# ARTIFICIAL INTELLIGENCE (AI) IN SUPPORTING SENIOR HIGH SCHOOL STUDENTS' MULTIMODAL TEXT PRODUCTION

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## Abstract

In the digital age, the integration of artificial intelligence (AI) into educational practices has transformed students' capabilities in producing multimodal texts, which combine diverse communicative forms such as text, images, audio, video and interactive content. This study explores the role of AI in supporting students' multimodal text production. It examines how AI-driven tools facilitate content generation, provide feedback, support collaboration and improve accessibility for learners. A qualitative case study design was employed. The participants were an English teacher and thirty-six twelfth-grade students at a public senior high school in West Java, Indonesia. Data were collected through classroom observations and semi-structured interviews and were analysed thematically. The findings show that the teacher and students used four AI tools, namely Grammarly, ChatGPT, Google Translate and Canva, to check grammar and mechanics, generate ideas and content, translate texts, and transform written texts into multimodal texts such as posters, infographics and presentations. The findings suggest that AI not only aids the efficient creation and refinement of multimodal texts but also fosters a more engaging and adaptive learning environment. This study underscores the importance of integrating AI technologies into English language teaching to equip students with the skills needed to thrive in a multimodal and increasingly digital world, while managing the ethical use of these tools.

Keywords: Artificial Intelligence, English as a Foreign Language, Multimodal Text, Multimodality

## INTRODUCTION

Technological advancements have produced innovations, opportunities and issues, particularly in education, and they significantly affect human work and activities (Fitria, 2021). One technology that is being intensively developed is artificial intelligence (AI). AI is intelligence demonstrated by machines and modelled on natural human intelligence (Mehrotra, 2019). In other words, AI integrates machines with human intelligence to perform tasks, for example, controlling the quality and temperature of a room or adjusting a music playlist to an individual's mood (Saputra et al., 2023). Many examples illustrate how AI has

entered various aspects of human life, including access to information via the web, surveillance systems that identify individuals, financial market performance, devices that adapt to their owners' needs, and the way drivers navigate (Williamson & Eynon, 2020). According to Kaur and Gill (2019), AI is an information technology system that covers the development of intelligent machines and applications that can think and act like humans. These actions include cognitive skills such as the ability to learn, make decisions and adapt to the environment (Chen et al., 2020). Therefore, AI can offer convenience in everyday activities and can also be utilized to develop quality educational resources.

With continuous change in the field of education, the integration of AI has become a significant force. Using AI in educational settings creates new opportunities for innovative ways of offering specific support, meaningful learning and improved learning achievement (Afshan Bibi et al., 2024). In English language teaching (ELT), AI can help in all aspects, including improving language skills (Ribeiro, 2020). Writing is one of the language skills that can be developed through AI (Dale & Viethen, 2021). Many AI tools give diagnostic feedback on organization, mechanics, grammar, diction, language use and appearance (Ariyanto et al., 2021). AI tools that are often used today to evaluate and improve written texts include Grammarly, Google Docs, Google Translate, Canva, QuillBot, ChatGPT and Copilot (Crompton et al., 2023; Zhang, 2021). The use of various tools in learning relates to multimodal learning, namely how learners engage with information through auditory, visual and kinesthetic means (Kress et al., 2003). In writing, multimodal learning involves the use of various multimodal texts as media through which students express their writing. AI is a strong ally in this respect because of its capacity to process and synthesize large amounts of information into various multimodal texts (Sharma et al., 2019).

In teaching and learning activities, multimodal text refers to the use of numerous communication modalities to transmit information. It is often a digital text but can also be a book, such as a picturebook, an information text or a graphic novel, that presents information across a variety of modes, including visual images, design elements, written language and other semiotic resources (Eisenmann & Summer, 2020; Serafini, 2012). Multimodal text production in writing lessons can build students' interest, generate their ideas and transform written text into other forms of text (Hamer et al., 2022). Knowledge about the multimodal texts produced by students is necessary because such texts present students with various text forms and meet their learning styles in interactive and interesting ways, especially in ELT (Ilmi et al., 2020; Trisanti et al., 2022). In addition, AI can support students in producing texts to meet their writing needs quickly and efficiently (Daniel et al., 2023), which helps

them improve the quality of their written texts and overcome difficulties in writing (Seyyedrezaie et al., 2016). AI integration can therefore support students' multimodal text production.

