

THE USE OF GENERATIVE AI TO OVERCOME CREATIVE BLOCKS A CASE STUDY ON THE SPEED OF VISUAL CONCEPT DEVELOPMENT AMONG VISUAL COMMUNICATION DESIGN STUDENTS AT BUDI LUHUR UNIVERSITY

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Abstract

Students of Visual Communication Design (VCD) frequently experience creative block, which hinders the ideation and visual conceptualization process, particularly during the early stages of design development. This study aims to measure the effectiveness of Generative AI in accelerating the acquisition of visual concepts and mitigating creative block among VCD students at Universitas Budi Luhur. The research employs a mixed-method approach with an explanatory sequential design, involving 24 active students from semesters 2 to 8 selected through purposive sampling. Data collection was conducted through Likert-scale questionnaires, time-tracking experiments, observations, and in-depth interviews. The experimental results show that the average time required to generate visual concepts using conventional methods is 86.13 minutes, whereas with Generative AI it decreases to 40.54 minutes, resulting in a time efficiency of 52.93%. Additionally, 66.7% of respondents reported experiencing creative block, and 90% of them confirmed that visual stimuli generated by AI helped them overcome ideation barriers more quickly. These findings indicate that Generative AI functions effectively as a creative partner that accelerates the ideation phase without replacing the designer's curatorial role. The study recommends the structured integration of Generative AI into the VCD curriculum as an ethical and productive ideation support tool

Keywords: Generative AI, Creative Block, Visual Conceptualization Speed, Visual Communication Design, Prompt Engineering, Design Ideation, Mixed-Method.

INTRODUCTION

The rapid advancement of Artificial Intelligence (AI) in recent years has had a significant impact across various sectors, including the creative industry and design education. One of the most notable innovations is Generative AI, a technology capable of producing text, images, illustrations, and other visual assets based on text prompts. The emergence of this technology has transformed the creative process from one that relied heavily on manual exploration into one that is faster, more adaptive, and more collaborative. In the field of Visual Communication Design (VCD), Generative AI is no longer viewed merely as a supporting software tool but is increasingly recognized as a creative partner that assists designers in generating multiple visual concept alternatives during the early stages of the design process (Handoyo & Nugroho, 2025). In higher education, Visual Communication Design students are expected to produce creative, communicative, and user-oriented visual concepts within relatively limited timeframes. However, this process is often hindered by the phenomenon of creative block, a psychological condition in which individuals struggle to initiate, develop, or continue creative ideas. According to Chen (2020), creative block is influenced by various factors, including perfectionism, fear of criticism, academic pressure, and limited visual references. These obstacles reduce the effectiveness of the ideation process, as students require more time to develop initial concepts worthy of further exploration. This phenomenon is also evident among students in the Visual Communication Design Program at Budi Luhur University. Based on a preliminary survey conducted by the researchers, 66.7% of students reported frequently experiencing creative block, while the remaining 33.3% indicated that they encountered it occasionally. These findings suggest that creative block is not limited to certain individuals but has become a prevalent challenge within the design learning process. Consequently, a substantial portion of students' time is spent searching for inspiration, leaving less opportunity for exploration,

evaluation, and refinement of their design outcomes. The development of Generative AI offers a promising solution to this challenge by providing instant visual stimuli. Platforms such as Midjourney and DALL·E can generate a wide range of visual alternatives based on user-provided textual descriptions, making the search for design references significantly more efficient. The outputs generated by AI are not intended to serve as final design products but rather as catalysts for idea exploration that can be further refined according to design objectives. Consequently, students can spend less time facing the "blank page" problem and devote greater attention to analysis, curation, and design decision-making. In addition to improving time efficiency, the use of AI enables students to explore a broader range of visual alternatives than is typically possible through conventional methods.

