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Redefining Creativity: Graphic Design Students' Perspectives on AI in Language Learning and Design

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Abstract

Background: Artificial intelligence (AI) has increasingly been integrated into higher education, including language learning and discipline-specific learning. Its use may influence students' engagement, creativity, and writing skills, particularly among students in creative fields such as graphic design.
Aims: This research explores the perceptions of graphic design diploma students at Universiti Teknologi MARA (UiTM) Perak regarding artificial intelligence (AI) and its usage in both the English language proficiency subject and their major subjects. It specifically investigates the impact of AI tools on students' engagement with language and examines whether these technologies support their creative processes and writing skills.
Methods: A total of 47 graphic design diploma students participated in this study. Data were collected through a survey and analyzed using frequency and percentage metrics to identify students' perceptions and patterns of AI usage.
Results: The findings provide insights into how university students perceive and utilize AI tools in their English language proficiency and major subjects. The results indicate the role of AI in supporting students' learning experiences, particularly in relation to language engagement, creative processes, and writing activities.
Conclusion: The study highlights the growing role of AI in shaping educational experiences among graphic design students. The findings suggest that AI tools can contribute to students' engagement with language learning and creative activities, while also providing useful perspectives on the integration of AI into higher education.

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INTRODUCTION

The proliferation of Artificial Intelligence (AI) has significantly reshaped the landscape of higher education, introducing both opportunities and challenges for students across various disciplines (Doğan et al., 2024; Mudenda, 2025). The integration of AI technologies, from generative text and image tools to automated feedback systems, has profoundly influenced pedagogical practices and learning outcomes. Historically, education has consistently adapted to technological advancements, and the current era is defined by the need to understand how students interact with and perceive AI as a tool for learning and creativity (Chan & Hu, 2023; Enríquez et al., 2024; Tossell et al., 2024). While AI offers the potential for personalized and efficient learning, concerns persist regarding its ethical implications, potential for over-reliance, and effect on students' critical thinking and creative skills (Al-Zahrani, 2024; Yu, 2023). This evolving academic environment

provides a critical backdrop for examining student perspectives on AI, particularly within creative and language-intensive fields (Sajja et al., 2026; Wang et al., 2025).

This study is contextualized within the unique setting of Universiti Teknologi MARA (UiTM) Perak, specifically focusing on its graphic design diploma students. Graphic design is a discipline that uniquely blends technical skill with creative thought, requiring a nuanced understanding of how AI tools can assist or potentially hinder the creative process (Halabi et al., 2025; Sun & Yuan, 2026). The perceptions of these students are particularly relevant as they represent a cohort that must simultaneously master traditional design principles and adapt to rapidly evolving digital tools. Furthermore, their academic journey includes subjects beyond their core major, such as English language proficiency. Investigating their perception of AI's use in both creative and linguistic contexts offers a holistic view of its impact within a specific educational environment. This focus provides valuable insights into how a diverse curriculum influences students' attitudes toward and adoption of AI (Karimova et al., 2024; Nygren et al., 2026; Stöhr et al., 2024).

Despite the growing integration of AI in educational settings, a significant gap exists in understanding the perceptions of creative arts students, such as those in graphic design, regarding these technologies. While some research explores the general impact of AI in higher education, there is a lack of specific inquiry into how graphic design students navigate AI's dual role in enhancing their creative processes and supporting their language proficiency development (Barrett & Pack, 2023; Ding et al., 2026). Concerns arise from the potential trade-offs, such as increased reliance on automated tools, which might diminish originality, and the impact on foundational writing skills if AI-generated text is not used discerningly. The central problem, therefore, is the need for a focused investigation into how graphic design diploma students at UiTM Perak perceive and utilize AI tools across different subject areas and how these tools ultimately affect their engagement with language and creativity (Zhai et al., 2024).

The current literature predominantly focuses on the general adoption of AI in education or specific applications within science and technology fields. There is a noticeable deficit in research that explores the perceptions of students in vocational creative disciplines, such as graphic design, and their interaction with AI. Studies also tend to compartmentalize the effects of AI, examining either its impact on creative work or its influence on language skills, but rarely both simultaneously within a specific student cohort. By analysing the perception of graphic design students and their use of AI in both their major and English language subjects, this research directly addresses the lacuna concerning the integrated role of AI in fostering both technical and linguistic capabilities within a creative program. This approach provides a more comprehensive understanding of AI's pedagogical implications for these students.

This study aims to achieve the following objectives:

1. To explore the perceptions of graphic design diploma students at UiTM Perak regarding the use of AI in their academic studies.
2. To investigate the specific usage patterns of AI tools by these students in both their English language proficiency subject and major graphic design subjects.
3. To assess the perceived impact of AI tools on students' creative processes, as it pertains to their graphic design work.
4. To examine how students perceive the influence of AI tools on their English language writing skills.
5. To provide insights into the educational experiences and outcomes shaped by AI as perceived and utilized by university students in a creative discipline.

Artificial intelligence (AI) is transforming higher education, presenting both opportunities and significant challenges (Abdurohman, 2025; Sopheap et al., 2026). A cohesive body of research, for example, highlights AI's benefits for personalized learning, engagement, and efficiency while also raising critical concerns regarding pedagogy, critical thinking, creativity, and ethics (Capinding & Dumayas, 2024; Chan & Lee, 2023; Walter, 2024). Thus, student perceptions are central to understanding these dynamics, revealing both optimism for AI's potential and caution regarding its risks.

