

# Preparing Creative Arts and Design Students for the New World of Generative Artificial Intelligence in the Workplace

Katja Fleischmann 

Queensland College of Art and Design, Griffith University, Australia

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## Abstract

*Generative Artificial Intelligence (AI) is transforming the Creative Industries, influencing fields such as Design, Film, and Advertising by bridging machine-generated content and human creativity. This paper explores the necessity for design educators to prepare students for these new workplace realities, where Generative AI tools are reshaping creativity, intellectual property, and ethical discussions. Through a survey of postgraduate design students, this research examines their perspectives on integrating Generative AI into their future careers. Findings indicate a strong interest in learning how to use these tools across age and experience levels.*

**Keywords:** *Generative Artificial Intelligence (AI), Creative Industries, Creative Arts education; Design education; Curriculum development, Career readiness.*

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## 1. Introduction

Creative arts and design students aiming for careers in the Creative Industries must begin bridging the gap between human creativity and machine-generated content, a growing presence in creative businesses. Design educators are now tasked with helping students integrate Generative AI into their creative processes without sacrificing the core principles of design education. The rise of tools like ChatGPT and DALL-E since 2022 has redefined creativity, talent, and intellectual property, leading to ongoing ethical and legal discussions about AI's role (Yogesh et al., 2024; Auernhammer, 2020; Anantrasirichai & Bull, 2022). Generative AI, a subset of AI that creates new content (Marr, 2023), is reshaping Creative Industries areas like Music, Film, Design, and Advertising by generating novel outputs from data. Although Generative AI can increase productivity by quickly iterating ideas, concerns about job displacement and a flood of low quality automated content persist (Matthews et al., 2023; Meron, 2022). Given the growing integration of AI in the Creative Industries, this study explores postgraduate design students' perspectives on the realities of working with Generative AI in the creative workplace.

## **2. Generative AI's Impact on the Creative Industries**

The use of Generative AI in the Creative Industries is rapidly expanding. Anantrasirichai and Bull (2022) highlight AI's impact across various fields: Generative AI produces scripts, aids journalism through natural language processing, supports music production, creates new art forms in image generation, automates animation, and enhances immersive experiences in AR/VR.

However, creative professionals have raised concerns about AI's impact on creativity, ethics, and copyright (Black et al., 2024), with some feeling they operate in a legal grey zone (Erickson, 2024). Various reports argue that there will be job losses amongst creative and design professionals (e.g. Black, et al. 2024). Erickson (2024) explains that the implementation of Generative AI will lead to "further deskilling of creative labour, and displacement of ancillary production jobs due to increased efficiency and changing production practices" (p. 3).

A survey of 113 Creative Industries professionals showed a majority use Generative AI tools like ChatGPT and DALL-E, with 62% agreeing that failure to adopt AI could mean missing career opportunities (Engine Creative, 2023). While AI's role in other sectors focuses on automation, in creative fields, it is seen as a tool to enhance creativity through co-creation (Cremer et al., 2023; Fleischmann, 2024a). The acceptance of Generative AI in the creative workplace is happening despite an inherent uneasiness about its use: "AI presents a fascinating paradox in the creative world. It disrupts traditional industries while simultaneously empowering individual creativity" (Hutchins, 2024, p. 1).

## **3. Design Education and Generative AI Integration**

Design education is based on studio pedagogy, which prompts students to learn through the critiquing process, collaborative dialogue and critical thinking, prototyping and iteration of design ideas (McLain, 2022). Generative AI's rapid development has made it difficult for higher education creative arts and design educators to find a way to integrate a technology that enables students to shortcut the creative process (Fleischmann, 2024b). Previous examples of groundbreaking technological advancements show that universities had to play catch-up because of new technology's rapid emergence. Examples include the digitalisation of the creation and production process through the introduction of desktop computers and the emergence of the Internet and digital media (Meron, 2022). This latency between adoption of new technology in higher education concerns Creative Industries professionals who worry about "... training, funding and otherwise engaging with AI technologies" (Black, et al. 2024, p. 3).

