

## Exploring using generative AI tools in artwork education to enhance simultaneous creative ideas

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### Abstract

The use of generative AI tools in art and design education also brings a set of opportunities as well as challenges. This research probes how to incorporate these tools in the classroom, leveraging ethical considerations and design creativity. The research of refining initial ideas through multiple iterations applied to three Open AI programs, Crayon. AI, Leonardo. AI and Magic media. AI produces varied visual outputs to develop a new education and training experience — finally surveying students to find the perfect programme. With these, one of those three specific titels has been flashed to all the AI programs, and from this, a new enhanced design has also appeared. This condition was designated to encourage students to consider the principles and elements of design and the style alongside the subject contitel. The experts selected one of the best-enhanced designs. Ultimately, Students in the digital case study developed a deeper understanding of AI tools and appreciated their value for enhancing creative work. The study emphasises the importance of simultaneous creative design designs, iterative processes, and ethical considerations in integrating generative AI tools into art and design classrooms.

**Keywords:** Artificial Intelligence, Human Creativity, Art Education

استكشاف استخدام أدوات الذكاء الاصطناعي التوليدي في التعليم الفني لتعزيز أفكار الإبداع

التلقائي

ملخص البحث

تعدّ أدوات الذكاء الاصطناعي مجالاً تقليدياً للأعمال الفنية وإن كانت تثير تساؤلات حول ما إذا كان الذكاء الاصطناعي قادراً على تحدي الإبداع البشري. ولكن يمكن الاستفادة من هذه الأدوات في العمليات الإبداعية وتحليل الأعمال الفنية. بالإضافة إلى ذلك، لديها القدرة على تعزيز الأحداث الفنية والمنشآت والعروض. ومع ذلك، فإن إدراج أدوات الذكاء الاصطناعي التوليدية في الأعمال الفنية والتصميم قد أزعج الخيال التقليدي والأفكار الأصلية، وخاصة إنتاج مشهد العمل الفني، مما أدى إلى مناقشات حول صحة الأعمال الفنية التي يولدها الذكاء

الاصطناعي، قدمت الدراسة الحالية للطلاب ثلاثة برامج توليد الذكاء الاصطناعي Craiyon و Leonardo و Magic Media وعلى الرغم من أنها تقدم دعماً محتملاً، إلا أنها ليست بدائل للإبداع البشري ويجب استخدامها في الإلهام أو الأعمال الفنية الأولية، وتقدم الدراسة عرضاً عملياً وشرحاً لإمكانات وقيود دمج أدوات الذكاء الاصطناعي في الأعمال الفنية والتصميم، مما يشير إلى مزيد من البحث في تطوير استراتيجيات أدوات الذكاء الاصطناعي الفعالة والمرنة. تظهر نتائج الدراسة أنه يمكن الاستفادة من الذكاء الاصطناعي في العمليات الإبداعية. وتشمل استخدام الذكاء الاصطناعي لإجراء مجموعة واسعة من التعديلات على المفهوم، كأداة ملهمة لتوليد حلول مبتكرة، واستخدام بعض جوانب الاقتراحات التي يولدها الذكاء الاصطناعي لإنشاء مفاهيم منفصلة فقط، تقدم هذه الرؤية إرشادات قيمة لتعليم الأعمال الفنية التي تتطلع إلى دمج الذكاء الاصطناعي في مناهجها، مع تسليط الضوء على استراتيجيات الذكاء الاصطناعي التوليدية.

الكلمات المفتاحية: الذكاء الاصطناعي، الإبداع البشري، تعليم الأعمال الفنية.

## Introduction

Over the past sixty years of evolution, artificial intelligence and its generative designs have danced world-class education innovation into a cascading feedback loop — infinite-source learning to propel human creativity in a one-of-a-kind way: unparalleled. History in the Making — A Rare Discovery Popular synonyms: unique and compelling. It first originated from the art generative spectrum. An original artificial intelligence, AI is now radicalising the technology field. Artificial intelligence (AI) concepts and creative design, incorporating the science of technology with art in perfect synchronisation! Topps: Arts and science are converging, and with that comes the creation of one universal design brewed from top to bottom through every field using artificial intelligence – leading pieces like this can boost a design overall.