Several previous studies have examined the application of Generative AI in design processes. Smith (2022) reported that Generative AI enhances workflow efficiency by accelerating the early stages of ideation. Andayani (2023) found that AI expands students' visual exploration, while Fauzan (2024) concluded that AI serves as an effective tool for sourcing design references. Meanwhile, Utomo (2023) focused primarily on the use of AI in digital illustration, emphasizing visual quality and ethical considerations. On the other hand, Chen (2020) explained that creative block among design students is influenced by psychological factors but did not examine AI as a potential solution. Collectively, these studies indicate that existing research on Generative AI has largely focused on individual aspects, such as efficiency, visual quality, or user perception, rather than examining these dimensions in an integrated manner. Despite its numerous benefits, the adoption of Generative AI has also raised concerns regarding originality, copyright, plagiarism, and the potential for technological dependence. Gusli *et al.* (2024) and Masruchan and Nurmilah (2024) argue that excessive reliance on AI may diminish critical thinking and creativity if not accompanied by strong analytical and curatorial skills. Therefore, Generative AI should be positioned as a tool that supports the creative process rather than replacing human creativity. The designer's primary role remains centered on interpreting visual communication needs, critically evaluating AI-generated outputs, and producing works that demonstrate originality and aesthetic value.

Based on the existing literature, a significant research gap remains. Few studies have comprehensively measured the effectiveness of Generative AI in overcoming creative block while simultaneously accelerating the visual conceptualization process among Visual Communication Design students in Indonesia using a mixed-method approach. Most previous studies have focused on only one aspect—such as efficiency, visual quality, or user perception—without integrating quantitative and qualitative evidence within a single research framework. Therefore, this study aims to analyze the effectiveness of Generative AI in overcoming creative block and accelerating the visual conceptualization process among students in the Visual Communication Design Program at Budi Luhur University. The study employs a mixed-method approach through time-tracking experiments, questionnaires, observations, and in-depth interviews. The findings are expected to contribute to the advancement of technology-enhanced creativity theory and provide practical recommendations for higher education institutions on the ethical, effective, and productive integration of Generative AI into the teaching and learning process of Visual Communication Design.

LITERATURE REVIEW

The literature review provides the theoretical foundation for this study on the use of Generative Artificial Intelligence (AI) to overcome creative block and accelerate the visual conceptualization process among Visual Communication Design (VCD) students. With the rapid advancement of artificial intelligence, Generative AI has increasingly been utilized as a tool for generating visual references, accelerating idea exploration, and supporting designers' creative processes. However, the effectiveness of this technology in overcoming creative barriers (creative block) remains a topic that requires further empirical investigation, particularly within the context of design education in Indonesia. One of the primary challenges frequently encountered by Visual Communication Design students is creative block, a psychological condition in which individuals experience difficulty generating or developing creative ideas. According to Chen (2020), this condition is influenced by several factors, including perfectionism, fear of criticism, academic pressure, and limited access to visual references. In the design process, creative block typically emerges during the initial ideation stage (the blank page block), causing students to spend considerably more time developing visual concepts that effectively fulfill communication objectives.

Within the field of Visual Communication Design, ideation is a critical stage because it determines the direction of a design project's development. Lupton (2021) explains that visual design is not solely concerned with aesthetics but must also communicate messages effectively to its intended audience. Similarly, Norman (2023) emphasizes that design quality depends on a designer's ability to translate ideas into communicative visual solutions. Therefore, the ability to generate high-quality visual concepts quickly has become an essential competency for Visual

Communication Design students. The emergence of Generative AI has introduced a new approach to the visual design process. This technology can generate images from textual instructions (text prompts) using models such as Diffusion Models, which power platforms including Midjourney and DALL·E. Issai Sonny and Handoyo (2025) argue that Generative AI has evolved from being merely a supporting tool into a creative partner capable of producing multiple visual alternatives within a short period. By providing AI-generated visual stimuli, the traditionally manual process of searching for references can be significantly shortened, allowing students to devote more time to analyzing, evaluating, and refining their design concepts.

