Research Article

Applying aritifical intelligence tools to enhance language proficiency through creative writing skills for Vietnamese pupils

Nguyen Thi Tra My[1], Trinh Thi Ha[2]*

[1]Faculty of Journalism and Communication, Thai Nguyen University of Science, Thai Nguyen University, Thai Nguyen, Vietnam
[2]*Department of Applied Linguistics, Institute of Linguistics, Ha Noi, Vietnam

*Corresponding Author: Trinh Thi Ha
*Email: trinhhavnnh@gmail.com

ARTICLE INFO	ABSTRACT
	This article aims to introduce and analyze the application of selected artificial intelligence (AI) tools supporting image creativity to enhance language proficiency through creative writing skills for Vietnamese students. The research provides educators and pulpils with an overall, objective understanding of the role of these tools in promoting language abilities, particularly in enhancing writing skills combined with image creativity. The research methodology focuses on reviewing literature to analyze the features and functionalities of several AI tools on web platforms such as https://openai.com/dall-e-2/, https://www.midjourney.com/, https://www.canva.com/, https://lexica.art/, https://www.microsoft.com/vi-vn/bing, and identifying the process and potential integration of these tools into the students' text creation process. The article also presents some practical results applied to Vietnamese pupils proficient in their native language and with basic to advanced English language computer skills (5th-grade students, aged 11). The outcomes of this research serve as a valuable reference for utilizing AI tools to enhance language proficiency, particularly in augmenting creative writing skills combined with image creation, for Vietnamese pupils specifically and interested parties in general.

Index Terms - Language proficiency, creative writing skills, artificial intelligence (AI), creative writing with AI, image creativity. |

I. INTRODUCTION

In many countries around the world, including Vietnam, the Internet in general and artificial intelligence (AI) in particular are increasingly being widely used in various aspects of life, including education. According to statistics from We are Social & Meltwater, as of January 2023, the total number of Internet users worldwide has reached 5.16 billion, accounting for 64.4% of the global population, an increase of 1.9% compared to the same period in 2022. In Vietnam, this number is 77.93 million Internet users, equivalent to 79.1% of the population. In education, the rapid development of the digital economy, digital society, and the increasing demand for the use of digital devices and services have posed both challenges and opportunities for teachers and students, requiring them to be equipped with new skills, knowledge, and understanding related to AI.

Authors Fahimirad & Kotamjani also argue that educational technology has been and is changing the learning system worldwide as artificial intelligence is part of the Fourth Industrial Revolution era (Fahimirad & Kotamjani, 2018). Therefore, the education system of each country needs to participate in creating changes within its system to equip learners with critical thinking, creativity, and collaboration skills so that they can compete after graduation.

Artificial Intelligence in Education (AIEd), emerged around the 1970s, has contributed to enhancing the effectiveness of teaching and learning activities through collecting learner feedback, assessing learner capabilities, identifying weaknesses, proposing personalized learning trends, and utilizing AI techniques to understand and develop teaching and learning theories. As a result, both teachers and pulpils are encouraged

and tend to utilize AI technology to optimize the teaching and learning process to meet increasingly modern learning needs. AI tools help save time and increase efficiency by automating processes, analyzing data, and proposing integrated or differentiated teaching and learning solutions. In particular, AI tools also support curriculum design, predict learning outcomes, and create multi-dimensional interactive experiences for learners through educational games and virtual reality. Thanks to the engaging interaction of these activities, pulpils not only access knowledge vividly and effectively but also develop various abilities and qualities throughout the learning process.

Our research focuses on identifying the applications of selected artificial intelligence (AI) tools to enhance language proficiency through creative writing skills combined with the development of imagination, critical thinking, and image creativity for Vietnamese students. From theoretical research, we constructed a creative writing process utilizing AI-powered image creation tools. The article also provides some experimental application results to demonstrate the effectiveness of this solution. The paper addresses how teachers can creatively use AI tools to promote creativity in students' writing skills and help pulpils maximize their abilities and qualities in a diverse and engaging learning environment.

II. LITERATURE REVIEW

In teaching, creating engaging and dynamic activities not only makes lessons more appealing but also plays a crucial role in encouraging students' creativity. The aim of this approach is to shift from traditional teaching methods focused on one-way transmission to more modern and profound methods, centered on students' experiences as they are placed at the heart of the learning process. In research literature on multiple intelligences, Howard Gardner argues that humans possess not just one but up to eight different types of intelligence, including spatial, linguistic, interpersonal, intrapersonal, logical, musical, bodily-kinesthetic, and naturalistic intelligences. Gardner emphasizes that each individual has strengths in one or more types of intelligence, and education should focus on developing these intelligences from various perspectives, enabling them to express creative ideas most effectively (Gardner et al., 2003). This perspective asserts that teachers' development of lesson plans and teaching scenarios to help pulpils absorb the maximum amount of knowledge and thus maximize their abilities and qualities is an essential requirement in the context of modern education today.

Discussing the role of AI tools in education and their application in enhancing creative writing skills, several studies have been notable, including (Sharples, 1983), (Cremin, 2006), (Fahimirad & Kotamjani, 2018), (Plate & Hutson, 2022), (Plate et al., 2022), (Ippolito et al., 2022a), (Jumami, 2021), (JEEP) & 2022, 2022), (Dai, 2015), (Fitria, 2022), (Dang et al., 2022), (Ippolito et al., 2022b), (Marzuki et al., 2023), (Hutson, 2023), (Shidiq, 2023), (Woo et al., 2023), (Stojanovic et al., 2023), (Karado, 2023), (Gero et al., 2023), (Tsao et al., 2024), (Ansari et al., 2023)... These works have highlighted the role of applying artificial intelligence in education and creative writing in terms of intellectual liberation and skill development. Studies also demonstrate the potential and challenges of AI in education from the perspective of developing creative writing skills in some educational systems worldwide or linked to specific groups (mainly students). Some articles also emphasize the role of higher education (especially the role of teachers) in increasing awareness, enhancing critical thinking, and inspiring the awakening of students' imaginative thinking by reducing inequality in creativity. The authors also argue that human involvement is crucial in directing technology to produce "new" content based on humanity's digital past. Furthermore, future research is needed to strengthen and empower creative pedagogical methods in higher education on how students, teachers, and educators collaborate with AI to foster deeper connections and broader engagement in the teaching and learning process. All for a brighter future.