## Literature review

It assists in ensuring that future generations of students are prepared for the evolving state of web design, development, and UI/UX. The critical focus is AI applications, which deserve to be in our curriculum today rather than tomorrow. Gianmaria (2022)[1] reported that Although only a little is being done in the academic spaces to investigate practical applications and best practices, but abstract lines or disruptions are discussed as a crumbling of aesthetics.

Hutson et al. (2023)[2] noted that the application of generative AI tools in art and design has contributed to the debate about whether artwork produced by an artificial entity constitutes "real" creative works, coupled with the birth of new kinds of markets including NFTs (non-

fungible tokens). The decision of the US Copyright Office to not grant copyright protection to AI-generated comic artwork merely emphasises how thorny an issue that is and suggests it will take a lot more involvement than humans before commercialisation can occur. Studying the adoption of AI-enabled tools in a digital art course unveiled disparities between replicating effects for students and also inconsistency, as well as scarce deep exploration of creative-design manipulation simultaneously. Students agreed that AI tools should enhance rather than replace humans' creativity. They feel that these organisational strategies should only be used for end-of-year projects.

Most literature has focused on philosophical and theoretical considerations rather than AI-in-education deployments and technical workshops. For example, Coeckelbergh [3] develops an intellectual discussion in an imaginative framework on machines as artists by studying that "creation" is the maker of art and why qualities are those of not only person to machine making artwork. The framework emphasises an inclusive, neutral perspective on creativity transcending the human vs. non-human art dichotomy and offers a shared meaning, drawing technology into the definition of creative work! In the form of creativity, which all agree is closely bound up with human activity (because even its definition). Coeckelbergh argues for a fresh "poetic" take on the creative dimension, suggesting that hybrid human-machine processes could astonish performers and spectators in unprecedented ways.

Hutson & Cotroneo (2023) [4] also mentioned that students' behaviour patterns developed due to the use of AI generative and iterative processes had made them work better. The conceptual intrigue is that creating issues in outputs are images produced by AI. This questions us, leading to a fight where we have to learn artistic things more than only conceptual ideas in the first phase; this is an overall summarization of some significant gain and pitfall perspectives on assimilation generative tools around art education. Yet, it reinforces the necessity for engineered progress, ongoing examination and ethical deliberation as these technologies advance.

Hutson et al. (2024) [5]. As per the power of AI -- As writing reports, most who cover this topic: the computational capacity of AI doubles every six months (give or take), and literature on this subject will double its size in only 18 short months. New programs are constantly created, and better hardware arrives every day. Conversely, the last few years have seen an enormous increase in research and AI-developed programs.

A total of 31 artists in system design AI and hundreds more bought its artwork designing ability; further, too many used both sides, which

provided diversity for our artist and the artwork, which went even further wide out. We will achieve endless growth in artwork design. System Design AI was also captioned by dozens of artists and sold to hundreds more for processing artwork. However, billions of people widely use AI, and there is endless growth in artwork design [6].

Ahmed (2022) [7] wrote that they imagined one could even repaint AI not with a brain contitel or an image design but with the sensory capacities of being human, emotions, experiences, senses, and memories could directly be kindred to. In this regard, Design Thinking is essential in using AI-generated art thinking in human interaction and emotions. Yet, those discussions around AI and art must confront this most passionately contested idea of creativity.

Ahmed (2022) [7] suggests that it is conceivable to treat AI not as a material object in its own right or an image design but one where the immanently humanistic qualities such as emotions, experiences, senses and memories can directly be kindred with. Design Thinking is critical in using this kind of AI-generated art thinking within human interaction and emotions. Nevertheless, those conversations about AI and art will have to reckon with one of creativity's most fiercely argued ideas.

