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KNOWLEDGE AND UNDERSTANDING OF USING GEN AI AND PROMPT WRITING SKILLS OF GRAPHIC DESIGN STUDENTS IN PAKISTAN: A QUANTITATIVE STUDY

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ABSTRACT

This study highlights the problem facing the understanding and knowledge of Gen AI and prompt writing skills of students of graphics design. The research seeks to identify gaps in their comprehension and practical application of these technologies, evaluating their proficiency in crafting effective prompts and utilizing AI-driven tools for design tasks. A quantitative study analysis of the Gen AI tools and prompt writing skills. The study assesses how AI-generated recommendations influence design outcomes. The aim is to integrate early learning techniques in graphic design to enhance and develop students' skills to ensure their work meets professional standards. Using AI-generated media, students can participate in innovative, collaborative design projects. The study reveals a growing integration of AI in graphic design, with users recognizing its potential to enhance creativity and efficiency. In terms of city-wise distribution, participants belong to three primary locations. Sialkot has the highest representation at 43%, followed by Gujrat at 32%, with the remaining 25% from various other regions. While many designers have experimented with AI tools, their proficiency varies, with most users possessing only basic to intermediate skills in prompt writing and AI-generated design. The main difficulty involves writing proper prompts since picking accurate keywords together with comprehending AI interpretation systems constitutes major obstacles. The research demonstrates essential deficiencies in Pakistani graphic design which requires structured instruction for AI prompt writing thus this study develops a methodology for AI incorporation in graphic design. The research unveils critical advances which will occur in the future. Using AI for prompt writing improves visual coherence without eliminating the need for human design talents.

Keywords: *Generative AI in Graphic Design, Prompt Writing Skills, AI Driven Graphic Designs, Creativity and AI integration.*

INTRODUCTION

Digital platforms play an escalating important role in the year 2024 to define everyday life and fuel technological progress throughout different professional domains. The graphic design field has experienced major evolution through artificial intelligence which now radically reshapes design creation together with the complete design production. The process of design receives transformative change through AI-generated suggestions that utilize prompt-based interaction between users and machines. According to A. Faraz, (2023) AI presents creative effects on both design spaces and procedures which the study examines next. AI technology development enables users to select better design solutions for different tasks with both flexibility

and creativity. Users gain more benefits from AI tools, but these tools simultaneously trigger designers to modify business operations and acquire different capabilities [1]. Graphic design professionals now question how GenAI technology will change the established creative design practices. Academic research shows that AI art achieves sophisticated levels, but it fails to demonstrate purposeful human design elements and decision practices[2] . The growing accessibility of AI technology has brought a struggle between educators and practitioners to determine its place as educators debate about its educational impact and professional effects. AI exists as a tool that teams up with designers instead of substituting their work and requires proper prompt engineering to create AI-generated content according to Kulkarni et al. [3] Design students could develop limited professional skills due to AI usage since they depend on automated systems instead of mastering core visual techniques according to Longhurst [4].

The skill of prompt engineering stands as a vital component for AI creativity assistance that determines the quality along with coherence of computer-generated results. Users who use a systematic writing method for prompts produce more standardized high-quality outputs but users who create ambiguous or sophisticated descriptions generate unstable outcomes according to research by Oppenlaender et al. [5]. T. Nguyen et.al (2023) discuss about the Multiple scientific investigations demonstrate that prompt engineering delivers no instinctive knowledge yet requires instructional learning coupled with practice sessions [6]. According to Zhou E, Lee D (2024) Development of GenAI tools benefits intensely from our constant refinement and adaptation of prompts throughout projects. Throughout this dynamic process designers access multiple creative paths to develop their concepts by making continuous improvements [7]. According to Boden M, Edmonds E (2009) AI-created designs contain biases because the programming models receive datasets with inherent biases which eventually manifest as repetitive stylistic patterns[8]. Designers must use a critical perspective to AI to evaluate its capabilities and restrictions in their practice.

According to Longhurst (2024) AI design education plays an essential role in higher learning institutions to teach students about an industry where AI-generated content has become a norm. The swift progress of AI-driven design tools matches the slow growth of formal education about prompt engineering since multiple academic institutions have not yet added AI instruction into their courses [4]. Students learn to work more effectively with generative models through structured AI-focused workshop and coursework programs according to Kulkarni et al. (2023) [9]. The current design education system in Pakistan along with other many regions focuses on traditional approaches instead of implementing AI-driven workflows according to Mahdavi Goloujeh A, et.al [10]. There exists concern about graduating students' preparedness to address the developing requirements of the creative industry as discussed by Persson R, Wernersson J (2023) [11].

According to Oppenlaender J (2022) integration of AI into design fields has caused people to debate about ethical matters involving ownership rights and creator authenticity and designer job security. The most vital issue which arises when using AI for artistic production involves originality in generated artwork. There remains an ongoing debate about how AI-produced designs originated because AI training depends on massive collections of existing artwork [2]. The creation by AI of content that gets mistaken for copyright creative works has become a major concern for artists and designers along with issues of copyright infringement and morality according to Longhurst (2024) [4]. The authors suggest AI operates more effectively as a design aid tool instead of a replacement solution for designers to use AI systems for their explorative design phases as addressed by Kulkarni et al. (2023) [9].

The technological integration of AI in graphic design highlights how designers must unite computer skills with their human artistic capabilities. AI tools function as supplementary components to the design toolkit which should be deployed by designers to enhance their capability for experimentation and new idea generation as disused by A. Toosi, (2021) [12]. Anne Sullivan, Atefeh Mahdavi Goloujeh, and one (2024) more suggest a Quick user journey search including the structure and the process of writing, evaluating, and refining prompts in-text images. AI tools and suggest that users must overcome obstacles. Make AI meet your intent

and master your craft faster. From this discovery, they discuss how to travel quickly as an individual. However, this is a social experience and emphasizes opportunities for adjustment. AI tools, text-to-image conversion, and user intent [13].

