

EXPLORING HIGH SCHOOL STUDENTS' POTENTIAL FOR IMPROVING DESIGN WITH ARTIFICIAL INTELLIGENCE

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ABSTRACT

This community engagement initiative aimed to enhance digital literacy and graphic design skills, mainly focusing on the Canva application with the integration of artificial intelligence (AI). The project significantly improved participants' understanding of digital literacy and equipped them with practical graphic design abilities while introducing the potential of AI in design. Students from SMA Budi Mulia Tangerang benefited from this initiative, gaining the skills needed for today's digital age, including harnessing AI for design enhancements. The introduction of Canva, combined with AI capabilities, provided an accessible tool for creative expression, and participants demonstrated enhanced graphic design skills. Emphasis on digital ethics ensures responsible technology use, including AI-powered design tools. This project highlights the importance of tailored education in a digital era, promoting digital literacy, creativity, ethical technology use, and AI integration among high school students.

Keywords: digital literacy, graphic design skills, canva application, AI integration

1. INTRODUCTION

In this increasingly advanced digital era, high school/vocational students must understand and have skills in using artificial intelligence (AI) to develop graphic design. To support the development of this skill, digital training, and literacy programs have focused on using Canva applications as a tool for high school/vocational students. The primary purpose of this training is to explore students' potential in increasing their creativity in graphic design, making it easier for them to complete tasks that require design, and teaching them wise ways to use digital technology.

Graphic design is one of the critical elements in visual communication. In an increasingly digitally connected world, the ability to produce effective graphic design is a precious skill. However, many high school/vocational students still need to gain a greater understanding of AI potential in graphic design. Therefore, this training aims to provide a deeper understanding of how AI can improve graphic design. Graphic design is a crucial element in visual communication as it plays a vital role in effectively conveying visual information to the audience (Cornish et al., 2015). Visual accessibility is an essential aspect of graphic design as it ensures that visual information is clear and easily understood by the user. To produce successful visual design elements, it is necessary to consider the communication aspects of design (Mohamed et al., 2023). The relationship between the client and the designer is also crucial in achieving good design, and effective briefing is identified as a contributing factor (Tzortzopoulos et al., 2006). Graphic design can be considered a language system that uses visual signals to convey meaning (Curran & Casey, 2006). It is essential to accurately classify the different meanings represented by other graphics to integrate the "line" and "meaning" in design and effectively represent graphic language in visual communication (Zhang, 2022). Additionally, visual communication design encompasses various forms of graphic design, such as posters, photography, signs, and fonts (Gao, 2022).

Canva application is the main focus of this training. Canva is a web-based graphic design tool that is popular and easy to use (Alsuwaida, 2023). With various features and templates available, Canva allows anyone, including those who do not have a bottomless design background, to create an attractive and practical design (Novianti & Dewi, 2023; Olatunde-Aiyedun & Hamma, 2023). This training aims to teach students how to use Canva in developing graphic design. During the training, students were taught basic AI concepts in graphic design. They understand how AI can predict design trends, optimize colors, or produce automatic designs. This understanding helps students see AI's potential in assisting them to create better and more efficient designs. In addition, they are also taught to master various Canva features. They learned how to make designs from the beginning, use the template that has been provided, edit images, add text, and do various other design tasks with Canva. This training focuses on practical aspects so students can directly apply the skills they learn in their design projects.

The use of mobile apps, such as Canva, has become increasingly prevalent in various domains. Canva, a design app, has been found to have positive effects in different areas. For example, in education, Canva has been used as an effective tool for teaching English, improving the teaching and learning process, and facilitating the distribution of materials (Wijayanti, 2022). In the healthcare sector, mobile medical apps, including Canva, have been widely

adopted, leading to improved patient care and increased usage among clinicians (Kim et al., 2016). Additionally, Canva has been utilized in the tourism industry, where it has been found to enhance the information search behavior of foreign independent travelers (Lin et al., 2020).