Several studies have also discussed the use of AI in education. Li and Su (2020) stated that intelligent machines support the development of combined offline and online learning. AI can also enhance the learning experience and present various learning resources that can be easily accessed during class (Verma, 2018). In English language learning, the use of AI is said to be practical, attractive and goal-oriented and to support English language learners (Wale & Kassahun, 2024). Kim (2019) found that using AI improved students' English skills and helped improve English language teaching. Furthermore, Kustini et al. (2020) found that using AI to create digital videos and text images can improve students' digital reading skills, and the use of AI for multimodal production in English language learning makes learning more accessible for teachers and students because it provides them with assistance, applications and support (Zhao & Nazir, 2022).

Based on these findings, research on the use of AI to produce multimodal texts in ELT is still limited and not yet specific. Previous studies focused on each variable separately, or on the use of AI in English learning in general, and did not examine the production of multimodal texts. Therefore, this research investigates the use of AI in supporting students' multimodal text production. The research question of this study is as follows:

RQ. How does AI support students in producing multimodal texts?

## METHOD

### *Research Design*

This research used a qualitative case study design, which is particularly effective for exploring complex phenomena within their real-life context (Yin, 2014). Qualitative methods are well suited to this study because they allow an in-depth understanding of participants' experiences and perceptions (Creswell, 2013). According to Carspecken (2019), qualitative research provides a nuanced understanding of educational practices by examining human interactions and behaviours within specific contexts. This approach is valuable in educational settings such as senior high schools, where the dynamics between teachers and students play a crucial role in shaping learning outcomes (Lee, 2020).

***Setting and Participants***

The study was conducted in a public senior high school in West Java, Indonesia, which provided a naturalistic environment for observing the educational practices and interactions relevant to the research focus. The participants were an English teacher with nearly 21 years of teaching experience and thirty-six twelfth-grade students. The teacher's extensive experience of teaching English at the senior high school level offered a wealth of knowledge and pedagogical strategies to explore, and the students, in their final year of senior high school, provided perspectives on the culmination of their English learning in this context. According to Chen and Wu (2020), studying educational practices within specific cultural contexts enhances the applicability of findings to similar settings, underscoring the relevance of this Indonesian case study.

***Data Collection***

Data were collected through a combination of observations and semi-structured interviews. This triangulated approach enhanced the trustworthiness and depth of the findings (Denzin & Lincoln, 2011). Classroom observations were conducted to capture the teacher's instructional methods and student interactions, and detailed field notes were taken to document them. Semi-structured interviews were held with the English teacher to gain insights into her teaching philosophy, strategies and experiences. This method allowed flexibility in exploring topics that emerged during the conversation (Kvale & Brinkmann, 2009). Triangulating data from multiple sources, such as observations and interviews, strengthens the credibility of qualitative research by providing diverse perspectives and reducing the impact of potential biases (Gibson & Brown, 2023; Ivankova & Stick, 2019).

***Data Analysis***

The collected data were analysed using thematic analysis, following Braun and Clarke's (2006) six-phase approach: familiarization with the data through repeated reading and noting initial ideas; generating initial codes to identify features of the data relevant to the research question; searching for themes by collating codes into potential themes; reviewing themes to check whether they work in relation to the coded extracts and the entire data set; defining and naming themes; and producing the report by selecting vivid, compelling extracts and relating them to the research question and the literature. As highlighted by Nowell et al. (2017), thematic analysis provides a systematic yet flexible approach to identifying patterns and meanings within qualitative data, making it suitable for exploring complex educational phenomena such as those in this study.

## FINDINGS AND DISCUSSION

This section is divided into two sub-sections. The first focuses on the types of AI tools that the teacher and students used in English lessons. The second elaborates on how AI supports multimodal text production.

### *Types of AI Tools Implemented by the Teacher and Students*

The study revealed the types of AI tools employed by the English teacher to enhance classroom teaching and learning and the AI tools used by the students. The findings are divided into four parts based on the results obtained, namely Grammarly, ChatGPT, Google Translate and Canva.