Research to develop new creative AI tool applications should also stress ongoing design consistency adoption because this supports AI effectiveness within art and design fields[14]. The development of GenAI technology in graphic design brings new difficulties and chances to the field. AI-powered tools enable designers to attempt new creative possibilities by means of design features that had no previous access by A. Faraz 2023 [1]. Future design professionals in Pakistan must learn prompt engineering because this skill will guide them through AI-based design practices. Educational institutions should provide detailed instruction together with practical experience to enable students to implement AI tools smoothly for maintaining their competitive edge in automated creative fields[15].

The research aims to examines multiple variables to investigate AI proficiency levels presently available to Pakistan-based graphic design students. The research results will show specific weak areas where students need help while also suggesting training classes or design strategies for adapting to modern AI-based graphic design following prompt instructions. The research investigates AI-generated prompt effects on Pakistani graphic design through student evaluations of Generative AI understanding and prompt composition skills. The study works to understand the learning gaps students have both in understanding and implementing these technologies while evaluating their skill level for effective prompt-making and AI-assisted design tasks. The research will examine the particular obstacles students face when implementing AI technology within their creative process along with technical problems and training deficits and issues regarding reaching design objectives.

METHODOLOGY

Research investigators examined 67 students enrolled in a Pakistani graphic design program using convenience sampling to achieve geographic variation in their sampling procedure. The research included students from various regions of Pakistan who were currently enrolled in undergraduate graphic design education at Gujrat Sialkot and other locations.

The research adopts a quantitative approach to measure students' understanding of Generative AI (Gen AI) and their abilities regarding prompt writing. A systematic questionnaire consisting of nineteen questions covers five major categories to assess student understanding and prompt writing skill proficiency in relation to AI. The framework divides Gen AI evaluation into fundamental understanding, practical execution, performance impact, innovative potential and the encountered barriers during tool usage. The survey sections contain specialized questions that focus on individual aspects involved in the topic for complete assessment purposes.

The research uses a quantitative method to study how Pakistan-based graphic design students understand Generative AI (Gen AI) and handle prompt writing tasks. The research involves exploration of five specific areas:

1. General Understanding of AI in Graphic Design
2. Prompt Writing & Technical Skills
3. Application & Creative Potential
4. Concerns & Ethical Considerations
5. Future & Skill Development

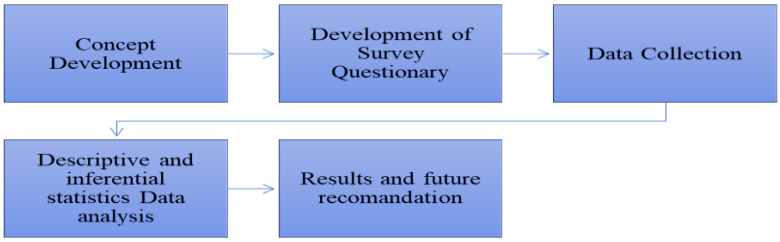

Figure 1 Methodology Flow Chart

Students participated in a systematic survey that delivered numerical results to assess their perceptions and skills and concerns about graphic design aid from artificial intelligence.

The research depends on a structured questionnaire using closed-ended questions to survey the five research areas. The Google Forms online platform served as the distribution method for the survey which students accessed through university connections and graphic design association groups and personal email invitations. The survey consisted of multiple-choice elements for assessing users' knowledge about AI tools and their approach to prompt writing together with categorical fields for collecting demographic information. The study's purpose was explained to participants who received guarantees of protected anonymity and confidentiality in their responses.

Statistical analysis conducted descriptive and inferential methods on the gathered data to describe trends and relationships between different variables. Summary statistics of participant data were presented using descriptive methods together with visual analytical methods to study the relationships between AI comprehension and practical skills and student predictions regarding future AI use. All research stages implemented ethical measures that included secure participant consent and ensured confidentiality of feedback which allowed its use exclusively for academic research.

The conclusions from this investigation hold worthwhile multiple restrictions affect its execution. The research methodology possibly fails to include an adequate number of participants to represent the entire graphic design student population of Pakistan. The research methods depended on study participants to self-report information that could be affected by personal viewpoints. The study lacks qualitative perspectives which would enable a deeper analysis to surpass numerical data conclusions.

RESULTS AND DISCUSSIONS:

The research outcomes measure participant understanding about Generative AI together with prompt writing competency. Research findings aim to understand how well participants understand Generative AI principles and their prompt writing capability and their overall performance using AI-generated content for design purposes. This research systematically reviews these elements to generate useful information regarding Gen AI and Prompt training abilities and deficiencies which support better AI-related skill development systems.

- Demographics Analysis:
- General Understanding of AI in Graphic Design Analysis
- Prompt Writing & Technical Skills Analysis
- Application & Creative Potential Analysis
- Concerns & Ethical Considerations Analysis
- Future & Skill Development Analysis