Building upon the perspectives of the aforementioned authors, we believe that combining writing with the creation of images using AI tools is not only a form of creative writing skill but also an interesting and effective solution in the context of modern education today. Learners not only need to enhance their language proficiency by thinking deeply, selecting vocabulary carefully, and arranging words meticulously to produce texts that meet both content and form requirements, but they also need to understand AI-powered creative image-making tools. They need to possess rich imagination and certain aesthetic sense to create both text and imaginative visual representations (not necessarily from traditional painting materials).

III. METHODS

This study primarily employs qualitative descriptive analysis to provide an overview and propose a model for using a system of AI tools in creative image-making to enhance creative writing skills for high school students. The method utilized is literature review with data sourced from articles in relevant journals. Additionally, the study provides some data from teachers' practical teaching experiences to illustrate the feasibility of the proposed solution.

Experimental subjects and content: The survey subjects are 5th-grade Vietnamese pulpils (11 years old) taught by teachers through online platforms. The pulpils are from all three regions of Vietnam, but mainly from Hanoi. Due to the nature of the practical content, in addition to their proficiency in the native language, these pulpils all have basic or higher-level English and computer skills. The practical content involves writing descriptive

scenes (based on the current Vietnamese textbook content for 5th grade, week 8, volume 1) and writing descriptive passages about people (based on the current Vietnamese textbook content for 5th grade, week 16, volume 1).

IV. RESULTS AND DISCUSSION

The concept of language proficiency refers to the effective use of a specific language. Studies on language proficiency date back to the mid-19th century with the perspectives of Noam Chomsky. He was the first to draw attention to the distinction between linguistic competence and linguistic performance. Competence, according to Chomsky, is the knowledge of language in an ideal monolingual environment, while performance is the actual speech produced in specific situations. He argued that language is not a hierarchical structure but rather a network of transformative processes. Other researchers such as Halliday and Bachman have further expanded the understanding of language proficiency. Halliday emphasized the role of "metafunctions" in expressing ideas, constructing social relations, and creating textual cohesion. Bachman and Herman et al (2024) proposed a communicative language ability model, including linguistic competence, strategic competence, and psychophysiological mechanisms, highlighting the role of proficiency in communication within contexts.

It can be said that the development of the concept of language proficiency has narrowed and separated its components, from grammar to strategic competence, reflecting progress in this field. In many countries' educational programs, such as the United States, France, and Russia, the development of language proficiency is considered a key goal, focusing on both knowledge and language use skills in real-life situations. In Vietnam, the comprehensive general education program (Ministry of Education and Training, 2018a) clearly identifies language education as an integral part of all subjects and educational activities, with the central role of Literature, Foreign Languages, and Ethnic Minority Languages. Among them, Literature is the core of cultural education. The Literature curriculum (Ministry of Education and Training, 2018b) defines language proficiency as the ability to use language means for reading, writing, speaking, and listening, developed through communicative practice and the application of language knowledge in specific situations.

Language proficiency and creative writing proficiency are two inseparable aspects in the development and expression of language. Language proficiency provides a solid foundation in language structure, vocabulary, and expressive skills, while creative writing proficiency is where these abilities are particularly demonstrated and developed. Creative writing not only requires creativity and expressive ability but also demands flexibility and innovation in language use.

Language proficiency manifests in all four specific skills: reading, writing, speaking, and listening. When referring to creative writing skills, it pertains to writing skills at a higher level. While regular writing follows a predetermined format providing information, creative writing is the way writers express their own purposes and intentions in the manner they desire. According to Marshall in "Creative Writing" by Macmillan, "creative writing is the use of written language to conceptualize, explore, and record experiences in one's own way to create a unique symbol of that experience." Bennett and colleagues also believe that writers must imagine information, use artistic devices, and innovate in writing style. From idea generation, writers must undergo a process of serious and careful thinking and observation to create a creative writing piece, then present their work in the form of a specific text and share it with others. These authors also identify various types of creative writing, including poetry, novels, scripts, short stories, science fiction, writing dialogue for films, and writing about interview recordings (cited in Joanna Pawliczak, 2015). From a teaching perspective, Kroll (2003-) has made the observation: In creative writing, the teacher must have a solid grasp of the theory of creative writing, provide steps to support and guide learners in the creative writing process; learners must be guided specifically and need to follow the writing process outlined by the teacher (cited in Joanna Pawliczak, 2015).

The process of creative writing is an opportunity to practice and develop language proficiency deeply. When engaging in creative writing, writers must find ways to express their ideas and emotions naturally and profoundly. This requires a deep understanding of language and the ability to express oneself in a creative and unique manner. Therefore, developing language proficiency also means expanding creative writing skills, and vice versa, creating a mutually supportive and effective process.

Creative skills are indispensable in an increasingly complex, uncertain, and rapidly changing world. Many scholars have linked the development of creativity in the educational context with economic prosperity and cultural advancement. Most educational systems worldwide tend to emphasize the development of students' abilities (including creative abilities). In the research work "Creativity and education: A bibliometric mapping of the research literature (1975–2019)" by Daniel Hernández-Torrano and Laura Ibrayeva, they provide an overview of the development and current state of research on creativity and education over the past 45 years based on data available in the WoS database. The main findings of this study include: (1) Research on creativity and education is a newly emerging field with exponential growth since the 2000s; (2) Research in this field is conducted by a group of scholars in several organizations and countries, primarily in the United States and other English-speaking countries, although researchers from some Asian and European countries are also contributing to the development of this field; (3) There is evidence of research collaboration among scholars in this field, but most collaborative networks occur within national borders or among scholars in neighboring countries; (4) Research on creativity and education is relatively interdisciplinary and stems from knowledge

generated in educational science and some psychological disciplines; (5) Four common themes have been addressed in documents on creativity and education over the past 45 years: teaching and learning about creativity; the educational psychological correlates of creativity; the role of creativity in organizations; and cognitive and affective processes influencing creativity. (Hernández-Torrano et al., n.d.). The results indicate that research on education and creativity is a newly emerging field of increasing interest. This progress is mainly driven by a small group of scholars from the United States and several other English-speaking, European, and Asian countries...