Reviews consistently also identify AI as a powerful tool for personalized learning, improving academic outcomes, and boosting efficiency (Ayeni et al., 2024; Bond et al., 2024). For instance, AI-driven platforms can tailor content and instructional materials to individual student needs, leading to more effective learning. However, these benefits are accompanied by notable risks (Campino, 2024; Walter, 2024). Researchers caution that over-reliance on AI can erode pedagogical value, diminish critical thinking skills, and raise ethical issues. In addition, concerns also exist about data privacy and the potential for AI to introduce or amplify existing biases (Zhai et al., 2024).

In design education, AI is repositioning the creative process. Instead of replacing human creativity, AI serves as a collaborator that automates repetitive tasks and assists with idea generation (Choi, 2024; Melker et al., 2025). Consequently, AI-generated content (AIGC) tools help designers explore a wider range of creative possibilities, allowing them to focus on higher-level strategic work (Juma et al., 2026). Students in design-related fields, such as architecture, view generative AI tools as valuable for idea generation but emphasize concerns about control, originality, and the necessity of new skills like "prompt literacy". The potential for over-reliance on these tools is also a concern (Nygren et al., 2026; Qu et al., 2024; Shyu & Tasir, 2026).

Furthermore, AI tools have shown positive impacts in English language learning (ELL), particularly in providing personalized practice, instant feedback, and improving specific skills like writing and oral presentation (Korde, 2025; Rukiati et al., 2023). Studies found that students have largely positive perceptions of AI tools due to their accessibility and interactivity. For instance, AI-assisted tools offer features like pronunciation assistance and personalized feedback to enhance oral skills and can enhance learning outcomes, particularly in writing (Karataş et al., 2024; Mahapatra, 2024; Molla, 2025). However, concerns remain that excessive reliance on AI could hinder students' comprehension and independent writing skills.

Ethical issues related to AI in education are, moreover, a growing area of concern. Specifically, reviews highlight that students' over-reliance on AI dialogue systems can diminish critical thinking and increase risks to academic integrity. From a student perspective, ethical concerns include potential algorithmic bias, privacy risks, and the need for new ethical frameworks to guide AI use. Therefore, researchers emphasize the need to balance the benefits of AI with challenges, such as effectively integrating generative AI and fostering critical engagement.

Ultimately, student perceptions are crucial for the acceptance and impact of AI in education. In fact, research indicates that students view AI as a valuable tool for efficiency and creative tasks, such as storytelling and self-assessment. However, these positive views are tempered by concerns about over-reliance, accuracy, originality, and privacy. Based on insights from Chinese university students, studies reveal that while students find AI useful for efficiency, they also express concerns about accuracy, over-reliance, and a preference for more human-centric AI tools. These mixed perceptions, therefore, suggest that successful AI integration in higher education requires a balanced approach that addresses student concerns while leveraging AI's potential.

METHOD

The study utilised a quantitative, descriptive survey design to gather data on the perception and the use of artificial intelligence (AI) in education, specifically in the areas of language learning and graphic design. These questions are structured to gather both quantitative and qualitative data on students' perceptions, habits, and concerns regarding AI technologies. An online survey was distributed to a sample of 47 respondents. The survey instrument included a single question to gauge participants' use of AI, with responses collected using a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The collected data were analysed to calculate the percentage of responses for each category on the Likert scale. These results were then visualised in a pie chart to illustrate the distribution of responses.

RESULTS AND DISCUSSION

Results

Analysis of Survey Results

This analysis presents the findings from a survey titled "Redefining Creativity: Graphic Design Students' Perspectives on AI in Language Learning and Design," which collected data from 47

student respondents. The results are based on their responses to 11 key questions regarding their familiarity with and use of AI technologies.

1. Familiarity with Artificial Intelligence (AI) Technologies

A combined majority of respondents reported being familiar with AI technologies. A total of 80% of students either "Agreed" (45%) or "Strongly Agreed" (35%) with the statement, indicating a high level of self-reported familiarity. Conversely, 15% of respondents expressed a lack of familiarity, with 5% selecting "Disagree".A notable 15% of respondents remained neutral on the topic.

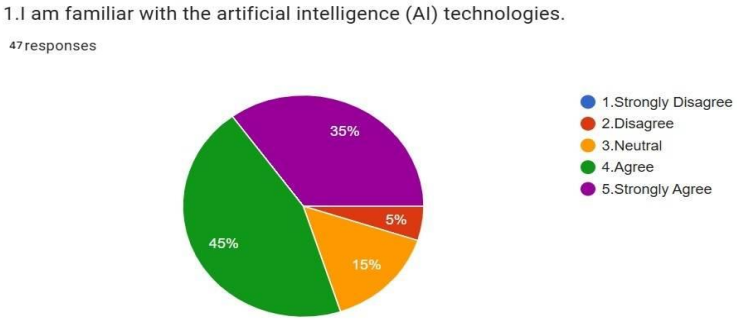


Figure 1. Familiarity with Artificial Intelligence (AI) Technologies

2. Frequency of AI Use for Studies

The results indicate that AI is a frequently used tool for academic purposes among the student population surveyed. A combined 45% of students reported using AI at least weekly, with 10% using it daily and 35% using it weekly. An additional 20% of students use AI on a monthly basis, while 35% of respondents reported rarely use AI for their studies.