Demographic Analysis

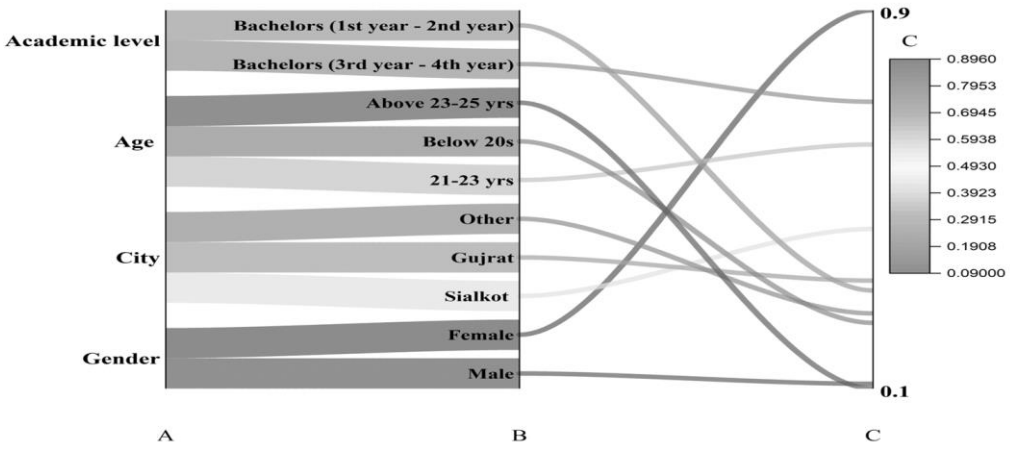

Figure 2 Demographics data analysis

The demographic data of the study's participants is visually represented in the Sankey diagram, illustrating the distribution of gender, city, age, and academic level among graphic design students. The gender distribution shows that the majority of participants are female (89%), while male students constitute only 10% of the sample. This indicates a strong presence of female students in graphic design programs in Sialkot and Gujrat, suggesting a growing trend of female participation in creative and digital fields.

In terms of city-wise distribution, participants belong to three primary locations. Sialkot has the highest representation at 43%, followed by Gujrat at 32%, with the remaining 25% from various other regions. The high representation from Sialkot and Gujrat may be attributed to the presence of universities offering graphic design programs or a strong creative industry in these cities. The age distribution reveals that the majority of participants (61%) fall within the 21-23 age group, which is expected as most students in this range are in their final years of undergraduate studies. Additionally, 23% of participants are below 20 years, likely representing first- or second-year students, while 9% are between 24-25 years, possibly including those who took breaks in their studies or pursued graphic design as a second field. The remaining 7% fall under the "Other" category, potentially indicating students outside the standard academic progression.

Regarding academic level, 70% of the students are in their third or fourth year of a Bachelor's degree in Graphic Design, demonstrating that most respondents have an advanced understanding of the field. Meanwhile, 29% are in their first or second year, indicating that a smaller yet notable proportion of students are still in the early stages of their design education.

General Understanding of Generative AI in Graphic Design Analysis:

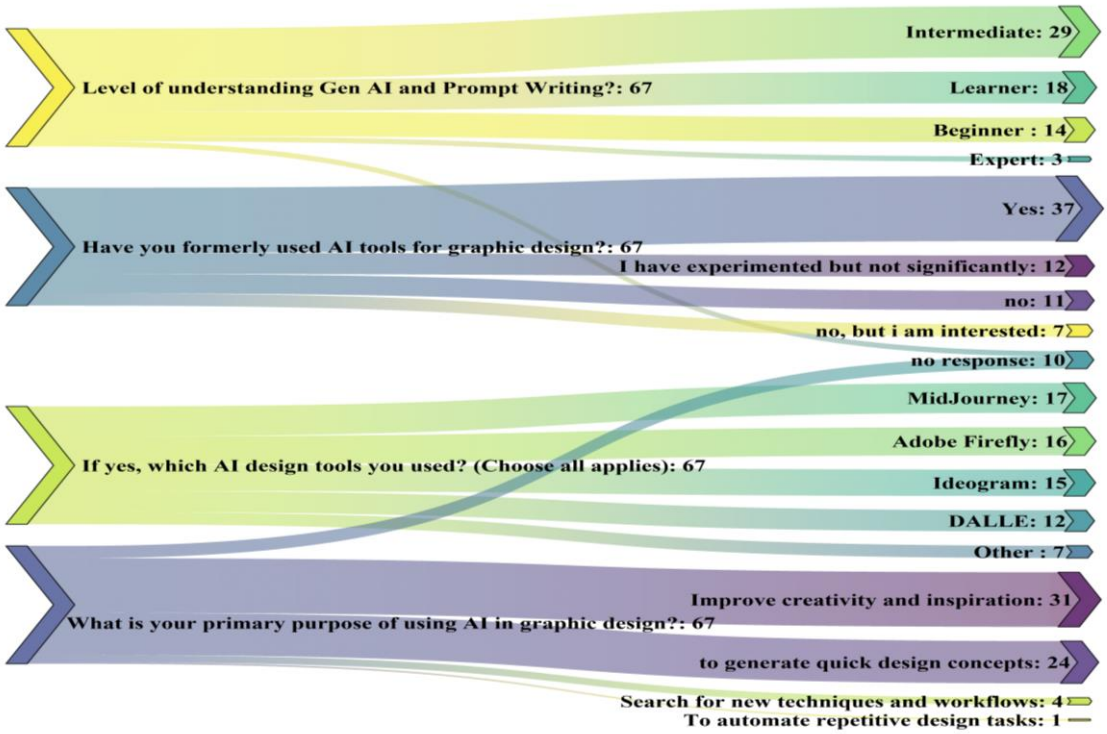

Figure 3 General Understanding of Generative

AI in Graphic Design Analysis

The graph provides insights into graphic design students' familiarity, usage, and purpose of AI tools, highlighting their understanding, experience, preferred tools, and motivations for adoption. Most students (70%) have at least a basic to intermediate understanding of Generative AI and prompt writing, while only a small fraction (4%) consider themselves experts, indicating a need for advanced training. Over

half of the students (55%) actively use AI tools for design, but a significant portion (26%) have either never used them or experimented only slightly, suggesting a knowledge gap that could be addressed through further training.