Discussing creativity from both a historical (classical to contemporary) and contemporaneous (findings from related fields) perspective, the book "The sociology of creativity: Elements, structures, and audiences," authored by Godart, F., Seong, S., Phillips, D.J., focuses on the social aspect of creativity, analyzing its characteristics and relationships with concepts such as uniqueness, knowledge, innovation, and culture. The authors address theoretical foundations and definitions of creativity, concluding that an integrated understanding of creativity is essential, especially in creative industries. The book also highlights the importance of creativity in careers and markets, while connecting it to adjacent fields such as sociology of innovation, culture, and knowledge. The author group concludes that this is a crucial foundation for research on creativity. (Godart et al., 2020). Additionally, several other studies discuss the role of creativity in education, such as: (Collins & Amabile, 1999), (Mednick, 1962), (Barron & Harrington, 1981)...

In Vietnam, within the secondary education system, the concept of creative capacity is understood as "the manifestation of students' ability to think and explore, discover new ideas emerging in learning and life, thereby proposing new practical and effective solutions to implement ideas. In proposing and implementing ideas, pulpils express curiosity and enthusiasm for exploration" (Ministry of Education and Training. "Ministry of Education and Training, Training materials for testing, assessing in the process of teaching according to the direction of developing competence in high school, 2014). Thus, it can be understood that the core essence of creative capacity is the ability to create something new, think anew, discover anew, new problem-solving approaches regardless of scope or field.

Building on the theoretical understanding of artificial intelligence tools, the nature of creativity, characteristics of creative writing skills, this article proposes a process to enhance language proficiency through creative writing skills coupled with image creation for Vietnamese students, based on the application of some favorite creative image artificial intelligence tools up to the end of 2023. This process can be summarized as follows:

Step 1. Introduction to creativity and AI tools supporting image creation

In this step, teachers will introduce basic concepts about creativity (characteristics, nature, significance, evaluation criteria...) and the role of technology (including AI image creation tools) in stimulating students' creativity. Teachers may illustrate the theory through examples such as texts and specific artistic or graphic designs created using language. These visual examples, created by teachers themselves or users of AI tools, aim to enhance creative writing skills associated with the types of assignments that secondary school pulpils need to grasp. Through this step, teachers help pulpils understand the significance of image creation, the steps in the image creation process using language, associated with specific AI tools to generate creative writing products from technology.

### Step 2: Guidance on using AI tools supporting image creation

Next, teachers need to instruct pulpils on how to use AI tools supporting image creation such as Canva, DALL-E, Midjourney, Lexica.art, Bing (Copilot)... These are primarily image creation tools through the input of prompts, so teachers also need to help pulpils understand the advantages and limitations of each tool to apply them flexibly and creatively. Through literature research, we identified some common points among these AI tools as follows:

1. Utilizing Artificial Intelligence (AI) integrated with deep learning technology: All the image creation tools mentioned in the article integrate artificial intelligence technology to generate images, enhancing the creative process and improving the quality of the final product. These tools employ deep learning technology to quickly understand and respond to user-provided textual descriptions, thereby creating images reflecting the described ideas in the shortest time possible (around 3-10 seconds) with high richness and accuracy. Most AI image creation tools incorporate deep learning technology to generate images. These applications also provide a rich source of image data on various topics created by the user community.
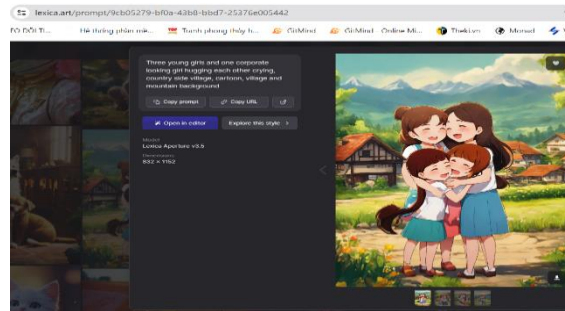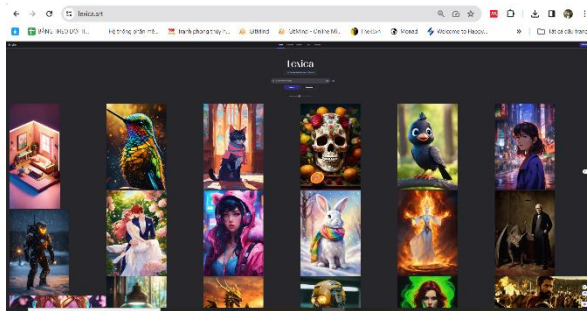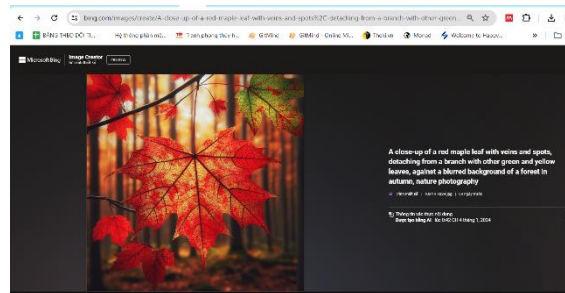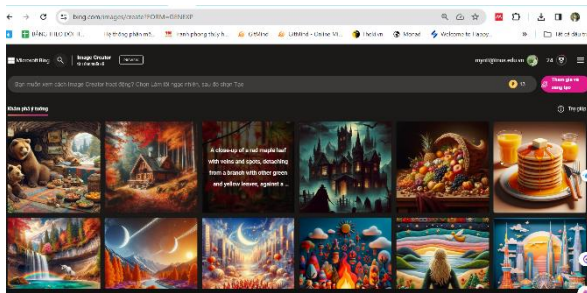
(Source: Creative images from Lexica.art, Bing (Copilot)

