Imagination to Text, Text to Image:

Focused on the Formative Language of Art-making with Generative AI

Sunah Kim, Hanyang University

Minjae Seo, Hanyang University

Eunjoo Yoon, Hanyang University

Keywords: formative language, generative AI, image, text, art education

In an era of rapid technological advancement, the artificial intelligence (AI) is one of the most highly regarded technologies today. Especially the emergence of generative AI is extending into areas once believed to be exclusively human, such as creative endeavor. Software such as 'Deep Dream', 'Obvious AI', 'DALL.E' and 'Stable Diffusion' manifest that creation is no longer limited to talented humans, but that anyone, including technologies, can be an artist.

There are also ongoing debates in the field of art education about the application of generative AI in the classroom, regarding the implementation of technical methods and ethical considerations. One of the key concepts is 'prompt engineering', which is the use of specific commands to instruct algorithms to produce desired results. Ahn (2023) emphasizes literacy in designing appropriate prompts that allow individuals to communicate with AI based on their imagination. Given the importance of text-to-image algorithms in generative AI, visual literacy - the ability to visually express one's perceptions and experiences visually as intended and to critically evaluate the resulting images (Barton, 2014) - deserves heightened attention in art education research. Self-expression and critical thinking are essential in the use of generative AI, as they lead to the exercise of agency in art-making (Koh, 2021).

It is our belief that there is a lack of practical discussion about the use of AI in the context of visual literacy. Recent research in prompt engineering has mostly focused on categorizing keywords to create efficient prompts (Bouzkurt, 2024; Dehouche & Dehouche, 2023). There is, however, a need to explore how linguistic methods can be integrated into visual communication and creative thinking in a way that embodies the creator's intention. In addition, research on the translation of mental imagery into text is still at a rudimentary level, as it involves issues such as inaccurate information and data bias from trained data sets, in addition to ethical concerns (Vartiainen & Tedre, 2023; Ahn, 2023). In order to find ways to educate students to take ownership and agency as creators in generative AI environments, it is necessary to investigate the actual process of human-machine interaction with cognitive and aesthetic considerations. In this respect, the main content of this study deals with prompts designing by art majors as they command Chat GPT and explain their intentions for visual compositions.

The aim of this study is to broaden our understanding of the art-making process using generative AI by shedding light on the cognitive and aesthetic decision-making that occurs when an individual communicates with AI through text. The focus is placed on how the formative languages are used by the participant and understood by the AI during the creation

of an artwork. The gap in this interaction is further discussed in 3 aspects: understanding and application of design elements and principles; the perception of space and composition; and use of symbols. The significance of this study lies in its implications for the use of generative AI in art classrooms as a supportive tool for making art from the perspective of students' agency as creators.

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Bio

Sunah Kim is a professor in the Department of Applied Art Education of Hanyang University. Her research interests include personalized art education, art curriculum development, art teacher preparation, cross-cultural art education, and qualitative research methodology. sakim@hanyang.ac.kr

Minjae Seo is is a doctoral student in art education at the Department of Applied Art of Hanyang University. Her research interests include personalized art education, visual culture art education, art education for the digital age, and new media. winterfeel97@hanyang.ac.kr

Eunjoo Yoon is a doctoral student in art education at the Department of Applied Art of Hanyang University. Her research interests include personalized art education, art in daily life, culture and arts education, and art education for the digital age. joo6199@hanyang.ac.kr