According to Ajani (2022) [8], Creativity is individual, acquired information and judgment of creativity by experts. Because it must be judged externally, AI has been waived from evaluation on this basis (conclusion).

Hutson and Lang (2023)[9] emphasised that each area (such as painting or design) needs to be more direct in deciding whether a product will ever be "creative" and not simply that it is by nature.

According to Shreeve et al(2010 [10]. Working within the principles of reflective design can lead to a better understanding and conceptual development in learning for students.

Using these tools, students can determine which creativity methods suit them best, possibly spurring more independence and productivity inside the classroom. That is, the more students understand art and design, the better their approach to studying graphic design.

(Sawyer 2018) [11], as an experiment on students using the AI programs, the students explained that the design ontologies directly influenced their learning process and methodologies. The broad-based explanation of design ontology is mapped into terms the students understand in their learning. This is also how one of the other emphases, on art as pedagogy, can shed light on what it means to teach these advanced topics.

As AI technology becomes more widely available, concerns over widespread plagiarism have simultaneously creatively designed calls for a

ban on its use in higher education [12&13&14&15]. The debate around AI-generated art often focuses on whether such art can be considered "art" and the concept of creativity.

Jennings (2010) [16] on his research indicates that "creative autonomy," which exists when a system evaluates creations independently and changes its standards without explicit direction from human conception, is necessary for making this argument rather than requiring the system to be hermetically sealed to avoid perceptions of human influence. Developing creative autonomy is more reasonable if the system is in a way that involves detailed knowledge—embedded in a broader society of other creators and critics.

As shown in image (1), a remarkable instance of style transfer resulted in a piece of art. AI-mangled reworking of artwork has enjoyed a mixed level of "artistic" success, from this Dinosaur x Flower mash-up by Chris Rodley to the more typical psychedelic looking. Hopefully, you can find the Dinosaur x Flower mash-up on almost every subreddit lately and across various platforms Jennifer (2024)[17].

As shown in the image (2), Chris Rodley mashes a neoclassical portrait of Napoleon with a High Ren costume drama scene. The Original Art Style transfers terrific results. The image combined a contemporary oil painting on canvas of this highly idealised image, Napoleon, called The Reader is Reading, which is likely to be from the High Renaissance and represents crowd scenes.



**Image (1) Dinosaur x Flower**



**Image (2) Napoleon Bonaparte A2**  
Reddit by Chris Rodley User vic8760.

The focus shifted to the following Research questions to help students comprehend how AI tools could be more thoroughly integrated

into their creative processes through effective simultaneous creative design.

### **I. Research Questions**

Q 1. The first is whether utilising AI generative artwork can effectively improve the practical abilities of students from art education departments for their learning work in colleges.

Q 2. Are the AI tools, which are developed in artwork and design subjects as reliable for the upliftment of quality of artwork and construction, and capabilities.

Q 3: Will the AI-based evaluation tools improve the quality of student artwork and, by extension, design education overall?

### **II. The aim of the research**

1. Our research goals are to use AI art generators, participate in performance and feedback cycles alongside instructor feedback/observations and test best pedagogical practices.

2. This does not aim to replace AI instruction with an art curriculum but instead seeks to provide new mediums for students who feel the need or desire to express themselves more creatively.

3. A new form of interactive learning model is applied to art education colleges and universities, fully mobilising practical operations and enhancing the development ability in this field for artwork majors.

4. We are experimenting with using AI to evaluate art instruction quality, which can give interesting feedback to educators and artists.

### **III. Methodology**

1. The students assumed that they had a fundamental knowledge of software Adobe Photoshop, Adobe Illustrator and even the facilities of Microsoft Word required for class participation. Incorporating more advanced technical skills will enable students to develop their creative use of digital technology within a fine art context by studying the software and acceptable art strategies introduced as digital art.

2. The research began with a brief introduction to AI generative art and swiftly progressed to hands-on experience with image generators with the three AIs, Craiyon, Leonardo, and Magic Media.