The effectiveness of Generative AI in the design process is also influenced by users' ability to formulate effective prompts. Zeytin *et al.* (2024) explain that prompt engineering has emerged as a new competency that enables users to provide precise instructions to AI systems, thereby producing visuals that better align with specific design requirements. The clearer and more detailed the prompt, the higher the quality and relevance of the generated output. Consequently, prompt engineering has become an essential skill within the AI-driven design ecosystem. A number of previous studies have examined the application of Generative AI in design, although their research focuses have varied. Smith (2022) found that Generative AI improves design workflow efficiency by accelerating the initial ideation phase. However, the study did not investigate the relationship between AI usage and the reduction of creative block. In contrast, Chen (2020) focused on identifying the psychological causes of creative block among design students without proposing technology-based solutions.

In Indonesia, Utomo (2023) investigated the use of Midjourney in the illustration process among Visual Communication Design students and concluded that AI accelerated the creation of visual mock-ups. Nevertheless, the study primarily emphasized visual quality and ethical considerations rather than the efficiency of the ideation process. Similarly, Andayani (2023) demonstrated that AI enriched students' visual exploration but did not measure its impact on reducing creative block. Fauzan (2024) also concluded that AI is effective as a tool for sourcing design references, although its influence on creative thinking processes was not examined in depth. In addition to its benefits, several studies have highlighted the challenges associated with the use of Generative AI in design education. Gusli *et al.* (2024) argue that excessive dependence on AI may weaken students' critical thinking abilities. Likewise, Masruchan and Nurmilah (2024) point out that AI raises ethical concerns related to plagiarism, copyright ownership, and visual homogenization resulting from similar training datasets. Therefore, Generative AI should be positioned as a supportive tool that facilitates idea exploration rather than replacing human creativity.

Based on the existing body of literature, it can be concluded that Generative AI has considerable potential to improve the efficiency of the design process and enable students to obtain visual stimuli more rapidly. Nevertheless, differing perspectives remain regarding its impact on creativity, originality, and designers' creative control. While some studies emphasize technological efficiency, others focus on ethical considerations and the risks of technological dependence. These differing viewpoints indicate that the application of Generative AI remains an evolving area of research that warrants further investigation. A clear research gap exists within the current literature. To date, no study has comprehensively measured the effectiveness of Generative AI in simultaneously overcoming creative block and accelerating the visual conceptualization process among Visual Communication Design students in Indonesia using a mixed-method approach. Most previous studies have examined only individual aspects, such as visual quality, idea exploration, or user perceptions, without integrating quantitative measurements of time efficiency with qualitative analyses of students' creative experiences.

Accordingly, this study seeks to address this research gap by employing a mixed-method approach that combines time-tracking experiments, questionnaires, observations, and in-depth interviews. The study aims not only to measure the extent to which Generative AI accelerates the ideation process but also to analyze how the technology assists students in overcoming creative block without diminishing their role as creative decision-makers. In doing so, this research is expected to make a meaningful theoretical contribution to the advancement of technology-assisted creativity studies.

METHOD

This study employed a mixed-method approach with a sequential explanatory design, combining quantitative and qualitative methods to obtain a more comprehensive understanding of the effectiveness of Generative Artificial Intelligence (AI) in overcoming creative block and accelerating the visual conceptualization process among Visual Communication Design (VCD) students. The quantitative approach was used to measure ideation time efficiency through experimentation, while the qualitative approach was employed to explore students' experiences, perceptions, and creative processes when using Generative AI.

The research participants consisted of 24 active undergraduate students from the Visual Communication Design Program, Faculty of Communication and Creative Design, Budi Luhur University. Respondents were selected using purposive sampling, specifically students who had completed design studio courses and possessed prior experience in developing visual design concepts. All participants were assigned the same task to create a self-character visual concept ensuring equal treatment and a comparable level of task difficulty.

The study was conducted in two experimental stages. In the first stage, participants developed a visual concept using the conventional method by manually searching for references and producing initial sketches without AI assistance. In the second stage, participants completed the same task using Generative AI through prompt engineering techniques to generate visual stimuli. During both stages, the researcher recorded the time required from the initial idea search to the completion of a preliminary visual concept ready for further development.

Research data were collected using several instruments, including observation sheets, time-tracking records, Likert-scale questionnaires, and in-depth interviews. Observations documented students' work processes throughout the experiment. Time tracking measured the duration of the ideation process for each method. The questionnaire assessed the level of creative block, perceptions of the usability of Generative AI, and students' perceived creative control over the design outcomes. Subsequently, in-depth interviews were conducted with selected participants to gain deeper insights into their experiences using AI, the challenges encountered, their prompt engineering skills, and the process of curating AI-generated visuals.