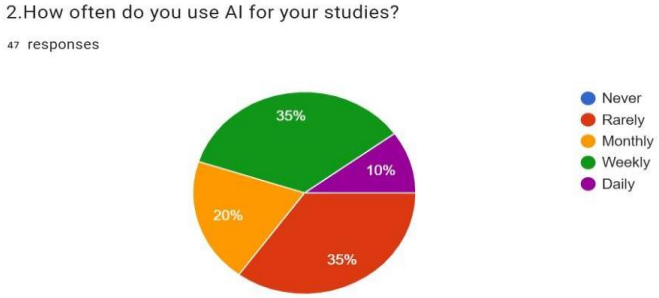


Figure 2. Frequency of AI Use for Studies

3. Use of AI like ChatGPT to Assist in English Subject

Based on a survey of 47 respondents, the results indicate a mixed and largely neutral stance on the use of AI tools like ChatGPT for English subjects. The majority of respondents (60%) selected "Neutral," while a considerable portion (30%) selected "Agree." The remaining 10% of responses were distributed among "Strongly Disagree," "Disagree," and "Strongly Agree." This highlights a significant portion of the population that is either ambivalent or not using AI for this purpose, alongside a notable segment that is in favor of its use.

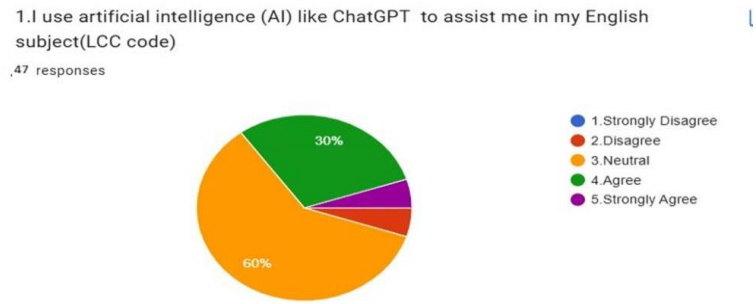


Figure 3. Use of AI like ChatGPT to Assist in English Subject

4. Use of AI to Improve Essay Writing

Based on a survey of 47 respondents, the results show a notable but not overwhelming acceptance of using AI for improving essay writing. The largest segment of respondents (45%) agreed with the statement. A further 15% strongly agreed, bringing the total in agreement to 60%. A quarter of respondents (25%) remained neutral, while 15% disagreed with the statement. This indicates a significant portion of the surveyed population is using or is open to using AI for this purpose, but a substantial number are either ambivalent or opposed.

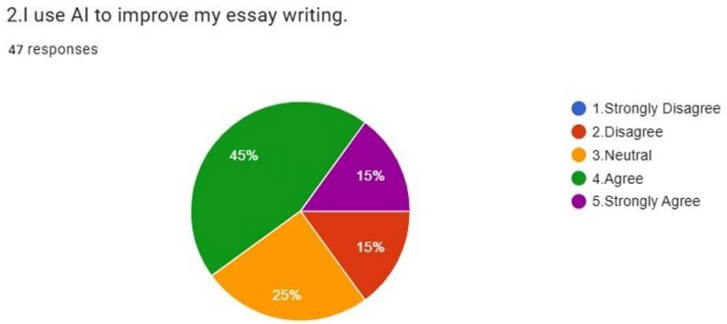


Figure 4. Use of AI to Improve Essay Writing

5. Use of AI to correct English grammar

Based on a survey of 47 respondents, the pie chart shows that 50% of participants use AI to correct their English grammar. An additional 20% strongly agreed with this statement, while 15% disagreed and another 15% remained neutral. Overall, a majority of the survey participants have adopted AI for grammar correction.



Figure 5. Use of AI to correct English grammar

6. Use of AI to improve English vocabulary

The pie chart displays the results of a survey asking whether participants use AI to improve their English vocabulary. A total of 47 people responded to the survey. The majority of respondents, at 45%, held a neutral stance on the matter. Following that, 20% of the responses indicated that they strongly agree with the statement, while 15% each agreed and disagreed.

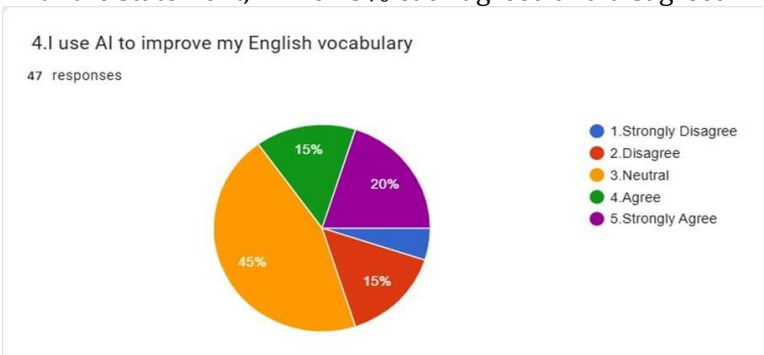


Figure 6. Use of AI to improve English vocabulary

7. AI tools in language learning

The bar graph displays the frequency of use for various AI tools among these respondents for language learning. Chat GPT is the most popular tool, with the highest number of users in the survey. Next,Google Translator is the second most used tool, showing its continued relevance. Grammar Checker and Grammarly have a moderate level of usage. Only a very small number of individuals reported not using any of the listed AI tools.