3. The study uses data from students' survey artefacts, developed over AI-generated content, and the final design submission.

4. The sample was obtained from 30 students in the Art and Design department enrolled in the College of Arts.

5. The students' final product is evaluated, and an expert group chooses the best top design.

6. A statistical analysis and evaluation will be carried out to approve the best AI for the student

## VI. Research hypothesis

1. The present research could recommend AI generative as an assistive tool in art education.
2. Apply AI generative tools could provide valuable feedback to students and instructors on the strengths and weaknesses of their work and teaching methods, respectively.

## V. Terminology

### 1. What is Craiyon?

- Craiyon is an AI artwork and image generator
- The most significant player behind this new generation of AI artwork.
- You can draw anything that pops up in your mind with Craiyon

### 2. "What is Leonardo?

- Leonardo. It is an advanced image-generating solution powered by generative AI.
- Automatically generates creative visuals from user titel and images, making custom designs.

### 3. What is Magic Media?

- Decrease turnaround time with visual assets created in the contitel of associated design objectives.
- Expand images seamlessly in any orientation to fill the frame for the desired shot.
- Finalise frames, rescue image details in close-up shots, or convert images into formats almost instantly with ease.

## To determine the AI tools that the student most prefers, Statistical analysis and evaluation has been conducted.

In the upcoming questions, the attention turns to guiding students in understanding the potential for integrating AI tools more effectively into their creative processes through practical, simultaneous creative design.

- (1) Initially, students were tasked with conducting a survey. If they had better understand the technology's role in the art-making process,
  - 80% agreed.
- (2) Subsequently, after completing the simultaneous creative design assignment, students asked If they understood how their simultaneous creative design input influenced the image output;
  - 75 % agreed.
- (3) However, when asked if they believed the AI tool enhanced their conceptual potential for the final project:
  - 47% agreed,
  - 40% disagreed, and



- 13 % were unsure.
- (4) The subsequent questions aim to discover how the AI tool could help students enhance their initial concepts. When asked if they had a clear idea in mind before starting the exercises with various simultaneous creative designs:
- 70 % indicated that they did.
  - 25% chose “some sort of”, and
  - 5% chose did not.
- (5) Students were asked about the number of simultaneous creative design iterations they went through to achieve their desired goal. In terms of the difficulty experienced by students to attain their desired outcome through multiple attempts with different simultaneous creative designs:
- 45% found it neutral,
  - 30% found it somewhat tricky.
  - 65% found it somewhat easy and
- (6) Students were asked about the perceived usefulness of AI in the art-making process. After analysing their responses, it is evident that they found the use of AI to be most beneficial.
- 40 % of students found AI helpful in organising existing ideas.
  - 35 %, gaining a better understanding of AI in general.
  - 25 %, maximising their conceptual potential
- (7) The Students were asked how they altered their simultaneous creative designs throughout multiple iterations of their work.
- The survey revealed that students modified their simultaneous creative design while generating multiple versions or iterations of their work.
- (8) Lastly, the student was asked to differentiate between the three AI programs: Crayon, Leonardo, and Magic Media AI:
- 70 % would prefer Crayon.
  - 20 % would prefer Leonardo
  - 10 % would prefer Magic media.

### **Experimental work**

Through the digital art classes, as they thought, instructors managing the course observed students in a digital art class as they trained on the generative AI tools for art creation. The students were first given ample time to recognise and experiment with each AI generator, which enabled them to understand better the nuances of input, language, and limitations inherent to each tool.

This careful choice resulted in an extensive range of outputs. The students were provided sufficient time to discover and experiment with

each tool, which allowed them to increase their understanding of each tool's specific inputs and limitations.

This study presents an evoking interest case for integrating AI-generated artwork tools into conventional workshop artwork classrooms. It focuses on an intermediate level by developing a digital media course. Students must use three generative artwork tools – **Crayon, Leonardo, and Magic media** – to create initial concepts of specific titles. After achieving satisfactory results with one generator, the students had to apply the same title to the other generators; bearing in mind that one generator produces several different final images.