#### *Grammarly*

Grammarly is an easy-to-use tool that helps teachers and students improve their writing by checking spelling, grammar and punctuation errors. It offers comprehensive feedback, corrections and suggestions to make writing clearer, more precise, effective, readable and error-free, with high accuracy and evaluation speed (Grammarly, 2020). Therefore, Grammarly is one of the AI tools that can be implemented in ELT and can effectively help teachers correct students' writing.

The teacher integrated Grammarly into writing assignments, allowing students to submit drafts through the platform. Grammarly analysed the texts for errors and provided suggestions for improvement. This tool made it easier for the teacher to give more detailed feedback in less time because Grammarly provides real-time feedback and detailed explanations of errors (Fahmi & Cahyono, 2021). Students also reported that Grammarly's instant feedback helped them recognize and correct common mistakes, leading to improved writing over time. In line with Ghufran and Rosyida (2018), grammar software offers students a clear and direct way to identify errors in their writing and provides alternative corrections so that students can choose the best option. By using Grammarly frequently, students can therefore improve their diction, grammar and mechanics.

#### *ChatGPT*

ChatGPT, an AI language model developed by OpenAI, was used to facilitate conversational practice and generate writing prompts. It can understand the context of a conversation and give answers accordingly. ChatGPT can create texts ranging from poetry, articles and tutorials to social media captions, and it can turn general knowledge into a written text (Fitria, 2023).Thus, ChatGPT can be used to help students with their writing.

In its implementation, the teacher used ChatGPT to facilitate learning and to help students find information, answer questions and create paragraphs according to the context. According to Eke (2023), ChatGPT can be used for language translation, text summarization, answering questions, creative writing, content creation, responding to conversation prompts, explaining complex subjects, and fixing or generating code. Students found interacting with ChatGPT engaging and helpful for improving their skills, which agrees with studies showing that AI conversational agents can enhance language learning by providing a supportive practice environment (Fryer et al., 2021). The teacher reported that ChatGPT's ability to provide diverse and creative writing prompts stimulated students' imagination and enhanced their writing assignments. As stated by Guo and Wang (2023), ChatGPT aids the development of critical thinking and language skills through interactive dialogue.

*Google Translate*

Google Translate (GT), one of Google's products, has grown in popularity among language learners. GT was used to help students translate texts quickly and easily. Sukkhawan (2014) stated that GT is commonly used for vocabulary learning, writing, reading and translation. In writing activities, GT can help English learners improve their writing in terms of vocabulary, grammar and expression (Lee, 2020) and boost their confidence in writing (Axelina & Setiawan, 2021). In the classroom, the teacher encouraged students to use GT to translate passages between English and Indonesian to help them understand the texts they read. With GT, students gain new information about the language they are studying (Khatimah et al., 2019), and the quality of their writing improves because GT minimizes errors, offers various words and produces text with more complex vocabulary (Wirantaka & Fijanah, 2021). Therefore, GT is helpful for the teacher and students when creating a text.

*Canva*

Canva is an online graphic design platform with AI capabilities that offers attractive designs, prepared templates, features and categories. By creating individual or group posters, presentations, flyers, infographics, book covers, newsletters, programs, reports and media kits, users can demonstrate their understanding of many different topics (Waring, 2021). Canva is particularly applicable to composing multimodal texts. With it, the teacher can invite students to produce multimodal texts that transform written text into various forms, modes and designs (Trisanti et al., 2022). The teacher can also provide students with information, creativity and skills through it, allowing them to apply these tools in various contexts (Fitria, 2022).

The teacher used Canva as a teaching tool to make presentations during the learning process. As Firdayanti et al. (2024) stated, teachers use Canva to create diverse learning materials such as videos, images and presentations, which facilitates the inclusion of visuals and other elements in English teaching resources. In writing activities, the teacher invited students to use Canva to make their writing more innovative and interesting (Trisanti et al., 2022). For example, students turned hortatory exposition texts into informative infographics using Canva. This can help students develop their writing skills in various media and write more creatively. Canva is therefore an AI tool with features that develop students' writing and transform it into various forms, such as multimodal texts.

In sum, the implementation of AI tools such as Grammarly, ChatGPT, Google Translate and Canva in the English classroom enriched the learning experience. Each tool offered particular benefits, from enhancing writing skills and facilitating conversational practice to improving technical aspects of writing, fostering collaboration and transforming texts into various multimodal forms. The findings highlight the potential of these AI technologies to support personalized learning, encourage student engagement, and improve language proficiency and the ability to produce multimodal texts.