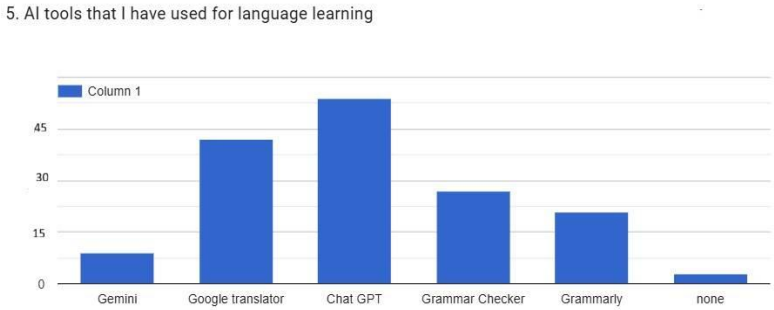


Figure 7. AI tools in language learning

8. Use of AI in enhancing creativity

The pie chart shows the results of a survey asking 47 future graphic designers if AI enhances their creativity. Half of the respondents, 50%, remained neutral on the subject. A significant portion, 45%, either agreed or strongly agreed that AI provides new ideas and possibilities. Conversely, only a small percentage of 5% disagreed or strongly disagreed with the statement. This data suggests a divided and still-developing perception of AI's role in creative fields.

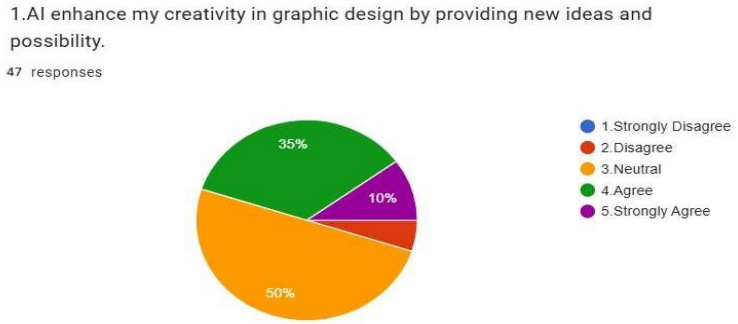


Figure 8. Use of AI in enhancing creativity

9. Use of AI in Graphic Design Subjects

A combined majority of respondents reported using AI tools to assist them in their graphic subjects. A total of 80% of students either "Agreed" (38%) or "Strongly Agreed" (42%) with the statement, indicating a high level of AI integration. Conversely, 20% of respondents expressed less use, with 10% selecting "Disagree" and 10% selecting "Strongly Disagree." A small minority of 10% of respondents remained neutral on the topic.

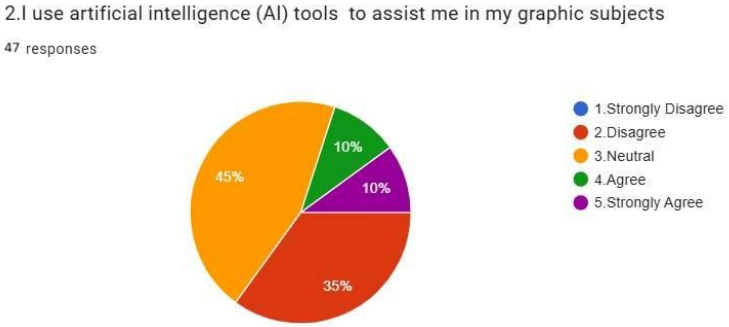


Figure 9. Use of AI in Graphic Design Subjects

10. Importance of AI Skills for a Future Career

A combined majority of respondents believe it is important for graphic designers to be skillful in using AI tools for their future career. A total of 80% of students either "Agreed" (40%) or "Strongly Agreed" (40%) with the statement, indicating a strong consensus on the career relevance of AI skills. Conversely, 20% of respondents expressed less agreement, with 10% selecting "Disagree" and 10% selecting "Strongly Disagree." A small minority of 10% of respondents remained neutral on the topic.

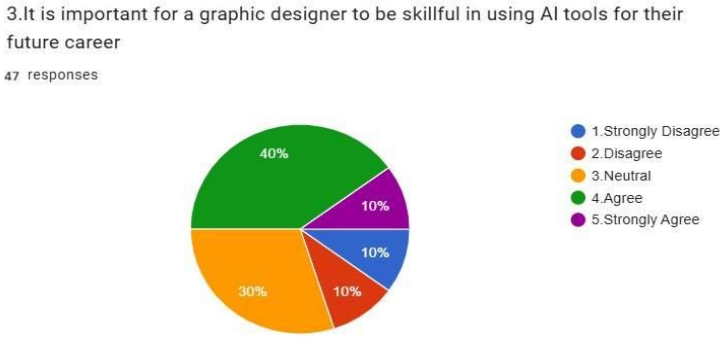


Figure 10. Importance of AI Skills for a Future Career

11. AI tools in graphic design subjects

The bar graph shows the results of a survey on AI tool usage for graphic design subjects. The majority of the respondents surveyed, as indicated by the tallest bar, have not used any AI tools. The most popular AI tools among those who have used them are AI-powered tools within Canva. Other AI image generators are also used by a notable number of people. In contrast, AI tools for brainstorming and Adobe Sensei features have the lowest usage. This indicates that while some designers are beginning to adopt AI, its overall integration is still not widespread among this group.