Among AI users, MidJourney (17 students) and Adobe Firefly (16 students) are the most preferred tools, reflecting a strong preference for high-resolution AI-generated visuals integrated with existing design workflows. Other commonly used tools include Ideogram (15 students) and DALL·E (12 students). The primary purpose of AI adoption is to enhance creativity and inspiration (46%), followed by generating quick design concepts (36%), with fewer students using AI for workflow automation or exploring new techniques. These findings suggest that students view AI as a creative assistant rather than a replacement for manual work, emphasizing its role in ideation rather than automation.

- AI literacy is growing, but expertise is limited – Most students are intermediate or beginner-level users, with only a few experts.
- More than half (55%) of students actively use AI, but a quarter (26%) have little or no experience, suggesting room for education and training.
- Midjourney and Adobe Firefly are the most popular tools, indicating that students prefer AI tools that integrate well with existing creative software.
- AI is primarily used for creativity and idea generation, rather than for automation, showing that students view AI as a design assistant rather than a replacement.

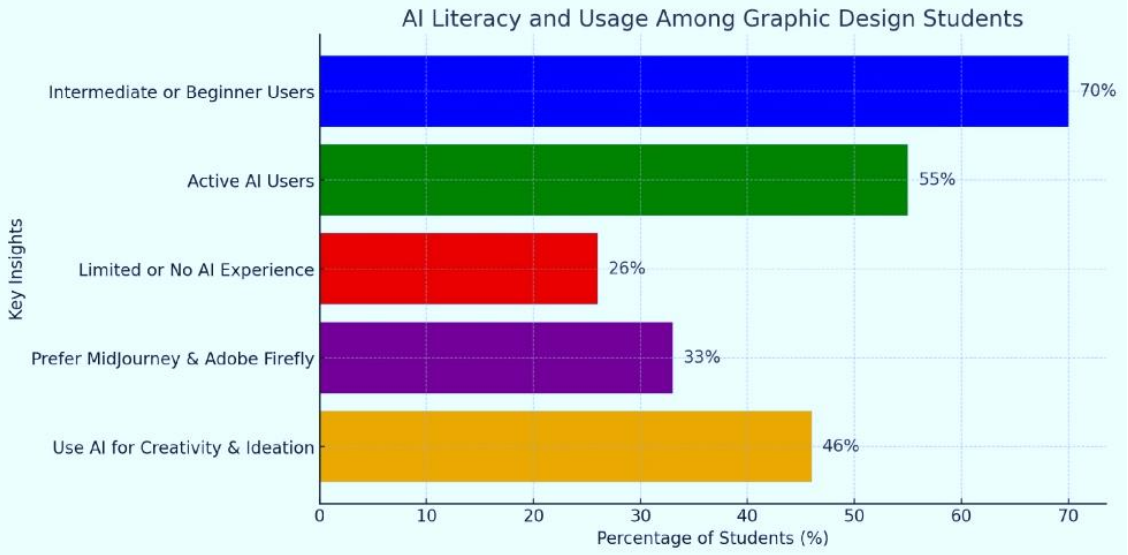

Figure 4 AI Literacy and usage among Graphic

Design Students

The survey findings indicate that 70% of students possess intermediate or beginner-level proficiency in artificial intelligence (AI), reflecting a diverse range of familiarity with AI-driven tools. Furthermore, 55% of respondents actively integrate AI into graphic design practices, underscoring its increasing adoption in creative disciplines. However, 26% of students report limited or no experience with AI, highlighting the necessity for structured educational initiatives and training programs to enhance proficiency in AI-assisted design methodologies. Notably, 33% of participants exhibit a preference for AI tools such as MidJourney and Adobe Firefly, suggesting a tendency toward platforms that seamlessly integrate with existing creative software. Additionally, 46% of students primarily utilize AI for ideation and creative exploration rather than automation, indicating a preference for leveraging AI as a complementary tool to augment artistic innovation rather than replace traditional design processes. These findings emphasize the evolving role of AI in art and design education, reinforcing the need for curriculum advancements that address emerging technological competencies.