The limited literature on the use of Generative AI in creative arts and design education highlights both its potential and concerns for the future. Fleischmann (2023) found that some educators in Germany worry Generative AI could threaten graphic and communication design programs

within the next decade—a sentiment echoed by Matthews et al. (2023). Early adopters like Figoli et al. (2022), Noguera (2022) and Huang, et al. (2023) highlight both the potential for speeding up design processes but also the need to emphasize critical thinking around AI’s biases and ethics. Creative arts and design educators now need to create frameworks that allow students to ethically collaborate with Generative AI tools while preserving their agency in the creative process, a core aspect of design education (Fleischmann, 2024b).

To be prepared to enter the Creative Industries job market, creative arts and design graduates need a variety of skills, including creativity, problem-solving, communication, and proficiency with design software (Barnes, et al., 2022). Graduates should also understand business strategies, have cultural skills and be able to work effectively in a team (Barnes et al., 2022; Matthews et al., 2023). Proficiency in design software goes beyond managing illustration, photo or video software and must now include a basic familiarity with using Generative AI tools and understanding new creation and production processes Generative AI engenders.

While some design educators have already started integrating Generative AI into their creative arts and design curriculum (e.g., Huang et al., 2023; Noguera, 2023), the uncertainty around ethics, copyright and originality is holding many back. Fleischmann (2024b, p. 1) provides “recommendations for a structured pedagogic approach for implementing Generative AI as a building block for the design creative process into the curriculum” while also considering the ethical frameworks and copyright challenges.

#### **4. Measuring Graduate Student Attitudes Toward Generative AI: Methods**

This study followed a pragmatic research paradigm, recognizing that knowledge is socially constructed and rooted in interconnected experiences (Kelly & Cordeiro, 2020). To explore student views about the impact of Generative AI, their experiences in using AI tools and interest in learning about it, the author surveyed thirty-three postgraduate design students (Master of Design) in their first year of study.

The survey was conducted using the online survey tool SurveyMonkey. The researcher developed the survey questions (multiple choice and open-ended questions) to gather a broad overview or trend on the topics. The survey tool delivered basic statistical data for the analysis of the quantitative data, including the tally of response totals, percentages, and response counts. Answers to open ended questions such as career aspirations were manually counted and grouped using Microsoft Excel.

The researcher acknowledges that the small sample size restricts the ability to generalize the findings but instead offers immediate insights that capture student experiences and perspectives (Meterko et al., 2015).

## 5. Findings

To better contextualize the feedback given by the postgraduate design students, they were asked to provide their age, previous degree studies, career aspirations and existing experience with using Generative AI tools. Table 1 shows the age of student participants.

**Table 1. Age range of postgraduate design students.**

Answer Choices	Participants percentage / number	
18-22	18%	6
23-25	27%	9
26-28	15%	5
29-35	30%	10
over 35	9%	3
I'd rather not say	0%	0
<b>Answered</b>	<b>100%</b>	<b>33</b>

When exploring students' previous education, it was revealed that twenty-three students (70%) had completed Creative Industries undergraduate degrees such as Graphic Design, Product Design or Interior Design. Ten students (30%) had completed undergraduate degrees in non-creative areas such as Business and Management, Law and Social Sciences, and Education. Three students had completed both, a Creative Industries degree and a non-creative degree. All students were seeking careers in the Creative Industries within 5 years' time. Table 2 shows the creative profession they envision as their future career.

**Table 2. Envisioned careers by postgraduate design students.**

Answers	Participants percentage / number	
UI/UX Designer	33%	11
Graphic Designer	18%	6
Creative Director/Senior Design Role	15%	5
Own Design Studio or Freelance	18%	6
Other Creative Fields	12%	4
Uncertain or Flexible Career	3%	1
<b>Answered</b>	<b>100%</b>	<b>33</b>

Students who had completed creative arts and design degrees beforehand would have been exposed to the constantly evolving field, shaped by technological shifts, changing cultural trends, market demands and sustainability concerns. The careers envisioned by these students will most certainly intersect with Generative AI soon. Given that 54% of this student cohort are 26 years old or older, there is an assumption that a number of these postgraduate students have

worked in jobs, participated in internships or experienced work-integrated learning before enrolling in the master’s degree. The survey explored the experience these postgraduate design students have had in using Generative AI in the professional field. Table 3 overviews the results.