The student selected one image from the AI generative program as the base design and then was tasked with creating ten creative designs simultaneously using each of AI's Craiyon, Leonardo, and Magic Media image generators. They were to include at least four variations of the same simultaneous creative design to encourage exploration of form, format, and style.

Then, according to their conception, they were asked to reconstruct four images.

The instruction commenced with a brief introduction, quickly transitioning to AI art and engaging with image generators. This condition was designed to encourage students to consider the principles, design elements, and style alongside the subject context. Eventually, the experts chose and evaluated the best one.

Three specific titles related to their general artwork have been introduced to the student to be converted into 3D designs as inspiration for a new artwork of hanging wall pieces as follows:

- I. Triangle wood wall with geometric pattern.
- II. Rustic mosaic wall decor handmade with premium cedar.
- III. Artisanal crafted cedar mosaic wall piece intricately designed and Textured

The students were annoyed at how limited their first ideas appeared compared to what the AI came up with, which was a source of frustration for them. Because of this, they were forced to either muck around with the tools more or try out other ideas. In the end, they became interested in using AI tools despite these disadvantages — as we realised after explaining to them who their experiment was for. Initially, they were a bit reserved about integrating their creativity to level up the essential AI art generated by hands. Therefore, to that end, all these new AI creative tools are nothing more than inspiration and guidelines for artists but will never become artistic robots. The study also showed a preference for Craiyon to Leonardo and Magic Media. This was likely because Crayon also tended

to produce more prosperous and more varied solutions that might encourage students to explore a broader set of creative options.

**The first title order is a triangle wood wall with a geometric pattern.**

**The first tool is an AI image generator with:**

### **I.I. Craiyon.**

The updated design preserves the essence of the original while undergoing significant modifications. It incorporates distinct elements from the original and displays a unique construction that closely mirrors the original design.



**Image (3) the original gener**



**Image (4) the enhanced**

### **I.II. Leonardo**

The developed design sustains the original essence while undergoing remarkable modifications and incorporating distinct elements from the original. It displays a unique construction that closely reflects the original design.



**Image (5) the original generated**



**Image (6) the enhanced art**

### **I.III. Magic Media**

The reimagined design upholds the essential essence of the original while undergoing significant enhancements and integrating distinct components from the original. It displays a unique construction that closely reflects the original design with different tones of colour.



Image (7) is the original generated  
Second title order

Image (8) is the enhanced artwork.

### Rustic mosaic wall decor Handmade with premium cedar

#### II.I. Craiyon

The design has been modified while maintaining the spirit of the original design. It incorporates different parts in a spiral construction with parts subtracted from the original design.



Image (9) the original generated

Image (10) the enhanced artwork  
Designed

#### II.II. Leonardo.

The reimagined design honours the timeless essence of the original while undergoing significant enhancements and integrating distinct components from the original. It highlights a unique construction that closely reflects the original design with the same tones of colour.



Image (11) is the original generated

Image (12) is the enhanced artwork  
designed by AI artwork and the  
student.

### II.III. Magic media

The enhanced design retains the essence of the original while introducing new elements. It combines critical aspects of the original with a distinctive new construction, prominently featuring an image of a girl in the centre.



Image (13) the original generated

Image (14) the enhanced artwork

**Third title order:** Artisanal crafted cedar mosaic wall Piece, intricately designed and textured

### III.I. Craiyon

The students tried to preserve the soul of the original design as much as possible while making changes. Taking the idea from the inside, they expanded it to an external structure that loomed over. This is done by adding two different coloured circles and two shapes' unique image constructions (two triangles at each corner).



Image (15) the original generated

Image (16) the enhanced artwork

### III. II. Leonardo. AI

The students tried to keep the first design's spirit but had a few things that needed their touch-ups. Two circles within the new design, each created differently. Rectangular frames surround the circles, and the periphery is patterned with different types of tiles.