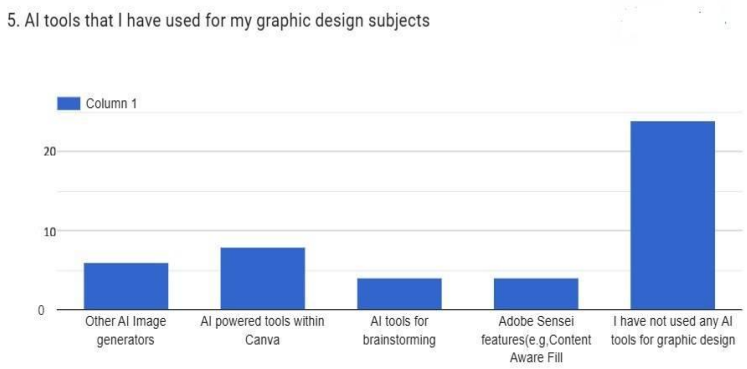


Figure 11. AI tools in graphic design subjects

Discussion

The findings of this study provide critical insights into how graphic design diploma students navigate the intersection of Artificial Intelligence (AI), creative processes, and language acquisition. The discussion is structured around four main themes: familiarity and adoption, AI in language learning, AI in graphic design and creativity, and the gap between career awareness and practical implementation.

1. High Familiarity and Integration of AI in Higher Education

The results demonstrate that a significant majority of students (80%) are familiar with AI technologies, with 45% using AI tools at least weekly. This high level of familiarity aligns with previous research highlighting the rapid integration and growing prevalence of AI tools in higher education contexts. The frequent use of AI reflects students' recognition of these tools as valuable assets for efficiency and academic support. However, the finding that 35% of respondents rarely

use AI suggests that a notable portion of the student population remains hesitant or selective in integrating AI into their daily academic routines.

2. Practical Utility in Language Learning

In the context of English language proficiency, students exhibited a strong preference for practical and specific tasks, particularly grammar correction (70% total agreement) and essay improvement (60% total agreement). Tools such as ChatGPT, Google Translate, Grammarly, and dedicated Grammar Checkers were identified as the most frequently utilized platforms. This trend supports earlier findings by (Johnston et al., 2024; Wulyani et al., 2024; Xu, 2025), which indicate that AI tools offer valuable personalized practice and immediate feedback in language acquisition. Interestingly, a majority of respondents (60%) maintained a neutral stance regarding general AI use for their English subjects, and 45% were neutral regarding vocabulary enhancement. This neutrality suggests that while students actively utilize AI as an automated proofreader or editing assistant, they may not yet view AI as a primary or comprehensive medium for holistic language learning, aligning with concerns raised by (Abdullah, 2026; Maphoto et al., 2024; Mohammadkarimi & Qadir, 2025) regarding potential over-reliance and the retention of independent writing skills.

3. Redefining Creativity in Graphic Design

A central focus of this research was evaluating AI's perceived impact on the creative process. The data revealed a nuanced and divided perspective: 50% of respondents were neutral, while 45% agreed that AI enhances creativity by offering new ideas and possibilities. Only 5% expressed negative views. This division reflects the ongoing debate in design education literature. On one hand, AI serves as an ideation partner and creative collaborator that automates repetitive tasks and expands conceptual boundaries (Lee et al., 2026; Sarıtepeci & Durak, 2024). On the other hand, the high percentage of neutral responses indicates underlying concerns regarding originality, control, and the risk of diminishing authentic human creativity, echoing findings. Graphic design students appear to be navigating the fine balance between leveraging AI for inspiration and preserving their unique creative identity (Fang et al., 2026; Fleischmann, 2024; Wagler, 2025).

4. The Awareness-Application Gap in Core Graphic Subjects

An important paradox emerged from the survey results regarding AI in major graphic design subjects:

- Career Importance vs. Current Usage: While 80% of students agreed that mastering AI tools is crucial for their future careers, the majority of respondents reported that they have not yet used dedicated AI tools within their graphic design coursework.
- Tool Preferences: Among those who do use AI for design, Canva's AI-powered features and general AI image generators were preferred, whereas specialized tools like Adobe Sensei or AI-driven brainstorming tools saw minimal usage.

This discrepancy highlights a clear gap between educational awareness and practical implementation. Students recognize the imperative of AI literacy for industry readiness, yet curriculum integration or access to advanced industry-standard AI features remains limited. Educational institutions must address this gap by establishing structured frameworks, enhancing "prompt literacy," and providing pedagogical support that bridges student awareness with hands-on, ethical application in creative disciplines.

Implications

The study's implications center on the need for higher education institutions to formally integrate AI into language and design curricula, rather than treating it as an independent secondary

tool. Students require structured training in prompt literacy and AI ethics to leverage these tools effectively without compromising critical thinking, writing proficiency, or creative originality. Furthermore, addressing the gap between students' high awareness of AI's career importance and their low practical application in coursework demands that educators provide immediate access to industry-relevant AI software and hands-on practice.