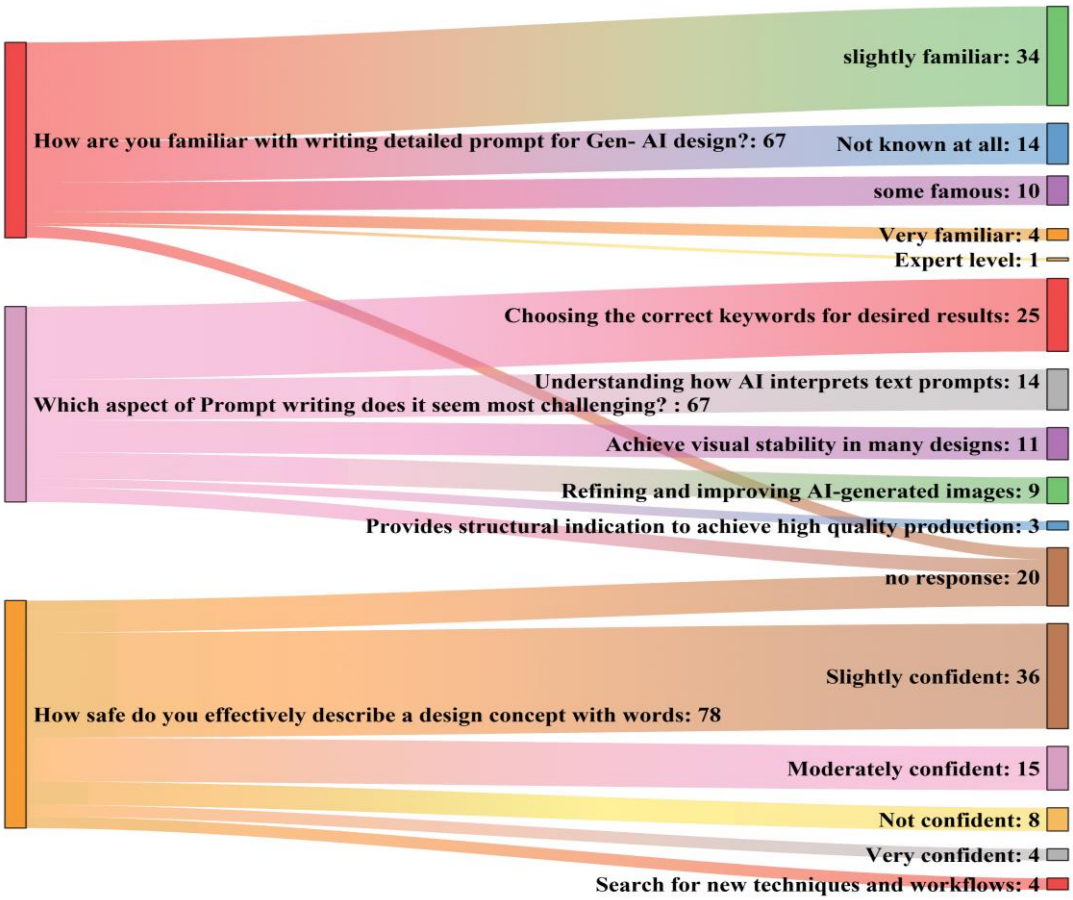

Figure 5 Analysis of Prompt Writing & Technical Skills

The data highlights that most graphic design students have only a basic familiarity with writing detailed AI prompts. The majority (36%) feel slightly confident in their ability, while 15% are moderately confident, and 8% lack confidence entirely. Only 4% feel very confident, indicating that prompt writing skills require significant improvement. Additionally, a small portion (4%) did not respond, while another 4% expressed interest in learning new techniques.

When it comes to describing a design concept with words, 34% of students are slightly familiar with the process, while 10% have some knowledge of famous prompt techniques. However, 14% have no understanding at all, and only a small fraction (4%) is very familiar, with just 1% reaching an expert level. The biggest challenge students face in prompt writing is selecting the right keywords (25%) to achieve the desired results. Another 14% struggle with understanding how AI interprets text prompts, while 11% find it difficult to maintain visual stability in AI-generated designs. Additionally, 9% need support in refining and improving AI-generated images, and 3% believe that structural indications could enhance quality.

Overall, the findings suggest that while many students have a foundational understanding of AI prompt writing, very few possess expert-level skills or confidence. The primary difficulty lies in keyword selection, emphasizing the need for targeted training in effective prompt engineering to improve their ability to generate accurate and creative AI-assisted designs.

Application & Creative Potential analysis:

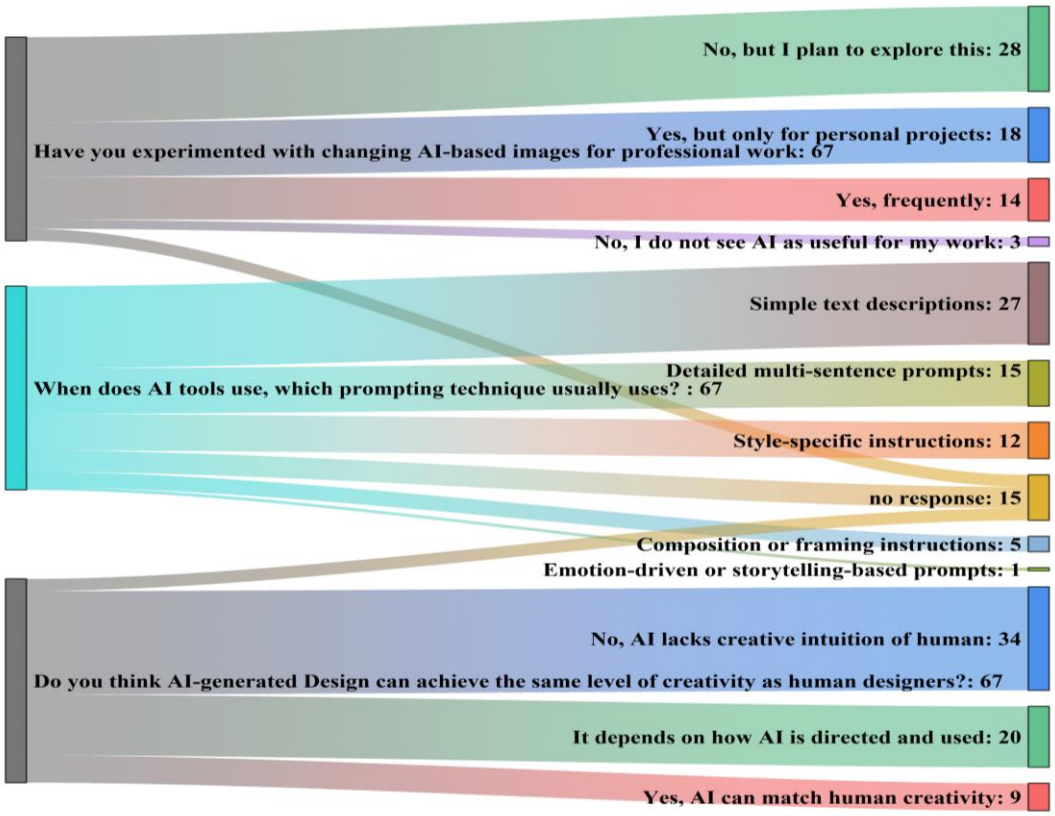

Figure 6 Application & Creative Potential analysis

The data reveals that while there is growing interest in AI-based image generation for professional work, its adoption remains limited. A significant portion of respondents (28 out of 67) have not yet experimented with AI professionally but are interested in exploring it, while 18 have used AI tools for personal projects without incorporating them into their professional work. Only 14 respondents frequently use AI for their work, and a small minority (3) do not find AI useful at all. When it comes to AI prompting techniques, the most common approach is simple text descriptions, used by 27 respondents. Detailed multi-sentence prompts (15) and style-specific instructions (12) are also utilized, but more advanced techniques such as composition/framing instructions (5) and emotion-driven or storytelling-based prompts (1) are less popular. Additionally, 15 respondents did not provide any input, suggesting a potential lack of knowledge or interest in AI prompting techniques.