2. Creativity through language: While other graphic applications create pictures using specific physical materials or require high creativity in color coordination and line arrangement, all the aforementioned AI tools allow users to create images by using descriptive interpretations through words or short prompts. This means that the vividness and detail of the generated picture will depend on the richness and logical coherence of the language used by the user to describe the image itself.
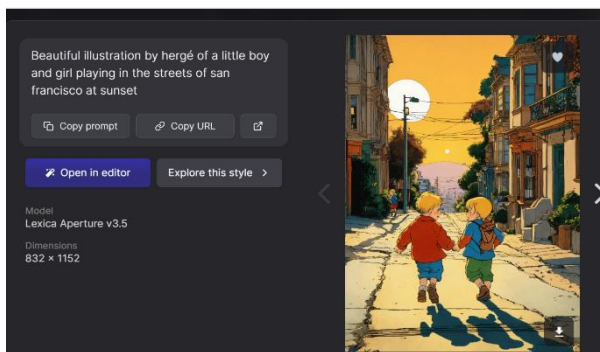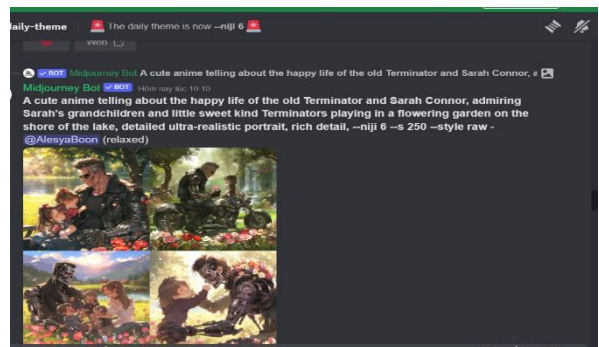

The picture generated on Lexica.art from a linguistic prompts
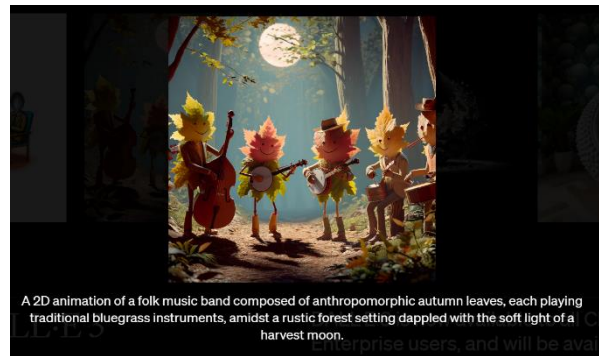
The picture generated on DALL-E from a linguistic prompts
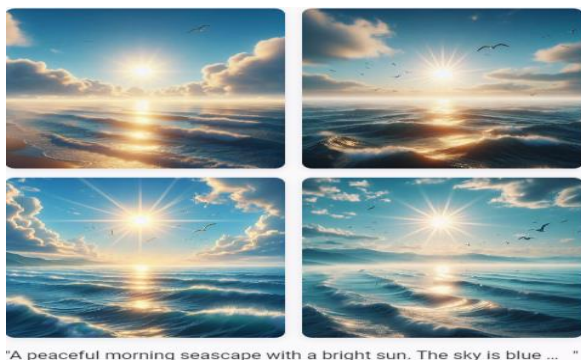
The picture generated on Bing.com (Copilot) from a linguistic prompts

The picture generated on Mid Journey from a linguistic prompts

3. Flexibility and ease of customization: All the aforementioned AI tools share the characteristics of flexibility and user-friendliness, catering to both novice and experienced users in image creation. These tools enable users to express creativity and personalize according to their needs by easily adjusting descriptions or linguistic expressions to generate images with the desired level of accuracy. Furthermore, each tool integrates suggestions for images with similar themes or styles to facilitate users in making choices. Some tools such as Lexica.art, Mid Journey, Bing.com (Copilot) also offer multiple design simulations (often 4 designs) for users to choose from. For instance, with the same descriptive command: "Beautiful illustration by Hergé of a little boy and girl playing in the streets of San Francisco at sunset," Lexica.art presents the following 4 images:

(Source: Creative images from Lexica.art)

At the same time, for each image, Lexica.art also provides suggestions for users to search for or refer to similar images. For example, when specifying the command to find similar images to the fourth image above, users obtain the following results:
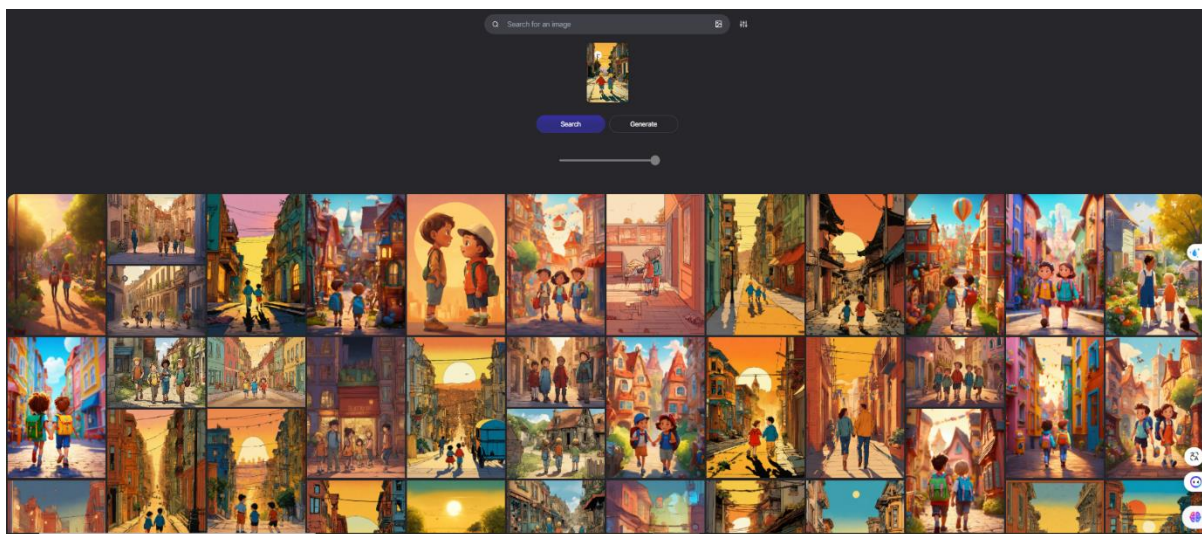
Or with the same descriptive command: "A picture of a road in the countryside at sunset with no clouds in the sky (plain sky), no cars, but with flowers thrown along the whole way on the road: sunflowers, cornflowers, gladioli, pink and red roses, peonies, chamomiles --ar 9:16," Mid Journey provided the following 4 images below:

(Source: Creative images from Mid Journey)

When users adjust the descriptive language to: "A picture of a straight road in the countryside at sunset with no cars, but with more summer flowers laying on it along the whole way as if thrown to it after the concert (sunflowers, camomiles, peonies, gladioli) the sky is clear, the sun is almost down --ar 9:16 - Remix (Strong)," Mid Journey will produce 4 different images corresponding to that description as follows:


(Source: Creative images from Mid Journey)