The feasibility and usability of mobile apps, including Canva, have been evaluated in different contexts. For instance, a study examined the feasibility and usability of a mobile app for adverse event reporting post-influenza vaccination, demonstrating the potential of mobile apps in facilitating reporting processes (Wilson et al., 2016). Additionally, the interrelationship between mobile app usage and behavioral orientations has been explored, emphasizing the importance of understanding user behavior and content usage patterns (Chung, 2014). The use of mobile apps like Canva has proven beneficial in various domains, including education, healthcare, and tourism. Factors such as stickiness, word of mouth, and perceived benefits influence the acceptance and use of these apps. The feasibility and usability of mobile apps have been evaluated in different contexts, highlighting their potential to enhance various processes. Further research is needed to explore user challenges, expectations, and the impact of mobile apps on diverse populations. Overall, understanding mobile apps like Canva is crucial for maximizing their benefits and improving user experiences.

The results of this training are expected to get a positive essence. High school/vocational students show a significant increase in their graphic design skills. They can make designs that are more creative, attractive, and professional using Canva. In addition, they also become more efficient in completing tasks that require design because Canva allows them to save time and effort in the design process. In addition to developing graphic design skills, this training teaches students ethics and wisdom in using digital technology. They understand the importance of using technology responsibly, respecting copyright, and avoiding misuse of technology. This training has important implications for developing high school/vocational students. They become better prepared to face an increasingly digital and technological world. The graphic design skills they get will open up various opportunities in various fields, including business, media, and art. In addition, their understanding of the potential and ethics of the use of digital technology will help them become individuals who are more responsible and have insight into the use of technology.

To face a future that is increasingly dominated by technology, training and digital literacy like this are very important. Preparing young people with relevant skills and an in-depth understanding of technology is a valuable investment for a better future. This training is one of the concrete steps in this effort, and a positive result shows that the potential of high school/vocational students in developing designs with artificial intelligence can be realized through the right educational approach.

2. METHOD

Community service activities to provide digital literacy knowledge and skills to high school students have several stages designed to provide valuable and memorable experiences. The following are the methods of activities used in seminars and mini-workshops of digital literacy, one of which introduces the use of AI tools for designs, such as Canva. This community service activity is designed with a method that involves several critical stages—first, starting with the holding of a digital literacy seminar. The primary purpose of this seminar is to provide a basic understanding to participants about the importance of digital literacy in the current digital era. Competent speakers in the field of digital literacy provide in-depth presentations. Seminar participants were given insights into how digital literacy can significantly benefit various aspects of life, including education, work, and self-development. After the seminar, the activity continued with a mini-workshop that focused on introducing artificial intelligence tools (AI) in graphic design. This mini-workshop aims to introduce participants to the Canva application, a handy tool for developing graphic design. Participants are taught about how to access and use Canva effectively. This workshop includes demonstrations of practical steps in making simple designs using Canva, ranging from the selection of templates to the addition of design elements such as text and images.

The next part is practical training, which is the core of this activity. Participants are invited to practice directly using Canva. They are tasked with making a simple design according to the instructions given by the facilitator. During this practical training, participants could ask questions and get direct guidance from the facilitator. It is intended that they can master the Canva design tools better. Finally, as part of the assessment and evaluation of the overall activities, participants are asked to fill out the questionnaire after completing the training. This questionnaire is designed to measure participants' understanding of the material taught during the activity and assess their level of satisfaction with this training. Questions in the questionnaire include evaluating the effectiveness of training, the extent to which they feel able to apply the skills that have been learned, as well as constructive suggestions that can be used for future improvement. Through this method, it is expected that participants can gain a better understanding of digital literacy and skills in using AI tools such as Canva for graphic design development. With the introduction of digital solid literacy and improved design skills, they are expected to be better prepared to face future challenges that are

increasingly related to digital technology. This method is designed to provide holistic learning experiences to high school students. By combining seminars that provide theoretical understanding, mini workshops that offer practical experience, and direct training in AI tools such as Canva, participants are expected to increase their knowledge of digital literacy and the ability to develop graphic design. In addition, the distribution of questionnaires helps us to continue to improve the quality of this activity and ensure that the needs of participants are well met.