Regarding AI-generated creativity compared to human creativity, the largest group (34) believes AI lacks the intuitive and original thought process of humans. However, 20 respondents think AI's creative potential depends on how it is directed, while only 9 believe AI can match human creativity. These findings indicate that while many graphic design students are curious about AI's role in professional work, its usage remains mostly experimental. Basic text descriptions dominate AI prompting, suggesting that users may not be fully leveraging AI's potential. Furthermore, skepticism about AI's ability to replicate human creativity persists, though some acknowledge that its effectiveness depends on how it is guided.

Concerns & Ethical Considerations Analysis

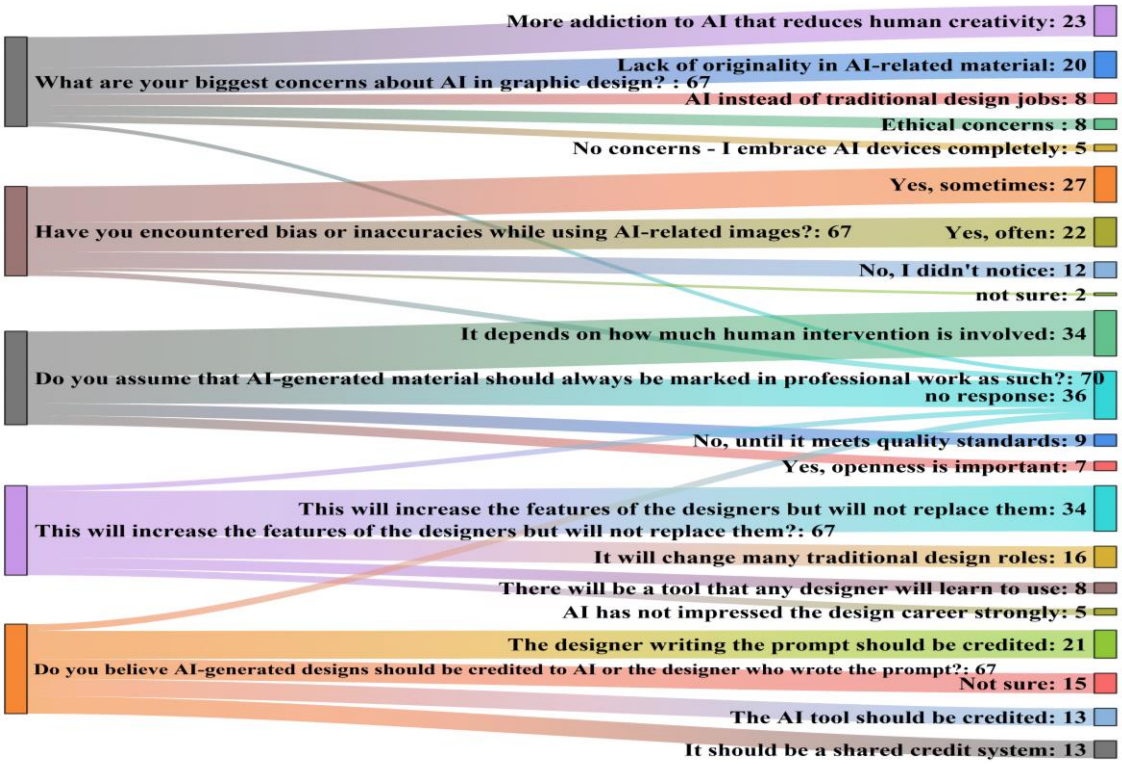

Figure 7 Concerns & Ethical Considerations

Analysis

The study highlights significant concerns among graphic design students regarding AI's impact on creativity, originality, and job security. The most prominent concern, expressed by 23 respondents, is that increased reliance on AI may reduce human creativity. Other major concerns include a lack of originality in AI-generated materials (20 responses) and fears that AI could replace traditional design jobs (18 responses). Ethical concerns, though present, were less emphasized (8 responses), while a small group (5 responses) expressed no concerns and fully embraced AI.

Bias and inaccuracies in AI-generated images were widely acknowledged, with 27 respondents noticing inconsistencies occasionally and 22 directly encountering bias. Only 12 respondents reported no issues, while 6 were unsure, underscoring the need for improved fairness in AI models. When asked whether AI-generated content should be labeled in professional work, opinions varied. A majority (34 respondents) believed labeling should depend on the level of human intervention, while 6 thought labeling was unnecessary unless the content met quality standards. However, the lack of response from 36 participants suggests uncertainty in setting clear guidelines.

Regarding AI's impact on designers, most respondents (34) viewed AI as a tool that enhances design capabilities without replacing designers. However, 16 believed AI is reshaping traditional roles, and 13 felt AI had not significantly impacted the field yet. A smaller group (4) believed AI would eventually become essential for all designers, signaling a shift in industry expectations. Credit attribution for AI-generated designs remains a debated issue. While 21 respondents believed credit should go to the designer writing the AI prompt, 13 felt the AI tool itself should receive credit. Another 15 supported a shared credit system, and 15 were uncertain.

Overall, concerns about AI overuse, originality, and job displacement remain prominent, while bias in AI-generated content is widely recognized. The debate over labeling AI work and attributing credit highlights ongoing uncertainty in the field. Despite these concerns, most students view AI as a supportive tool rather than a replacement for

human creativity, reflecting a cautious but open approach to its integration into graphic design.