Thus, it can be observed that these AI tools enable the creation of various types of images, from portrait illustrations to abstract artworks, depending on the user's initial description. Because most of these AI creative image applications provide customizable suggestions regarding the language system related to image creation, such as size, material, color, style, image sharpness, image effects, users can easily refer to or replicate them to create paintings quickly and extremely creatively according to their personal preferences. In other words, these tools all have high interactivity, allowing users to engage in the creative process and adjust the results as desired.
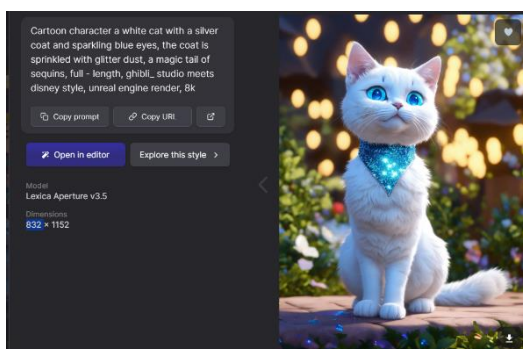
In the description of the image, the terms used are: "full-length," "Ghibli Studio meets Disney Style," "unreal engine render," and "8k." (Image source: Lexica.art)
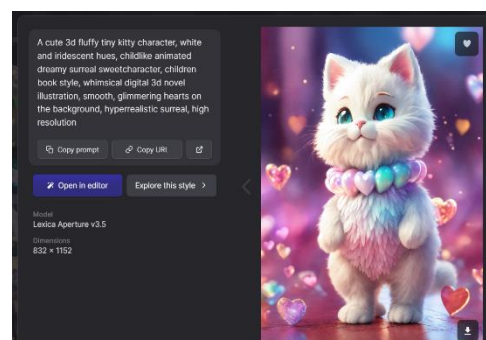
In the description of the image, the terms used are: "childlike animated dreamy surreal sweet character," "children book style," "whimsical digital 3D novel illustration," "smooth," "glimmering hearts on the background," "hyper-realistic surreal," and "high resolution." (Image source: Lexica.art)

4. Easy accessibility, serving multiple creative purposes: Each AI image creation tool boasts a user-friendly and straightforward interface, enabling users to access and utilize them efficiently without requiring in-depth knowledge of graphic design or artificial intelligence. With just an email account, users can access

these platforms to leverage the available data and create a certain number of images (ranging from 25 to 100 images for free). While some platforms offer premium services, the primary advantage lies in the easy accessibility for quickly creating visually appealing, unique, and imaginative images through text-based descriptions. This is perhaps the greatest advantage that AI image creation tools offer. These AI tools can be used for various purposes such as creative writing, illustration creation, artistic image generation, or even graphic design applications.

5. Cross-Platform support and regular updates: All of these AI tools can be accessed through web browsers, eliminating the need to install specific software or applications on devices. This provides users with convenience and flexibility in usage. Moreover, the developers of these AI tools frequently update and enhance their features, ensuring that users always have the best experience and can access the latest technologies in the field. These mentioned tools also often have large user communities where users can share ideas, experiences, and resources, thereby fostering a collaborative learning and creative environment.

Apart from the basic similarities mentioned above, these tools also have some distinct features, such as:

Artificial Intelligence Tool	Description	Advantages	Disadvantages
DALL-E	A model developed by OpenAI that can generate images from textual descriptions.	- Capable of creating unique and creative images from text descriptions. - Provides fresh and unique images.	- Requires detailed descriptions. - Requires registration to use. - Pricing depends on the number of image outputs and the resolution of the images. - Supports descriptions in English. - Prices range from $0.02 to $0.12 per image.
Canva	An online graphic design platform integrated with AI.	- User-friendly and intuitive interface. - Offers a variety of tools and design templates for different requirements. - Features algorithms to adjust to individual design preferences. - Includes a large collection of fonts, colors, and graphics, and integrates with multiple cross-platform applications. - Supports descriptions in multiple languages (over 30 languages).	- Limited customization and creativity compared to other AI tools. - Requires registration and payment for premium features. - May not be sufficiently flexible or customizable for high-creativity projects.
Mid Journey	An image generation tool from OpenAI based on textual descriptions, similar to DALL-E.	- Capable of generating high-quality and detailed images from diverse prompts. - Able to create images with artistic or cartoon styles. - Customizable parameters associated with image generation. - Rich community resources for utilization.	- The interface can be complex for novice users. - Requires certain level of graphic design knowledge for effective utilization. - Longer image generation times compared to other AI applications. - Limited number of trial versions (25 trials), with no more free trials available. - Offers four subscription plans priced from $10 to $120 per month. Only supports descriptions in English.
Lexica.art	An AI-powered image generation platform utilizing Stable Diffusion technique.	- Facilitates the creation of realistic and high-quality images from a description or an idea. - Allows searching and browsing through an AI-generated image repository. - Enables easy editing, sharing, and downloading of images. - Integrates multiple customization features.	- Requires an account and login to access full features. - Limited number of trial versions available. - May generate images that are unrealistic or inaccurate compared to the description. - Supports description input in English only.
Bing (Copilot)	A Microsoft Designer AI-powered image creation tool.	- Offers a variety of creative image styles. - Easy to download, customize parameters related to image creation. Supports multiple languages (100 languages). - Integrated with extensions or information search from various languages.	- May be limited by the number of images that can be generated per day (free version with 15 uses per day). - Offers a Pro version priced at $15 per month or $150 per year, providing 100 quick image generation uses per day.

Each tool has its own strengths and limitations, catering to different needs and purposes of users.