Research Contribution

This research contributes to the literature by offering an integrated perspective on student AI adoption across two distinct domains language proficiency and graphic design which are typically studied in isolation. By providing empirical data from graphic design diploma students at UiTM Perak, the study illuminates the nuanced tension between recognizing AI as a driver of efficiency and ideation, while simultaneously harboring reservations regarding its impact on originality and independent creative expression.

Limitations

The primary limitations of this study lie in its small sample size of 47 respondents from a single institution, which restricts the generalizability of the findings. Additionally, the reliance on a descriptive quantitative survey without qualitative interviews leaves the underlying reasons behind the high volume of neutral responses unexplored. The scope was also constrained by a focus on accessible tools like Canva, omitting deeper investigation into more specialized, industry-standard generative AI software.

Suggestions

Future research should utilize mixed-method approaches with larger, multi-institutional sample sizes to investigate the root causes of the gap between career awareness and practical AI implementation. Educators and curriculum developers are advised to establish ethical frameworks and instructional strategies that train students to use AI as a creative collaborator rather than an automated shortcut. Finally, institutions should invest in professional-grade AI tools and infrastructure to ensure students develop the practical competencies required for the modern design industry.

CONCLUSION

This study provides a comprehensive overview of the graphic diploma students' perspectives on AI in language learning and design. The study found that graphic diploma students are highly familiar with AI technologies, recognize their professional importance, and use them frequently, though adoption varies across subjects. In language learning, students exhibit a neutral stance towards general AI use but widely adopt it for practical tasks like grammar correction, favoring tools such as ChatGPT and Google Translator. In their core field of graphic design, students show enthusiasm for AI, with 80% acknowledging its career relevance, yet many have not yet used AI design tools, highlighting a gap between awareness and practical application. There is also a mixed perspective on AI's effect on creativity, with some students viewing it as an enhancer and others as a limiter.

Ultimately, the research indicates that while the next generation of graphic designers is prepared to embrace AI, educational institutions and professional programs need to bridge the divide between students' perceived importance of AI and its actual implementation. The findings emphasize that AI is becoming an essential part of a designer's toolkit, underscoring the need for proactive educational strategies to address both the adoption gap and the ethical implications of AI's role in the creative process. Further research is recommended to explore why this adoption gap exists and to develop pedagogical methods that leverage AI to enhance creativity by infusing Artificial Intelligence (AI) in both language learning and creative design contexts. The findings reveal a significant trend toward the integration of AI tools, alongside a clear recognition of their professional relevance.

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AUTHOR CONTRIBUTION STATEMENT

WF wrote the main manuscript text, designed the research survey, collected and analyzed the data, and reviewed the final manuscript.

REFERENCES

Abdullah, A. M. A. A. A. M. A. (2026). The Role of Grammarly in Saudi EFL Writing: Students' Perceptions of Its Effectiveness, Efficiency, and Overreliance. *FWU Journal of Social Sciences*. https://doi.org/10.51709/19951272/spring2026/10

Abdurohman, N. R. (2025). Artificial Intellegent In Higher Education: Opportunities and Challenges. *Eurasian science review.*, *2*, 1683–1695. https://doi.org/10.63034/esr-334

Al-Zahrani, A. M. (2024). Unveiling the shadows: Beyond the hype of AI in education. *Heliyon*, *10*(9). https://doi.org/10.1016/j.heliyon.2024.e30696

Ayeni, O. O., Hamad, N. M. Al, Chisom, O. N., Osawaru, B., & Adewusi, O. E. (2024). AI in education: A review of personalized learning and educational technology. *GSC Advanced Research and Reviews*, *18*(2), 261–271. https://doi.org/10.30574/gscarr.2024.18.2.0062

Barrett, A., & Pack, A. (2023). Not quite eye to A.I.: student and teacher perspectives on the use of generative artificial intelligence in the writing process. *International Journal of Educational Technology in Higher Education*, *20*(1). https://doi.org/10.1186/s41239-023-00427-0

Bond, M., Khosravi, H., Laat, M. de, Bergdahl, N., Negrea, V., Oxley, E., Pham, P., Chong, S. W., & Siemens, G. (2024). A meta systematic review of artificial intelligence in higher education: a call for increased ethics, collaboration, and rigour. *International Journal of Educational Technology in Higher Education*, *21*(1). https://doi.org/10.1186/s41239-023-00436-z

Campino, J. (2024). Unleashing the transformers: NLP models detect AI writing in education. *Journal of Computers in Education*, *12*(2), 645–673. https://doi.org/10.1007/s40692-024-00325-y

Capinding, A. T., & Dumayas, F. T. (2024). Transformative Pedagogy In The Digital Age: Unraveling The Impact Of Artificial Intelligence On Higher Education Students. *Problems of Education in the 21st Century*, *82*(5), 630–657. https://doi.org/10.33225/pec/24.82.630

Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, *20*(1). https://doi.org/10.1186/s41239-023-00411-8

Chan, C. K. Y., & Lee, K. K. W. (2023). The AI generation gap: Are Gen Z students more interested in adopting generative AI such as ChatGPT in teaching and learning than their Gen X and millennial generation teachers? *Smart Learning Environments*, *10*(1). https://doi.org/10.1186/s40561-023-00269-3