Before implementation, the questionnaire instrument was tested for validity and reliability to ensure that each indicator consistently measured the intended research variables. The trustworthiness of the qualitative data was maintained through data triangulation, comparing findings from observations, experiment duration records, design process documentation, and interview results. In addition, member checking was conducted by asking participants to review the interview transcripts to confirm the accuracy of the recorded information.

The quantitative data analysis began with descriptive statistics to describe respondents' characteristics and levels of creative block. Subsequently, normality and homogeneity tests were conducted as prerequisites for statistical analysis. Differences in ideation duration between the conventional method and the AI-assisted method were analyzed using an Independent Samples t-test with a significance level of 0.05. The results were used to determine whether the use of Generative AI significantly accelerated the visual conceptualization process among students.

Qualitative data were analyzed using the interactive analysis model, consisting of data reduction, data display, and conclusion drawing. During the data reduction stage, information was categorized into major themes such as forms of creative block, experiences using Generative AI, prompt engineering skills, and visual curation processes. The data were then presented in narrative form and thematic tables to facilitate interpretation. Finally, the qualitative findings were integrated with the quantitative results to explain how Generative AI accelerated the ideation process while maintaining students' roles as the primary creative decision-makers.

The research workflow began with identifying participants' levels of creative block through a preliminary questionnaire, followed by experiments using both conventional and Generative AI-assisted methods, recording ideation duration, administering a post-experiment questionnaire, conducting in-depth interviews, and performing integrated data analysis and interpretation. Through these stages, the study is expected to provide an objective evaluation of the effectiveness of Generative AI as a creative partner in supporting the visual conceptualization process of Visual Communication Design students.

To ensure the validity and reliability of findings derived from both quantitative and qualitative data, verification procedures were specifically designed according to the characteristics of each data type.

1. Experimental Data Validity (Quantitative)

Experimental Control: To ensure fairness and consistency, the experimental procedures were standardized. Students in both the experimental group (AI-assisted) and the control group (manual design) received the same assignment brief, requiring them to develop a self-character concept within the same allotted time.

Questionnaire Validation: The questionnaire measuring the perceived ease of technology use was tested for validity and reliability before data collection. This procedure ensured that all questionnaire items were clear, understandable, and consistently measured the intended constructs among Visual Communication Design students at Budi Luhur University.

2. Trustworthiness of Interview Data (Qualitative)

Data Triangulation: The researcher compared students' interview responses regarding the causes of creative block with supporting evidence collected during the experiment, including time records and the sketches or draft illustrations produced throughout the design process.

3. Member Checking:

Interview transcripts were returned to the respective participants for verification. This process ensured that information regarding their prompt construction strategies and the reasons behind their selection of AI-generated visuals accurately reflected their intended meanings and minimized researcher misinterpretation.

Data analysis was conducted in sequential stages, beginning with the analysis of numerical data obtained from the time-efficiency experiment and followed by a deeper exploration of interview findings.

1. Quantitative Data Analysis

Prerequisite Tests: The ideation duration data (measured in minutes) from both groups were first examined using normality and homogeneity tests to ensure that the data met the assumptions required for further statistical analysis. **Comparative Analysis (t-test):** An Independent Samples t-test was performed to compare the average time required to develop a visual concept between the AI-assisted group and the manual-design group. If the significance value was below 0.05, it was concluded that the use of Generative AI had a statistically significant effect on accelerating students' ability to overcome creative block and generate visual concepts.