Future and skill development analysis:

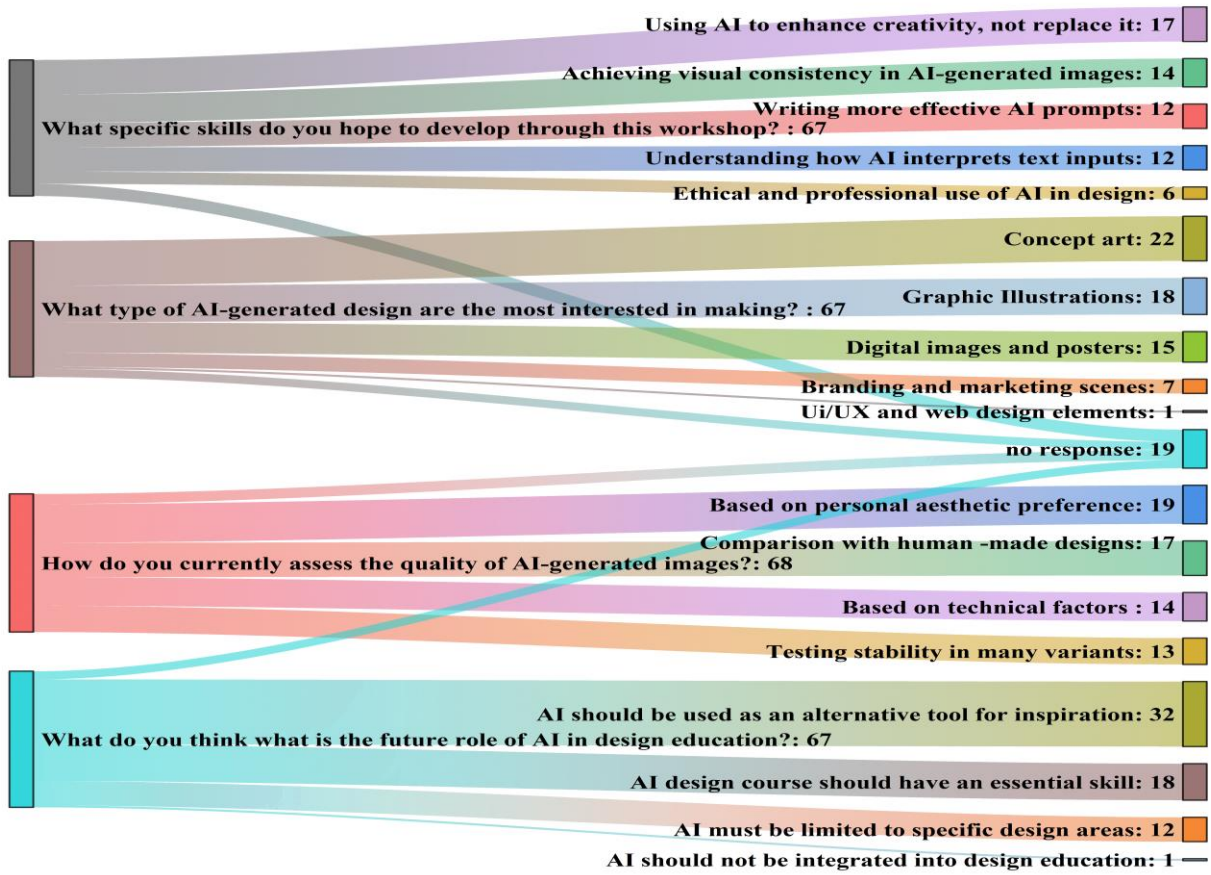

Figure 8 Future and skill development analysis:

The study reveals that concept art is the most desired skill for AI workshops, with 22 respondents prioritizing it, highlighting a strong interest in AI for creative ideation. Other key skills include using AI to enhance creativity rather than replace it (17 responses), achieving visual consistency in AI-generated images (14 responses), writing effective AI prompts (12 responses), and understanding AI text interpretation (12 responses). Ethical and professional AI use, while noted (6 responses), is a lower priority. These findings suggest that participants view AI as a tool for artistic support, with a focus on refining AI-generated visuals and improving prompt-writing skills. When it comes to AI-generated design preferences, graphic illustrations are the most popular choice (18 responses), followed by digital images and posters (15 responses). Branding and marketing scenes (7 responses) are also of interest, but UI/UX and web design elements received little attention (1 response), indicating that AI is primarily seen as a tool for creative and illustrative work rather than functional design areas. Additionally, 19 respondents did not provide an answer, suggesting uncertainty or a lack of engagement with AI in design.

In assessing AI-generated image quality, most participants rely on personal aesthetic preference (19 responses), indicating a subjective approach to judging AI designs. Comparisons with human-made designs (17 responses) show that AI is still evaluated against traditional artistic standards. Technical factors (14 responses) and stability testing across multiple variations (13 responses) are also considered, but to a lesser extent. This suggests that while technical quality matters, aesthetic appeal remains the dominant criterion for evaluating AI-generated work. Regarding the future of AI in design education, the majority (32 responses) believe AI should be used as an alternative tool for inspiration rather than a core educational component. Some (18 responses) argue that AI design courses should focus on essential skills, while others (12 responses) think

AI should be limited to specific design areas. Only one respondent completely rejects AI in design education, showing minimal resistance to its integration. These findings suggest that most participants view AI as a valuable but supplementary tool in creative education rather than a replacement for traditional design training.