Step 3: *Teachers can organize practical hands-on sessions* on computers or mobile devices to familiarize pulpils with the interface and features of each tool. Teachers need to guide pulpils on the tool's interface, how to create, edit images, and the special features the tool provides. Teachers must ensure that pulpils can practice basic operations using the tool to understand each feature or coordinate multiple tools as desired. Since these tools will provide a platform for creating unique and creative images, helping pulpils secondary level, as pulpils become proficient in using the tools, they will be confident to start implementing creative writing exercises. Based on teaching experience, we find that a group of pulpils aged 10 and older would be suitable for applying the method and creative writing process with the support of these AI tools.
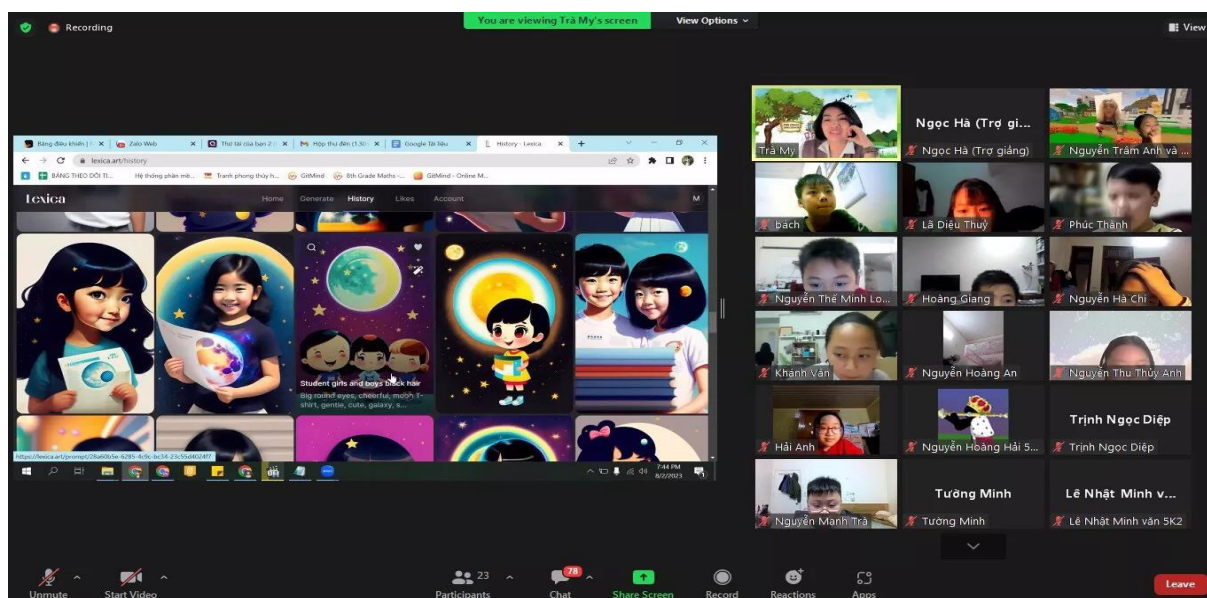
During the online lesson, the teacher can guide the 11-year-old pulpils in fifth grade to be creative with the Lexica.art application. Here's a suggested plan for the lesson:

Step 4: Guiding the creative writing process:

Before pulpils engage in creative writing, teachers need to establish specific requirements for the creative writing task, including genre, topic, objectives, and requirements for the product in both text and accompanying images... Teachers can provide concrete examples to help pulpils better understand how to apply the tool to their creative writing practice. After introducing and illustrating, teachers should guide pulpils in brainstorming ideas, planning, outlining, drafting, creating images, and editing the creative writing content combined with illustrative image creation. Teachers may provide open-ended guidance for 11-year-old 5th-grade pulpils to creatively generate images using the Lexica.art application during a one-hour training session integrating vocabulary development with creative writing practice as follows:

1. Topic: Free choice among the following themes: objects, plants, animals, characters from literary works, landscapes, daily activities...
2. Number of images: Unlimited (from 3 images and above)
3. Prompt: Contains at least 5 English words, phrases, or sentences translated into Vietnamese.
4. Practice time: 10 minutes
5. Submit the English prompt translated into Vietnamese and the image to the class's Zalo group or upload it to the class's Padlet. Clearly indicate the number of images created for each theme.

After 10 minutes of practice, 5th-grade pulpils have created the following products using the vocabulary they have mobilized to generate the images:
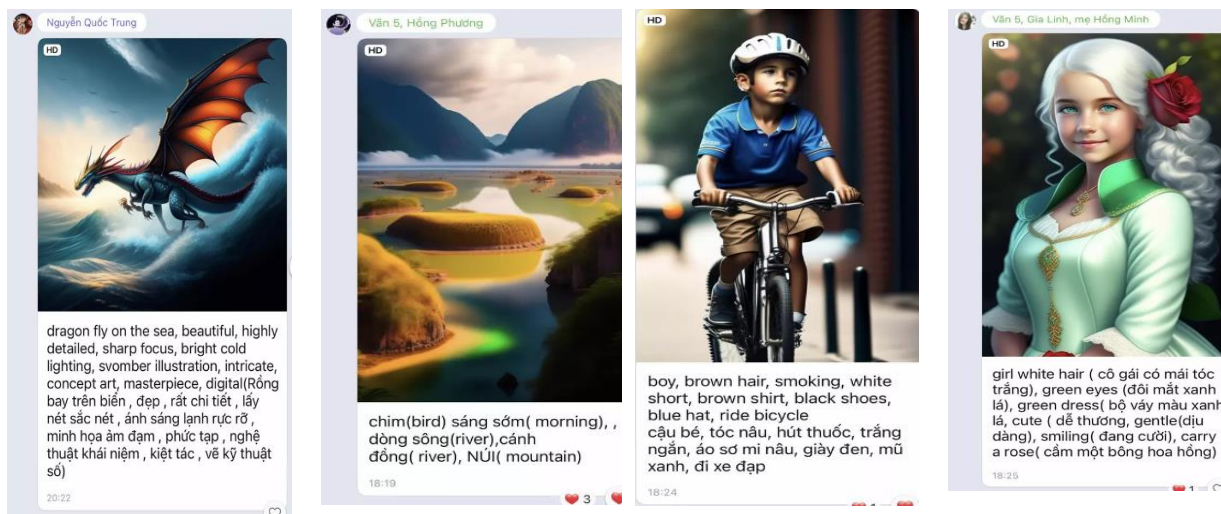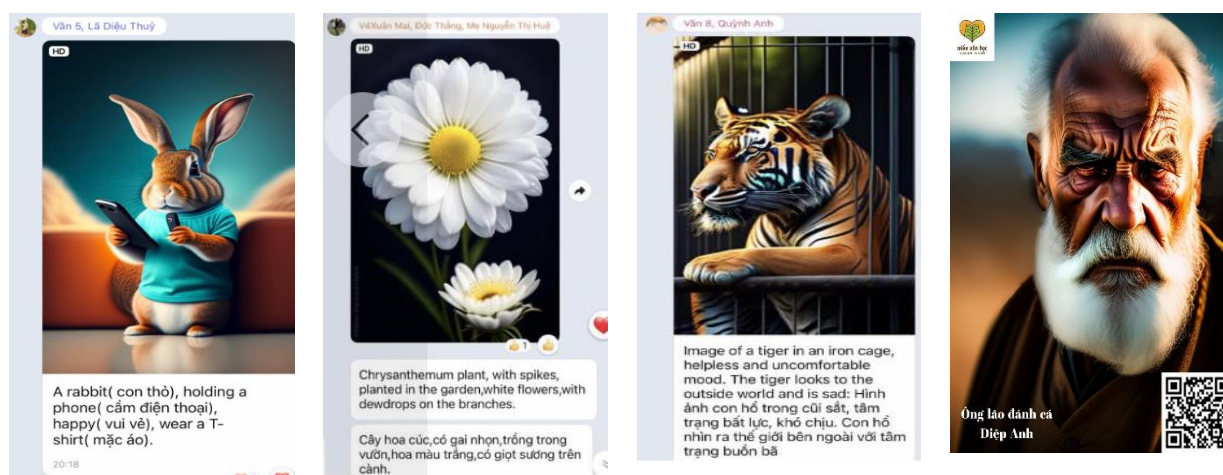
(Source: Author's materials)