2. Qualitative Data Analysis

The interview transcripts describing students' creative processes were analyzed through three interactive stages: **Data Reduction:**

1. The researcher reviewed and filtered the interview data, removing irrelevant information. The analysis focused on students' descriptions of the creative obstacles they experienced (such as uncertainty when facing a blank page or fear of making mistakes) and how they utilized AI-generated images during the ideation process.
2. **Data Display:** The interview findings were organized into thematic tables based on recurring topics, such as "Creative Block Challenges" and "Students' Prompt Construction Strategies."
3. **Conclusion Drawing:** Finally, the researcher integrated the qualitative findings with the quantitative results from the statistical analysis. This stage explained why Generative AI was able to accelerate the ideation process while demonstrating that students retained full creative control as design directors, making the final decisions regarding color selection, composition, visual style, and overall atmosphere.

RESULTS AND DISCUSSION

This study focuses on the phenomenon of creative block that affects the visual ideation process among students of the Visual Communication Design (VCD) Program, Faculty of Communication and Creative Design, Budi Luhur University, Jakarta. This location was deliberately selected because the VCD curriculum at Budi Luhur University has integrated the use of digital technologies into its design studio courses. However, in practice, students continue to experience psychological barriers in the form of creative block. These obstacles generally manifest in two primary forms: difficulty initiating the first mark or sketch on a blank workspace (the blank page block) and fixation on ideas caused by excessive concern that their initial sketches may fail to meet expected aesthetic standards (the judgment block). Through a case study involving a self-character visual concept design assignment, this research examines how Generative AI can function as an immediate visual stimulus, helping students overcome the complexity of design elements, composition, and mood development while preserving their role as the primary creative decision-makers.

This section presents the research findings obtained from questionnaires and observations involving Visual Communication Design (VCD) students regarding creative block and the use of Generative Artificial Intelligence (AI) during the design ideation process. The findings are presented descriptively to provide a clear overview of the respondents' conditions before and after the implementation of Generative AI. Overall, the results indicate that prior to the AI intervention, most respondents experienced relatively high levels of creative block, particularly during the initial ideation stage, commonly referred to as blank page syndrome. This condition was characterized by difficulties

in initiating ideas, limited concept exploration, and a tendency to experience mental stagnation during the design development process.

Following the introduction of Generative AI into the ideation process, noticeable changes were observed in the respondents' creative workflow. Generative AI functioned as a visual and conceptual exploration tool that facilitated the rapid generation of initial ideas while expanding the range of visual references available for further development by the students. In several cases, respondents reported increased confidence in developing their ideas due to the visual stimuli generated by the AI.

Based on the analysis of the Likert-scale questionnaire data, there was evidence of a reduction in the level of creative block and an improvement in time efficiency during the ideation process. These findings suggest that Generative AI does not replace students' creative processes; rather, it serves as a catalyst that broadens creative possibilities and facilitates idea generation. The results demonstrate that Generative AI plays a significant role in supporting the creative process, particularly during the early stages of ideation. Logically, this can be explained by the AI's ability to provide instant visual alternatives and conceptual references that would otherwise require considerably more time to develop through conventional manual methods.

This study involved 24 active undergraduate students enrolled in the Visual Communication Design (VCD) Program, Graphic Design Concentration, Faculty of Communication and Creative Design, Budi Luhur University. All participants were engaged in a simulated self-character visual concept design project. Before the implementation of the Generative AI intervention, an initial assessment was conducted using a questionnaire to identify the frequency and characteristics of the creative block experienced by the students.

The findings confirm that creative block constitutes a widespread challenge within the academic environment of Visual Communication Design students. The results of the preliminary data tabulation regarding the intensity of creative block are presented in Table 4.1 below.

Tabel 1. Frequency Distribution of Students Experiencing Creative Block

No	Frequency Level	Number of Students	Presentage
1.	Frequently	16	66,7%
2.	Sometimes	8	33,3%
3.	Never	0	0%
Total		24	100%

Based on the data presented in Table 1, the majority of respondents were classified as being vulnerable to creative block. Specifically, 66.7% (16 students) reported that they frequently experienced periods of creative stagnation while completing design assignments. Meanwhile, the remaining 33.3% (8 students) indicated that they sometimes encountered such conditions. Notably, none of the respondents (0%) selected the "never" option, demonstrating that creative block is a genuine and widespread challenge in the process of generating visual ideas within the academic environment.