**Table 3. Experience of postgraduate design students using Generative AI in the professional field.**

Have you ever used AI-powered design tools in your professional work?		
Answer Choices	Participants percentage / number	
Yes, frequently	6%	2
Yes, occasionally	13%	4
No, but I am interested in using them	47%	15
No, and I am not interested in using them	9%	3
No, I did not work in a job where AI could be applied	25%	8
<b>Answered (1 skipped)</b>	<b>100%</b>	<b>32</b>

Table 3 findings show that a small number (19%) of postgraduate design students had used Generative AI on the job. However, nearly half were interested in using AI tools despite not having used them before. Interestingly, three students (9%) were not interested in using Generative AI in their professional work. The rapid development of Generative AI applications in the Creative Industries reflects in survey participant acceptance of this technology as a fact of life in the future creative workplace. Table 4 clearly shows that most students have a realistic view about the impact of Generative AI on their future careers. Only one student sees traditional design work being unaffected and remaining unchanged.

**Table 4. Postgraduate design students’ view on the impact of Generative AI on the design process.**

Do you think Generative AI will replace some traditional design tasks?		
Answer Choices	Participants percentage / number	
Yes, to a large extent	21%	7
Yes, to some extent	64%	21
Yes, to some extent	12%	4
No, they will not replace traditional design work	3%	1
<b>Total</b>	<b>100%</b>	<b>33</b>

Of the thirty-three students, twenty-eight students (85%) see Generative AI ‘replacing’ tasks that they would perform on the job. This finding reflects previous research from professionals that those who do not adapt to AI and learn how to use it are risking their relevance in the workplace. This idea that AI replaces certain tasks also contributes to critics who see it as a job threat.

When exploring the openness of students to engage with Generative AI as part of their study program, the majority of students expressed an interest, with three quarters of the group (75%) being ‘definitely’ interested and the rest of students being ‘somewhat’ interested or would ‘need more information’. No student expressed that they are not interested in AI tools, as demonstrated in Table 5.

**Table 5. Postgraduate design students’ motivation to explore Generative AI design tools**

<b>Would you be interested in learning about how to effectively use AI tools in design?</b>		
<b>Answer Choices</b>	<b>Participants percentage / number</b>	
Yes, definitely	75%	24
Yes, I'm somewhat interested	16%	5
Maybe, I need more information	9%	3
No, I'm not interested	0%	0
No, I prefer traditional design methods only	0%	0
<b>Answered (1 skipped)</b>	<b>100%</b>	<b>32</b>

It is clear from the survey data that students have had limited experience using Generative AI in the workplace but the majority are interested in learning more about it and feel that it will replace some of their future tasks.

## **6. Conclusion**

The growing presence of Generative Artificial Intelligence in the Creative Industries is undeniable. From Film to Graphic Design, Generative AI has swiftly carved out a niche in areas traditionally dominated by human creativity, challenging the notion that these fields are the sole domain of creative individuals, not algorithms.

Over the next decade and immediate future, Generative AI will have a profound impact on creative professions. While practitioners in the Creative Industries express concerns about Generative AI’s rapid advancements, particularly regarding ethical frameworks and copyright issues, they also acknowledge that failing to embrace AI may result in falling behind or missing significant opportunities.

Despite its limitations, it is essential for creative arts and design educators to bridge the gap between industry demands and the need for graduates to be prepared for the evolving workplace. Survey results show a clear desire among postgraduate design students to learn how to use Generative AI tools to better equip themselves for the creative job market. This enthusiasm spans across different ages and levels of experience.

Unlike many other industries where AI's value lies in automating tasks, in the creative sector, Generative AI has the potential to act as a collaborative tool. It enhances creativity, optimizes workflows, and accelerates processes, rather than merely automating tasks.

The challenge for creative arts and design educators is to teach students to strike a balance between AI as a co-creator in the design process and original human work. This can be achieved through experimentation and a staged approach to curriculum development that not only integrates Generative AI but also addresses its limitations and explores the ethical concerns surrounding originality and copyright laws.

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