From the manipulation of vocabulary combined with image creativity, pulpils can proceed to the next exercises such as creating sentences or texts according to various genres. For example, below are some images from students' story writing products combined with the image creation tools Canva and Mid Journey.


(Source: Author's real-life materials)

In addition to the general requirements above, for each type of composition, teachers can provide more detailed guidelines. For example, below are some suggestions for specific requirements for a creative writing exercise with the theme "Describing the beach scene in the morning" under the category of "Describing nature scenes" for 5th-grade pulpils (11 years old):

1. Genre: Describing nature scenes.
2. Topic: Free choice. For instance: Beach scene/river scene/paddy field scene/moonlit night scene/morning scene in the park/ rainy scene on the streets....
3. Objective of the exercise: Develop writing skills through observation, imagination, and vivid description of the beach scene in the morning using language and imagery.
4. Text requirements: Pulpils need to write a descriptive text with a 3-part structure: introduction, body, conclusion. The text should describe a specific natural scene (beach, river, paddy field, moonlit night, morning scene in the park...) that the student has experienced or imagined. The text should use fluent language, rhetorical devices, and employ effective writing strategies. In the composition, there should be descriptions of elements of the scene such as the sun, sunlight, clouds, sky, water, waves, air, creatures, trees, boats, human activities, etc., to create vivid imagery in the reader's mind.
5. Image requirements: Pulpils need to create illustrations for their descriptive text depicting the scenery in their composition. These images can be created using AI tools such as Mid Journey, Canva, Bing (Copilot), etc. Pulpils should use the descriptive words from their composition along with additional descriptive terms to convey the desired emotional effect, demonstrating rich observation and imagination about the beach scene they want to portray.

Based on the above requirements, pulpils can generate images using the Mid Journey, Canva, Bing (Copilot) tools with the following descriptive prompts:
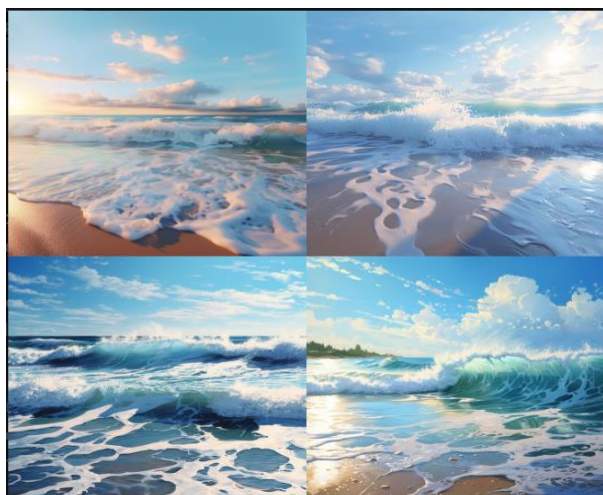
Waves crashing on the beach in the morning, in the style of light sky-blue, the snapshot aesthetic, ocean academia, sense of quiet contemplation, palewave, realistic, highly detailed (Source: Creative images from Midjourney)
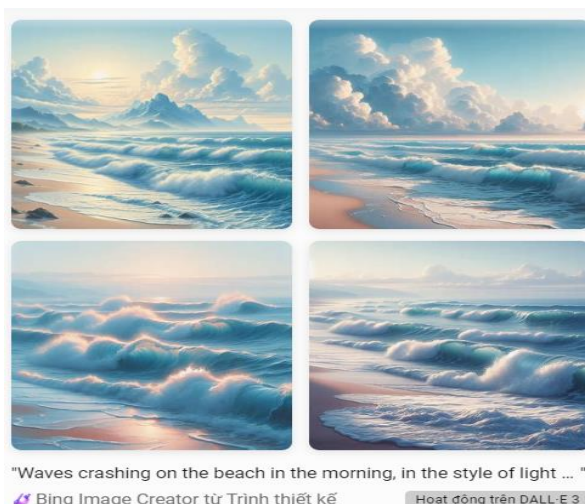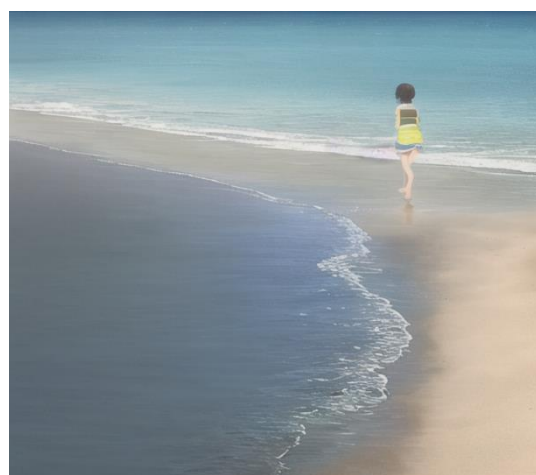