To gain a deeper understanding of the manifestations of this phenomenon, the questionnaire was designed to distinguish between the two most dominant types of mental barriers: The Blank Page Block, which refers to the difficulty of initiating the creative process, and The Judgment Block, which refers to perfectionism-driven hesitation caused by fear of producing work that does not meet expected aesthetic standards. The distribution of students' tendencies toward these two forms of creative block is summarized in Table 2.

Tabel 2. Characteristics of Respondents Creative Block Types

No	Characteristics of Creative Block	Number of Students	Presentage
1.	Initial Block (<i>The Blank Page Block</i>)	17	85,0%
2.	Perfectionist Block (<i>The Judgment Block</i>)	15	75,0%

Based on the data presented in Table 2, the psychological and technical dynamics experienced by the respondents for each type of creative block are described as follows:

1. The Blank Page Block This type of creative block was reported by the majority of the research participants, with 85% (17 students) indicating that they experienced it. Respondents agreed or strongly agreed that they often spent more than one hour unproductively staring at a blank workspace or canvas before beginning their design. This form of creative stagnation stems from operational uncertainty when initiating the first stroke or determining the placement of fundamental visual elements, such as the layout. The primary cause of this prolonged phase is the difficulty of translating abstract ideas into concrete initial visual representations.
2. The Judgment Block A total of 75% of respondents (15 students) were identified as experiencing idea fixation or restricted creativity due to psychological anxiety. This type of creative block arose from internal concerns that their initial rough sketches would fail to meet their own ideal aesthetic standards. In addition, respondents experienced external pressure in the form of anxiety about receiving negative evaluations or criticism from their academic supervisors during design consultations. Fear of failure and criticism discouraged students from experimenting with new ideas, causing the design process to become slower and less progressive.

To evaluate the practical impact of integrating Generative Artificial Intelligence (AI) in mitigating creative block, a comparative experiment was conducted to measure the time required to develop a self-character visual concept. The experiment compared the conventional method (linear manual reference searching and hand sketching) with a Generative AI-assisted method based on prompt-driven image generation. The fundamental differences between the operational workflows and the stages where time savings occurred are illustrated in Figure 4.1, as follows:

Conventional Method:

Start → Manual Reference Search → Blank Page Block / Creative Stagnation → Manual Sketching → Finish (86.13 minutes)

AI-Assisted Method:

Start → Prompt Input → Instant Visual Stimulus Generated → Curation and Modification → Finish (40.54 minutes)

As illustrated in Figure 1, the conventional workflow contains a prolonged period of creative stagnation before students are able to produce an initial sketch. In contrast, the Generative AI-assisted workflow significantly reduces this stagnation phase by using prompt engineering as an immediate source of visual stimulation. This modification to the creative workflow has a direct impact on the overall completion time. Time-tracking data collected from the 24 Visual Communication Design students at Budi Luhur University reveal a substantial quantitative performance difference between the two methods, as summarized in Table 4.3.

Tabel 3 Comparison of the Ideation Phase Duration Between Two Design Methods

No	Design Method	Average Working Duration (Minutes)	Efficiency Rate
1.	Conventional Method (Without AI)	86,13	0,00% (Baseline)
2.	Generative Ai-Assisted Method	40,54	52,93% (Improvement)

Based on the data presented in Table 4.3, the time-efficiency dynamics of each method can be analyzed as follows:

1. Efficiency of the Conventional Method When using the conventional method, students required an average of 86.13 minutes to produce a well-developed and structured visual concept. This relatively long duration was primarily attributed to the linear process of searching for visual inspiration. Students had to manually browse various search engines and social media platforms for references, a process that often prolonged the Blank Page Block due to distractions or the inability to find references that aligned with the personal concept they intended to communicate.
2. Acceleration through Generative AI Intervention After integrating Generative AI into the design workflow through prompt engineering, the average time required to develop a visual concept decreased dramatically to 40.54 minutes. Quantitatively, the implementation of this technology improved time efficiency by reducing the duration of the initial ideation phase by 52.93%.