RESEARCH DISCUSSIONS

Artificial Intelligence technology directly modifies how Graphic design professionals approach their workflow and how they produce creative designs according to this study. The research data shows Graphic design students exhibit proficiency in AI tools ranging from basic to intermediate but very few manage to reach advanced proficiency level. Research indicates that although AI systems enter creative fields more commonly there are barriers to total adoption because people have not yet mastered effective human-AI teamwork[16]. In this research, Graphic design students (70%) stated their proficiency in AI and prompt creation ranged from basic to intermediate yet the number of students with advanced skills amounted to only (4%). Idelbi (2024) has identified an educational deficiency which this finding demonstrates because he asserts AI needs to be integrated into graphic design education to train students in new creative abilities and problem-solving methods. The (55%) student group that uses AI tools matches the (26%) segment that lacks AI experience which demonstrates the need for extensive updated AI training just as observed in architectural design student research conducted by Idelbi [17]. AI users select MidJourney and Adobe Firefly as their preferred tools because these systems integrate smoothly with their current design methods. Human–machine collaboration receives preferential support from AI users since they value compatible AI designs instead of strict automation. Most students use AI tools mainly for idea generation and inspiration since they apply these tools to creative thinking rather than mechanical tasks according to survey results. The implementation of AI tools matches the Human-AI Co-Creation Model developed by Wu et al. [16] because these tools assist human creative efforts instead of replacing intuitive thinking.

Students faced two major difficulties in using AI prompts which included selecting appropriate keywords for (25%) of participants alongside visual consistency issues affecting (11%) of students. McCormack, Gifford, and Hutchings (2019) [18] correctly demonstrate that AI-generated art requires human involvement to ensure control of authorship and artistic intent while guaranteeing meaningful creative outputs. (34%) of the students believe AI technology could lead to the reduction of human creative capabilities whereas (30%) worry about AI-generated design originality and (27%) worry AI technology will replace traditional design positions. According to Floridi and Chiriatti (2020) [19] and their study on the ethical and creative challenges of GPT-3 AI models people stress about how AI lacks genuine human creative capabilities. The general perception about AI-produced content includes widespread recognition of its bias and inaccuracies as confirmed by the statistics showing that (40%) experienced direct bias and (31%) encountered random inconsistencies. This observation matches the findings outlined by Ahmed Elgammal et al. [20] in their Creative Adversarial Networks (CANs) analysis about unexpected deviations of AI-generated works from artistic standards due to training data biases.

A split exists among students regarding AI-generated work labeling because (51%) support evaluation based on human involvement yet (9%) oppose labeling without reaching predetermined quality requirements. MIT Media Lab found that labeling AI-generated content must be done with caution since it depends on understanding context while involving human participation and maintaining ethical clarity for audience reception. Design students surveyed by researchers split into two groups regarding AI – (51%) used supportive AI tools that strengthen creativity without displacing designers and (24%) believed AI would transform conventional design functions. Based on Irbite and Strode's perspective (2021) [21] AI systems perform repetitive work in which humans should continue conducting conceptual work and emotional input. The survey participants expressed diverging opinions regarding credit attribution in AI-generated work because (31%) supported prompt writers and (22%) endorsed co-credit distribution with scientists.

Additionally, (22%) remained undecided —this mirrored the authorship uncertainties described by McCormack et al. (2019) [18]in their studies of AI art. The surveyed designers expressed support for AI as a source of creativity by (48%) of respondents which corresponds to Idelbi's (2024) [17] recommendations for integrating AI into design education. The data also showed (27%) supporting AI education curriculums.

CONCLUSION AND FUTURE RECOMMENDATIONS:

The study highlights that while AI is gaining traction in graphic design education, expertise remains limited. Most students have a basic to intermediate understanding of AI and prompt writing, with only a small fraction being highly proficient. Although more than half actively use AI tools, a significant portion has little to no experience, indicating a need for further training. The combination of Midjourney and Adobe Firefly stands as the preferred choice of professionals who need AI tools that can subscribe to existing creative environments. AI finds its main usage in enhancing creativity and generating concepts rather than automation therefore concept art remains the most demanded skill during AI workshops. Writing effective AI prompts presents difficulties to students because they must select proper keywords and maintain visual coherence. Students continuously worry about AI overuse alongside concerns regarding originality and job security since many believe it threatens human creativity and traditional design job roles. People generally understand that AI-generated content has widespread accuracy problems, but disagreement exists about how to identify AI-generated work.

Most college students consider AI technology to assist their work rather than eliminate human creative involvement. Several groups disagree about how to identify credit ownership for work created by AI while different stakeholders maintain opposing positions among themselves. AI stands as a complementary asset in education where students mainly recommend using AI to spark ideas instead of becoming the central teaching method.

Future Recommendations

Users show increasing acceptance of artificial intelligence integration in graphic design through research findings because they see its dual advantages of creative development and operational effectiveness. Multiple challenges about originality along with ethical problems and potential job displacement of traditional designers in the field continue to exist. The majority of designers who test AI applications demonstrate mixed proficiency since they possess either basic or intermediate skills in both writing prompts along with using AI-generated design features. The creation of optimal prompts represents the main challenge since users must master both keyword selection and AI decoding processes effectively. The need for human approval in AI output becomes essential because of prejudiced content and flawed data in generated images. The application of Artificial Intelligence functions as an additional design tool which aids professionals instead of replacing them since it makes operations more efficient while expanding creative options.

Future design and prompt optimization skills associated with AI systems require systematic training approaches to develop user competency. The use of AI-generated content needs straightforward ethical instructions and complete transparency for professionals to use it responsibly. Future development should concentrate on improving AI system consistency while decreasing prejudice and providing increased creative management opportunities to designers. AI developers and designers who work together will create natural AI design tools which meet creative industry requirements. It is essential for the sustainable development of AI in graphic design to adopt a balanced model which enables AI to supplement creative work but never to replace human imagination.

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