Choi, C. K. (2024). A Study on the Collaboration-Based Creative Process between Artificial Intel ligence and Human Designer for Design Creativity Education. *Korea Institute of Design Research Society*, *9*(4), 412–421. https://doi.org/10.46248/kidrs.2024.4.412

Ding, N., Hu, L., Kim, K.-T., & Chen, M. (2026). When Generative Artificial Intelligence Becomes a Colleague: Dual Pathways of Empowerment and Depletion in University Design Teachers' Work Behaviors. *Sustainability*, *18*(4), 1775. https://doi.org/10.3390/su18041775

Doğan, M., Celik, A., & Arslan, H. (2024). AI In Higher Education: Risks and Opportunities From the Academician Perspective. *European Journal of Education*, *60*(1). https://doi.org/10.1111/ejed.12863

Enríquez, B. G. A., Ballesteros, M. A. A., Várgas, C. G. A. P., Ulloa, M. N. O., Ulloa, C. R. G., Romero, J. P., Jaramillo, N. D. G., Orellana, H. U. C., Anzoátegui, D. X. A., & Roca, C. L. (2024). Knowledge, attitudes, and perceived Ethics regarding the use of ChatGPT among generation Z university

students. *International Journal for Educational Integrity*, *20*(1). https://doi.org/10.1007/s40979-024-00157-4

Fang, C., Zhang, M., Khiatani, P. V., Lin, H., Liu, W., & Wang, S. J. (2026). A comparative analysis of generative AI adoption among design professionals in China and the United Kingdom: a UTAUT perspective. *Humanities and Social Sciences Communications*, *13*(1). https://doi.org/10.1057/s41599-026-06796-x

Fleischmann, K. (2024). Generative Artificial Intelligence in Graphic Design Education: A Student Perspective. *Canadian Journal of Learning and Technology*, *50*(1), 1–17. https://doi.org/10.21432/cjlt28618

Halabi, K. N. M., Yusof, M., Azahari, M. H., & Esmail, A. (2025). Integrating AI to Foster Culturally-Oriented Approaches in Design Education: Enhancing Final Assessments for Design Students in Malaysia. *International Journal of Research and Innovation in Social Science*, 7032–7045. https://doi.org/10.47772/ijriss.2025.908000583

Johnston, H., Wells, R., Shanks, E. M., Boey, T., & Parsons, B. N. (2024). Student perspectives on the use of generative artificial intelligence technologies in higher education. *International Journal for Educational Integrity*, *20*(1). https://doi.org/10.1007/s40979-024-00149-4

Juma, M., Alsridi, H., Shareeda, M., Mohamed, K., & Jallaf, Y. (2026). AI-Generated Visual Design and User Behaviour on Social Media: Practitioner and Institutional Perspectives from Bahrain. *Studies in Media and Communication*, *14*(4), 289. https://doi.org/10.11114/smc.v14i4.9149

Karataş, F., Abedi, F. Y., Gunyel, F. O., Karadeniz, D., & Kuzgun, Y. (2024). Incorporating AI in foreign language education: An investigation into ChatGPT's effect on foreign language learners. *Education and Information Technologies*, *29*(15), 19343–19366. https://doi.org/10.1007/s10639-024-12574-6

Karimova, G. Z., Kim, Y. D., & Shirkhanbeik, A. (2024). Poietic symbiosis or algorithmic subjugation: generative AI technology in marketing communications education. *Education and Information Technologies*, *30*(2), 2185–2209. https://doi.org/10.1007/s10639-024-12877-8

Korde, R. C. (2025). Role of Artificial Intelligence in English Language Teaching. *Zenodo (CERN European Organization for Nuclear Research)*. https://doi.org/10.5281/zenodo.18032876

Lee, J. H., Ostwald, M. J., & Arasteh, S. (2026). Rethinking architectural design education and practice with AI: a cognitive–social–technical perspective. *International Journal of Technology and Design Education*. https://doi.org/10.1007/s10798-026-10080-z

Mahapatra, S. (2024). Impact of ChatGPT on ESL students' academic writing skills: a mixed methods intervention study. *Smart Learning Environments*, *11*(1). https://doi.org/10.1186/s40561-024-00295-9

Maphoto, K. B., Sevnarayan, K., Mohale, N. E., Suliman, Z., Ntsopi, T. J., & Mokoena, D. (2024). Advancing Students' Academic Excellence in Distance Education: Exploring the Potential of Generative AI Integration to Improve Academic Writing Skills. *Open Praxis*, *16*(2), 142–159. https://doi.org/10.55982/openpraxis.16.2.649

Melker, S., Gabrils, E., Villavicencio, V., Faraon, M., & Rönkkö, K. (2025). Artificial intelligence for design education: a conceptual approach to enhance students' divergent and convergent thinking in ideation processes. *International Journal of Technology and Design Education*, *35*(5), 1871–1899. https://doi.org/10.1007/s10798-025-09964-3

Mohammadkarimi, E., & Qadir, B. M. (2025). The impact of artificial intelligence use on students' autonomous writing. *Journal of Applied Learning & Teaching*, *8*(1). https://doi.org/10.37074/jalt.2025.8.1.14