Waves crashing on the beach in the morning, in the style of light sky-blue, the snapshot aesthetic, ocean academia, sense of quiet contemplation, palewave, realistic, highly detailed   Source: Creative images from Bing (Copilot)
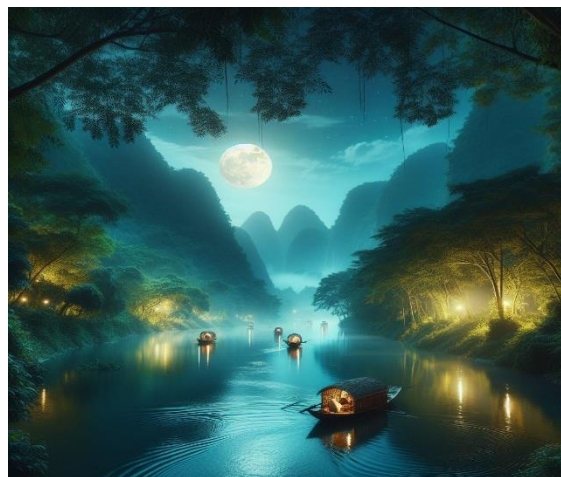

A beautiful woman in a sun hat and a blue dress walking by the beach in the morning 5 defocus::-0.5 --v (Source: Creative images from Mid Journey)


Beach in the morning, sunshine, a little girl walking along the beach. (Source: Creative images from Canva)

(Source: Creative images from Bing (Copilot)

Step 5: Sharing and discussion: The teacher facilitates opportunities for pulpils to share and discuss their creative writing combined with image creation. Pulpils can present their creative process in writing and imagery either to the whole class or in small groups, and then receive feedback from the teacher and their peers. This process helps pulpils build confidence, improve communication and collaboration skills, as well as listen to and critique others' opinions and feedback. The teacher should ensure that pulpils are familiar with the evaluation criteria for each type of creative writing and the criteria for assessing an artwork in order to lead valuable and focused discussions. Additionally, the teacher can create a dedicated space on Padlet for pulpils to upload their work and engage in discussions, providing opportunities for peer review and cross-feedback on each other's products.
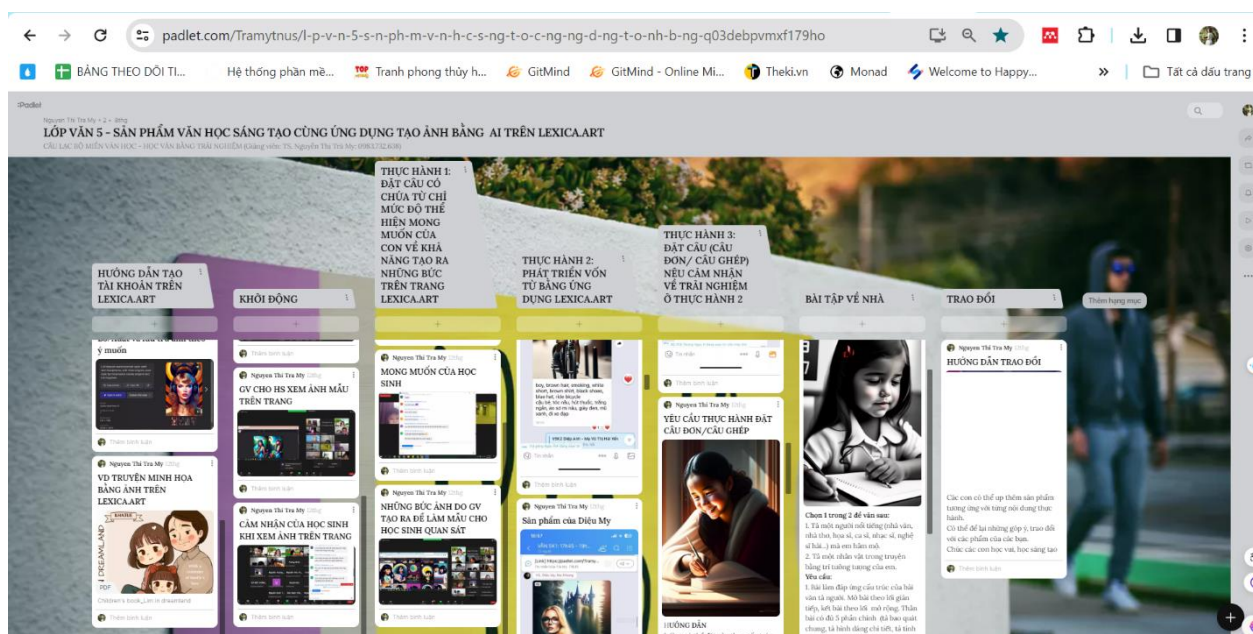
The space for uploading the creative writing products combined with the Lexica.art tool of 5th-grade pulpils (11 years old).   (Source: Author's materials)

Step 6: Evaluation and feedback: Following the student discussion, teachers need to assess student products based on criteria for evaluating writing and image content. Subsequently, teachers provide feedback to encourage pulpils to develop creative writing skills coupled with image creation using AI tools. Teachers can also utilize a rubric to evaluate creativity, relevance of images and text, as well as the ability to articulate ideas, or have pulpils self-assess and provide criteria for assessment to enhance critical thinking and communication skills. Feedback from teachers and peers helps pulpils better understand the strengths and weaknesses of their products and their own capabilities, thereby encouraging pulpils to develop creative writing skills and use AI tools more effectively in the future.

V. CONCLUSION

The application of artificial intelligence (AI) tools to enhance language proficiency and support creative writing skills combined with image creation for secondary school pulpils plays a significant role in fostering creativity and advancing the learning process in today's modern education context. Based on theoretical research from relevant literature, the article has meticulously analyzed the features and functionalities of tools such as DALL-E, Canva, Midjourney, Lexica.art, Dreamlike.art, and Bing (Copilot)... thereby delineating the process and potential integration of these tools into the creative writing process of secondary school students. This process has been illustrated with specific examples in practice. The research results have provided an overall and objective insight into the role of AI tools in promoting idea expression through images and enhancing creative writing skills and other competencies of pulpils comprehensively and effectively.

From the content presented in the article, several open issues can be further addressed and researched in subsequent works, such as: The practical effectiveness of applying artificial intelligence (AI) tools in the teaching and learning process; the impact of using AI tools on student development, as well as the role of teachers in this process; the diversity and feasibility of teaching and learning methods using AI technology; accessibility and utilization of AI technology in education; ethics and information security in the use of AI technology in education... These issues provide opportunities for further research and development in the field of using AI technology in education, aiming to provide new and effective learning experiences for pulpils and teachers.

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