This community service activity is a concrete effort to prepare young people to face future challenges increasingly related to digital technology. With mastery of digital literacy and skills using AI tools such as Canva, high school students can be better prepared to face an increasingly connected and technological world. Hopefully, this activity can provide ongoing benefits for participants and the community. Budi Mulia Tangerang High School students carried out this community service activity. With the introduction of digital solid literacy and improved design skills, Budi Mulia High School students are expected to be more prepared to face future challenges that are increasingly related to digital technology. This activity was specifically carried out at Budi Mulia Tangerang High School to support students in this school directly, helping them develop skills relevant to the increasingly complex digital era. Thus, they can be more confident and ready to face technological change.

3. RESULTS AND DISCUSSION

Community service activities to increase digital literacy and graphic design skills have produced significant positive results. This activity is mainly directed at high school/vocational students with a focus on the use of Canva applications as a tool for developing their graphic design skills. One of the most striking results is increased participants' understanding of digital literacy. Before participating in this activity, many needed a greater understanding of digital literacy and its impact on everyday life. However, after attending a digital literacy seminar, participants began to understand how crucial digital literacy is in the current digital era. They started to recognize the risks and challenges related to using digital technology.

Introducing participants to Canva as a graphic design tool that is easy to use is also a positive result. Canva provides a beneficial solution for those who need a bottomless design background. In a mini-workshop that focuses on Canva, participants are taught how to access and use this tool effectively. They learn practical steps in making simple designs, ranging from the selection of templates to the addition of design elements such as text and images. During practical training, participants showed a significant increase in their graphic design skills. They become more skilled in choosing an appropriate template, editing photos, adding text, and setting design elements better. The resulting designs also become more creative and attractive.



Figure 1. Digital literacy implementation activities in high school

The importance of digital ethics is also emphasized during this activity. Participants are taught the importance of respecting copyright and avoiding the abuse of digital technology. This awareness will help them become responsible and ethical technology users in an increasingly complex digital era. In the discussion of the results of this activity, digital literacy is a vital skill in the current digital age. The more aspects of life that depend on digital technology and a good understanding of digital literacy, a solid foundation to interact with this increasingly connected world. The use of Canva as a graphic design tool also opens significant opportunities. Participants in this activity now have handy tools for developing their graphic design skills. Canva allows them to create attractive designs without having a deep design background. This will significantly benefit various fields, including education, work, and self-development.

Introducing the concept of artificial intelligence (AI) in graphic design is an important step. Participants now realize that AI technology can predict design trends, optimize design, or even produce automatic designs. This understanding opens a new view of the potential of AI technology in supporting creativity and efficiency in graphic design. Practical skills that are improved during this activity will provide concrete benefits. Participants can apply this skill in various projects, both in the school environment and outside. They can become more independent in producing the graphic design they need without having to depend on design experts.

Awareness of digital ethics is an added value that should be addressed. In a world that is increasingly digitally connected, it is important to remind participants about their responsibilities in the use of technology. Respecting copyright and avoiding misuse of technology is an integral part of being a responsible user. These results and discussions provide some important implications:

1. It is necessary to continue to provide support and training in digital literacy to high school/vocational students. Digital literacy is an essential skill that will help them succeed in the future that is increasingly related to technology.
2. Canva and similar graphic design tools can be expanded to more schools as part of the digital literacy program. This will provide more significant benefits to students, helping them develop skills relevant to the current digital era.
3. Digital ethics must be an inseparable component of every digital literacy program.