Molla, N. L. (2025). AN EXPLORATION OF UNDERGRADUATE STUDENTS' PERCEPTIONS OF AI-ASSISTED ENGLISH LEARNING TOOLS. *English Review Journal of English Education*, *13*(3), 955–964. https://doi.org/10.25134/englishreview.v13i3.88

Mudenda, S. (2025). Impact of Artificial Intelligence on College and University Students: A Global Transformation of the Education System. *Creative Education*, *16*(11), 1801–1828. https://doi.org/10.4236/ce.2025.1611112

Nygren, Å., Eriksson, A., Sjöberg, J., & Alégroth, E. (2026). Exploring student use of generative AI in higher education: A dual-institutional study. *Education and Information Technologies*. https://doi.org/10.1007/s10639-026-14100-2

Qu, Y., Tan, M., & Wang, J. (2024). Disciplinary differences in undergraduate students' engagement

with generative artificial intelligence. *Smart Learning Environments*, *11*(1). https://doi.org/10.1186/s40561-024-00341-6

Rukiati, E., Wicaksono, J. A., Taufan, G. T., & Suharsono, D. D. (2023). AI on Learning English: Application, Benefit, and Threat. *Journal of Language Communication and Tourism*, *1*(2), 32–40. https://doi.org/10.25047/jlct.v1i2.3967

Sajja, R., Sermet, Y., Fodale, B., & Demir, İ. (2026). Evaluating AI-powered learning assistants in engineering higher education with implications for student engagement, ethics, and policy. *Scientific Reports*, *16*(1). https://doi.org/10.1038/s41598-026-39237-5

Sarıtepeci, M., & Durak, H. Y. (2024). Effectiveness of artificial intelligence integration in design-based learning on design thinking mindset, creative and reflective thinking skills: An experimental study. *Education and Information Technologies*, *29*(18), 25175–25209. https://doi.org/10.1007/s10639-024-12829-2

Shyu, W. E., & Tasir, Z. (2026). Generative AI in Project-Based 3D Modelling: Effects on Creativity, Critical Thinking, and Workflow. *Online Learning*, *30*(1), 531–555. https://doi.org/10.24059/olj.v30i1.4769

Sopheap, H., Sarun, H., & Hun, H. (2026). Challenges and Opportunities of Integrating AI in Higher Education (Nano Review). *Zenodo (CERN European Organization for Nuclear Research)*. https://doi.org/10.5281/zenodo.18265735

Stöhr, C., Ou, A. W., & Malmström, H. (2024). Perceptions and usage of AI chatbots among students in higher education across genders, academic levels and fields of study. *Chalmers Research (Chalmers University of Technology)*, *7*, 100259. https://doi.org/10.1016/j.caeai.2024.100259

Sun, Y., & Yuan, B. (2026). Teaching "Artist Intelligence" with and without the use of "Artificial Intelligence": Preliminary Exploration in Graphic Design Education. *Leonardo*. https://doi.org/10.1162/leon.a.2697

Tossell, C. C., Tenhundfeld, N. L., Momen, A., Cooley, K., & Visser, E. J. de. (2024). Student Perceptions of ChatGPT Use in a College Essay Assignment: Implications for Learning, Grading, and Trust in Artificial Intelligence. *IEEE Transactions on Learning Technologies*, *17*, 1069–1081. https://doi.org/10.1109/tlt.2024.3355015

Wagler, A. (2025). Exploring Generative AI as Part of the Design and Creative Process. *Journal of Advertising Education*, *29*(2), 118–132. https://doi.org/10.1177/10980482251347510

Walter, Y. (2024). Embracing the future of Artificial Intelligence in the classroom: the relevance of AI literacy, prompt engineering, and critical thinking in modern education. *International Journal of Educational Technology in Higher Education*, *21*(1). https://doi.org/10.1186/s41239-024-00448-3

Wang, F., Li, N., Cheung, A., & Wong, G. K. W. (2025). In GenAI we trust: An investigation of university students' reliance on and resistance to generative AI in language learning. *International Journal of Educational Technology in Higher Education*, *22*(1). https://doi.org/10.1186/s41239-025-00547-9

Wulyani, A. N., Widiati, U., Muniroh, S., Rachmadhany, C. D., Nurlaila, N., Hanifiyah, L., & Sharif, T. I. S. T. (2024). Patterns Of Utilizing Ai–Assisted Tools Among Efl Students: Need Surveys For Assessment Model Development. *LLT Journal A Journal on Language and Language Teaching*, *27*(1), 157–173. https://doi.org/10.24071/llt.v27i1.7966

Xu, Z. (2025). Patterns and Purposes: A Cross-Journal Analysis of AI Tool Usage in Academic Writing. In *ArXiv.org*. https://doi.org/10.48550/arxiv.2502.00632

Yu, H. (2023). Reflection on whether Chat GPT should be banned by academia from the perspective of education and teaching. *Frontiers in Psychology*, *14*, 1181712. https://doi.org/10.3389/fpsyg.2023.1181712

Zhai, C., Wibowo, S., & Li, L. D. (2024). The effects of over-reliance on AI dialogue systems on students' cognitive abilities: a systematic review. *Smart Learning Environments*, *11*(1). https://doi.org/10.1186/s40561-024-00316-7