This acceleration occurred because the AI-generated images functioned as an operational visual stimulus. Rather than beginning the creative process from a confusing blank page, students were able to immediately proceed

to the stage of comparative analysis by evaluating multiple visual alternatives generated by the AI within seconds. The reduction of more than half of the conventional working time demonstrates that Generative Artificial Intelligence is effective in mitigating delays caused by loss of focus and psychological barriers during the early stages of the design process.

In addition to measuring time efficiency, this study also evaluated the functional usability of Generative AI technology and the extent to which designers' creative control was maintained throughout the self-character design process. Based on the post-intervention data, the responses of Visual Communication Design students at Budi Luhur University indicated a highly positive acceptance of this technology as a supporting tool rather than a replacement for the designer's role.

The patterns of technology adoption and the preservation of students' creative autonomy observed in this experiment can be analyzed through two primary indicators:

1. Ease of Idea Acceleration (Usability) Questionnaire results revealed that 90% of respondents (18 students) agreed that the instant visual outputs generated by AI significantly helped them overcome creative block more quickly. The AI-generated visuals were not regarded as final design products but rather as pre-visual stimuli that facilitated the creative process. These visual stimuli enabled students to identify appropriate forms, explore various visual styles, and more rapidly establish the central concept underlying their self-character designs.
2. Curation Skills and the Designer's Central Role A total of 80% of respondents (16 students) agreed that the use of Generative AI did not diminish the creative control of the human designer. Instead, the technology functionally accelerated the exploration of secondary design elements, such as alternative color palettes, composition variations, and the development of the overall visual mood.

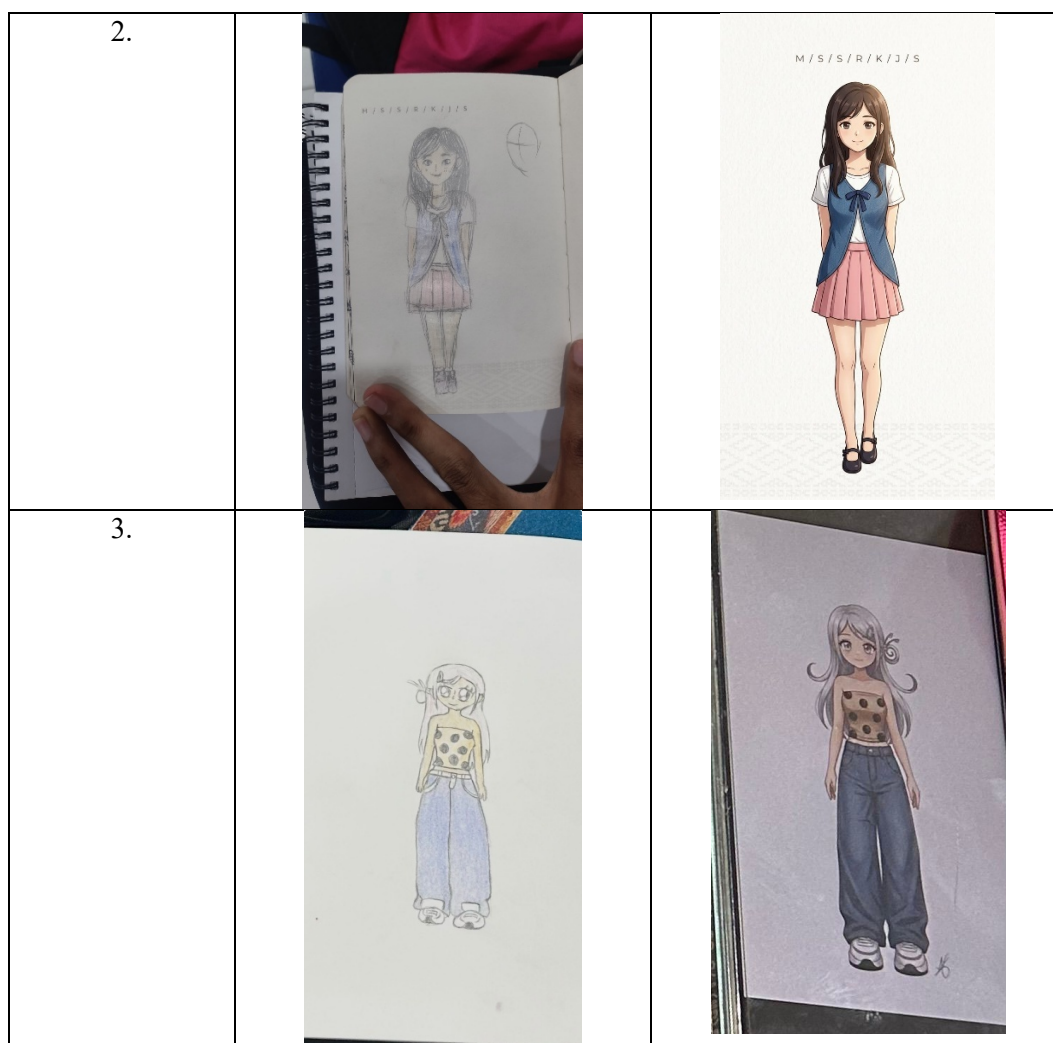
Although the AI system was capable of generating visual outputs within seconds, all aesthetic and communication-related decisions remained entirely under the designer's control. The students acted as the primary curators, critically selecting, evaluating, and refining the AI-generated outputs to ensure compliance with the fundamental principles of Visual Communication Design, including balance, contrast, and unity, while maintaining consistency with the representation of their personal identity. This shift in the designer's role from a technical executor to a visual director (art director) who strategically utilizes prompt engineering is illustrated in Figure 4.3.