Figure 2. Activities for implementing a design workshop with an AI-based mobile application

Awareness of digital ethics will help create responsible and ethical technology users, which are very important in the increasingly complex digital world. Finally, there needs to be closer cooperation between education and industry or technology companies. This can help integrate skills that are by the needs of the current job market and provide more significant opportunities for students to succeed in their careers in this increasingly connected world. This community service activity is a concrete step in preparing young people to face a world increasingly dominated by technology. Digital literacy and increased graphic design skills are valuable investments for a better future (Eshet, 2004; Mishra & Sharma, 2018), and positive results show that the potential of high school/vocational students to develop themselves in the digital era can be realized through the right educational approach.

4. CONCLUSION

The community engagement initiative aimed at enhancing digital literacy and graphic design skills, focusing on using the Canva application, has yielded significant positive outcomes. This endeavor underscores the profound impact that tailored educational approaches can have on developing high school students' competencies and comprehension in our increasingly complex digital era. In this conclusion, we will summarize the key achievements of this project and relate them to its implementation at SMA Budi Mulia Tangerang.

First and foremost, this initiative has substantially contributed to enhancing the participants' understanding of digital literacy. Before their involvement in this project, many high school students, including those from SMA Budi Mulia Tangerang, needed to learn more about digital literacy and its significance in their daily lives. However, after participating in the digital literacy seminar organized as part of this project, these students began to grasp the crucial role that digital literacy plays in today's digital age. They started to recognize the risks and challenges associated with digital technology usage. In the context of SMA Budi Mulia Tangerang, this increased understanding of digital literacy

will provide even more significant benefits. Students at this school will be better prepared to tackle digital literacy challenges in their education. They will be able to maximize digital resources for enhanced learning experiences. Additionally, a heightened awareness of digital literacy will help them make wiser and safer choices in their everyday internet usage.

Secondly, introducing Canva as an easily accessible graphic design tool has been a positive outcome. Canva offers a valuable solution for students who may have a limited background in graphic design. During the mini-workshop focused on Canva, participants were instructed on how to access and utilize this tool effectively. They learned practical steps for creating simple designs, from selecting templates to adding design elements like text and images. For SMA Budi Mulia Tangerang, the introduction to Canva has been particularly beneficial. With Canva, students can more readily develop their graphic design skills. They can create appealing and practical designs for various school projects, such as posters, brochures, or presentations. This adds significant value to their learning process and enhances their creativity in expressing their ideas.

During the hands-on training, participants, including those from SMA Budi Mulia Tangerang, demonstrated significant improvements in their graphic design skills. They became more proficient at choosing suitable templates, editing images, adding text, and arranging design elements more effectively. The resulting designs also became more creative and captivating. Moreover, the emphasis on digital ethics during this initiative is a crucial value addition. Participants, including students from SMA Budi Mulia Tangerang, were educated on the importance of respecting copyright and avoiding digital technology misuse. This awareness is expected to help them become responsible and ethical technology users in our increasingly complex digital world. In summary, this community engagement project has unequivocally demonstrated the significance of digital literacy and graphic design skills in today's digital era. Enhancing comprehension of digital literacy and imparting practical design skills can provide immense benefits to high school students, including those at SMA Budi Mulia Tangerang.

This initiative has also underscored the effectiveness of practical and interactive approaches in education. Students find it easier to understand and master skills when directly applying them in real-world situations, such as using Canva for graphic design. Lastly, this project has significant implications for educational development in schools. Continuous support and training in digital literacy should be extended to high school students. The introduction of Canva and similar graphic design tools can be expanded to more schools as part of digital literacy programs.

Additionally, the importance of digital ethics should remain an integral component of digital literacy. Collaboration between the education sector and the technology industry or tech companies is essential. This collaboration can facilitate the integration of skills that align with current job market demands, offering students more significant opportunities for success in our increasingly interconnected world. In conclusion, this community engagement initiative is a concrete step toward preparing the younger generation to face the challenges and opportunities of a digital-dominated world.

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