Image (17) the original generated

Image (18) the enhanced artwork

### III. III. Magic media. AI

The students desired to maintain the spirit of the original design while adapting it. Each feature, the hexagon shape in conjunction with a striking set of three hearts on either side, is done up to match the textures and colours.



Image (19) the original generated

Image (20) the enhanced artwork

### Result

The Student is a clear example that it was through simultaneous ideas, iteration of the concept and feedback from peers to help him develop a more detailed way in their work. It allows students to explore and experiment with their creative ideas, giving them a good understanding of what these AI tools offer.

For AI generative artwork, the case study was aimed at teaching students to make multiple creative designs and iterate over different iterations to improve their ideas. They better understood how generative AI tools functioned and which specific inputs would best produce each result. Ethical concerns aside, students saw clear benefits in using AI tools to augment their creative work.

### Discussion

Finally, this study underscores the prospect of enabling and hurdles before integrating creative AI tools in art classrooms with significance towards ongoing artwork, iterative processes and ethical implications as new functionalities of these technologies emerge.

This study demonstrates the broad areas in which AI could lend creativity. Those are creating a rough idea via the technology, making modifications, and using AI to inspire original solutions that can be taken further without falling back on suggestions from artificial intelligence.

We face opportunities and challenges as we see generative AI tools enter the art and design education field. This research looks at using these with students socially, part ethics, and parallel with creative design engineering. In addition to providing valuable insights into the benefits and drawbacks of using these tools for learning, we also analysed an iterative process where ideas are refined multiple times before they take their final form in Leonardo or Craiyon (Figure 1), Midjourney.

### **Conclusion**

Viewing AI methods in art as a partner specialisation in art education indicates potential advances for improving practice. Possible Advantages and Considerations for Integration

1. Using AI generative tools in the classroom can individually tailor learning for

Students, so they have sufficient time to learn and can concentrate on their weaknesses.

2. The studies were partly inspired by the wide disparities among beginner students' abilities and preparation. Both title-based AI generators could increase students' aesthetic and creative art capabilities.

3. In this respect, AI generative tools may be able to cast a direction sample for

Student-related work,

4. Compared to older and less scientific teaching models, AI-based techniques allow

for more in-depth and practical feedback.

5. You had AI generative tools to investigate a personal sample of their artwork (providing feedback specific to a particular image, colour technique, and design language). This feedback can help students identify their requirements and work on progressive skills.

### **Recommendation**

1. The use of AI in the production or poetry-making aspect is ... ethical alarm bells start ringing loudly. We should ensure that students learn to think deeply about societal impact and cultural sophistication when using AI for art. For instance, how will property rights ownership, authorship and more questions be managed in the age of AI-generated art?

2. We must be careful and assess students' ethical dilemmas. On the other hand, we can still use AI in educational experiments. Some criticisms have expressed that this is the most significant amount of student data demanded for AI systems, raising significant privacy and data protection

issues. In both cases, executing these AI solutions without a human checking the output might exacerbate bias and disparities.

3. AI technology can revolutionise art education by providing an objective, fast and scalable technique. In addition, AI can assist learners and educators by giving them feedback, resulting in a better learning experience.

4. Despite warnings of the rise in plagiarism due to AI entering higher education, academia has little appetite for investigating real-world applications and a framework for integrating this game-changing tool.

## VI. Future research

1. It was an interesting conceptual challenge (whether to present AI-generated images as the final work), so I had a few more things at stake in those meetings of creative design.

2. Explore other AI-generative tools for the aesthetic and titel-simultaneous creative designs regarding how-to (the proper use of excellent art with accurate content when generating).

3. Understanding and predicting the outputs of diverse AI-generative tools are natural lines of enquiry. Additionally, we must offer best practices for incorporating these tools into the curriculum.

4. At the same time, the study shows that AI can be well used to improve curricula and should still play a role as it evolves.

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