***AI in Supporting Students' Multimodal Text Production***

AI is transforming education, particularly in students' production of multimodal texts, which integrate various forms of media, such as text, images, audio and video, to create rich, interactive learning materials. AI tools such as Grammarly, ChatGPT, Google Translate and Canva were found to support students in making these texts. In the interviews, the teacher stated that Grammarly helped her with grammar checking in text production and helped students submit better writing assignments, so that they became more confident. The use of Grammarly in writing classes assists language acquisition by providing grammar help, correcting spelling and punctuation errors and offering style suggestions (Almusharraf & Alotaibi, 2023). The teacher stated that ChatGPT helped the teacher and students search for and obtain ideas, and other research has reported that ChatGPT helps users find ideas and information and facilitates communication in target languages (Zhang & Dafoe, 2022). Students usually used GT to translate their thoughts directly when they faced difficulties, but the teacher treated GT only as a supporting tool because she still found errors in its output. In line with Ribeiro (2020), GT helps translate texts, documents or students' writing from one language to another. Regarding Canva, the teacher recommended it because it presents attractive templates and provides various designs and elements for transforming students'

writing into multimodal texts. Canva offers a platform for creating visually appealing designs and presentations and enables students to integrate images and videos seamlessly (Kim & Wang, 2022). Thus, the use of various AI tools in writing classes was beneficial in supporting students to produce multimodal texts and helped both the teacher and students in the learning process.

In the production of multimodal texts in writing classes, AI tools play a crucial role in developing students' writing skills. Among the AI tools found in the classroom, Canva in particular supported students in transforming written texts into various interesting multimodal texts, such as posters, infographics and animated images. In the interview, the teacher stated that Canva was very useful for students in doing their assignments. It also allowed students to work on a project simultaneously, facilitating teamwork and collaborative learning. This is in line with Smith and Kim (2021), who noted that Canva provides various templates, visual elements and design customization options that help students change their written texts into other multimodal texts, such as infographics. For example, when the teacher asked students to write an introductory paragraph of a narrative text, students could quickly draft topic sentences and organize their ideas into images or posters online, because Canva provides templates on various topics. In line with Hadi et al. (2021), Canva helps students practise writing and enhances their engagement and understanding of content (Lupton, 2017). Moreover, the teacher said that she usually used Canva to make learning materials more attractive, for example, through interesting presentations. Canva can be used to create teaching materials and multimedia presentations that cater to various learning styles and enhance the overall learning experience (Lee et al., 2022). Thus, Canva is one of the most valuable AI tools for producing diverse and interesting multimodal texts in the classroom.

Other AI tools, such as ChatGPT, Grammarly and GT, also helped students produce multimodal texts. The observations and interviews showed that, in the process of creating multimodal texts, ChatGPT helped students generate ideas and organize content, GT allowed easy translation, and Grammarly provided instant grammar and style recommendations that improved the coherence and accuracy of students' writing. Together, these AI tools empower students to create multimodal texts with precise content that reflects understanding and creativity (Chen et al., 2023; Essel et al., 2022; Farrelly & Baker, 2023; Lee et al., 2022). Integrating AI tools into writing instruction can therefore help students create well-written, clear and engaging texts, which is fundamental in multimodal text production (Williams, 2022).

## CONCLUSION

AI holds considerable promise in supporting students' production of multimodal texts, enhancing learning experiences and improving educational outcomes. In this study, Grammarly, ChatGPT, Google Translate and Canva facilitated the creation of creative and interactive texts and learning materials: Grammarly helped students check grammar and mechanics, ChatGPT helped them generate ideas and organize content, Google Translate supported translation, and Canva enabled them to transform written texts into multimodal texts such as posters, infographics and presentations. These tools also played a role in developing students' writing skills, helping their texts to be clear, coherent and engaging. However, the adoption of AI in education must be carefully managed to address ethical concerns and to ensure that all students benefit equitably. As AI technologies continue to evolve, educators and policymakers need to focus on developing AI literacy and integrating ethical guidelines to navigate the complexities of AI in education effectively.

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