Picture 3. Comparison of result

Respondent	Manual	AI Generative
1.		

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As illustrated in Figure 3, there is a clear and significant difference between the raw images generated by the artificial intelligence system (raw AI output) and the final digitized concepts that were subsequently refined by the students. The curation process and manual intervention performed by the designers ensured that the resulting works were neither generic nor mere reproductions of AI-generated outputs. This demonstrates that the integration of Generative AI into the academic environment of Visual Communication Design (VCD) does not diminish students' originality or creative autonomy. Instead, the technology shifts the focus of students' competencies toward higher-level creative skills, including conceptual development, critical artistic evaluation, and the ability to curate visual content that communicates ideas effectively.

These findings further confirm that the integration of Generative AI within the Visual Communication Design academic environment does not erode students' originality or creative independence. Rather, it encourages the development of more advanced competencies, emphasizing conceptual thinking, artistic judgment, and communicative visual curation as the core capabilities of future designers.

These findings are consistent with previous studies suggesting that artificial intelligence based technologies can accelerate the brainstorming process and enrich the range of visual references available in the field of design. Nevertheless, the use of AI still requires the designer's creative oversight to ensure that the resulting work maintains its originality and aligns with the intended design context.

From a practical perspective, the integration of Generative AI into Visual Communication Design (VCD) education demonstrates considerable potential as a component of contemporary creative learning methods. AI can serve as an effective tool during the idea exploration stage; however, its use should be complemented by students' abilities in critical analysis, conceptual development, and design decision-making. In this way, Generative AI functions as a creative support tool rather than a substitute for the designer's expertise and creative judgment.

CONCLUSION

Based on the findings and discussion of this study, it can be concluded that the use of Generative AI has a positive impact on the ideation process of Visual Communication Design (VCD) students, particularly in reducing creative block during the early stages of the design process. Generative AI helps accelerate idea generation, expands the range of visual references, and improves time efficiency during the exploration of design concepts. The primary objective of this study to improve the fluency of the creative process and reduce creative block among students was successfully achieved through the use of Generative AI as a supportive tool in the design process. Nevertheless, Generative AI cannot replace the designer's central role in determining the final concept, as creative decisions ultimately remain the responsibility of the human designer, who serves as the primary decision-maker throughout the design process.

For future development, the implementation of Generative AI in the field of Visual Communication Design can be expanded by integrating it into design studio learning systems, providing training on the ethical and critical use of AI, and developing hybrid learning approaches that combine manual and digital creative exploration. In this way, Generative AI can function not only as a technical support tool but also as an integral component of a creative development strategy that is more adaptive to future technological advancements.

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