Copilot, DALL·E, DALL·E 2, Midjourney, ImageFX, DeepDream, Canva AI, and Microsoft Bing Image Creator enable students to create and refine images for their projects. Additionally, Copilot, QuillBot, and Grammarly support paraphrasing, rephrasing, and editing text for various art-related documents.

In practice, the study highlights the need for art education to intentionally integrate AI literacy into curricula, ensuring that students can use AI tools critically and effectively at all stages of the creative process. AI is reshaping how students approach artmaking by streamlining technical tasks, enhancing conceptual clarity, and expanding creative possibilities. While it increases efficiency and allows students to visualise ideas early, it also shifts creative agency, risking overreliance on AI-generated solutions and raising questions about authorship and originality in art education.

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Revised: February 19, 2026
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This calls for art educators to maintain a balance between AI use and traditional creative skills to prevent overreliance and preserve originality. While AI tools can support creative tasks, their limitations, such as cultural inaccuracies, difficulty interpreting prompts, slow or low-quality outputs, and lack of contextual depth, reduce their reliability. As a result, users must rely on their own knowledge, refine prompts repeatedly, or verify information from alternative sources, which affects efficiency and the overall usefulness of AI in culturally specific and image-based projects. This also highlights the need to emphasise skills such as prompt refinement, critical evaluation, and verification of AI outputs, particularly in culturally specific contexts where inaccuracies may occur.

Socially, integrating AI into art education can enhance creativity and innovation, preparing students for evolving digital and creative industries. However, it also raises concerns about authorship, originality, and ethical use, which influence broader societal understandings of creativity and ownership. Additionally, addressing the cultural limitations of AI tools is essential for promoting more accurate and inclusive visual representations.

In terms of originality, this study contributes novel insights by providing empirical evidence of how multiple AI tools are embedded across all stages of students' art-making processes. It offers a comprehensive mapping of specific AI tools and their roles in creative workflows, and highlights the dual impact of AI: enhancing creativity and efficiency while simultaneously reshaping creative agency and raising critical concerns about ownership and originality in art education.

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Received May 3, 2025
Peer reviewed: December 12, 2025
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ISSN: 2408-7920

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Vol. 12, No. 3 (2026), pp57-71
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https://doi.org/10.26437/ajar.v12
Received May 3, 2025
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