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Effects on Integrating Generative Artificial Intelligence Tools into an Expressive Arts Counseling Course: A Preliminary Study †

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Abstract

With the rapid advancement of generative artificial intelligence (GenAI), its integration into education has gained significant attention. However, the impact of GenAI tools in expressive arts counseling courses (EAsCCs) remains underexplored. Therefore, we examined the effects of integrating GenAI tools, such as text-to-image, into a four-week EAsCC involving 10 college students (2 males and 8 females). Using a mixed-methods approach, the participants in this study engaged in art-based practices to enhance self-awareness, explore life milestones, envision future goals, and develop their action plan. GenAI tools were used to create art-based photos in this study. Qualitative data from reflection journals and quantitative data from a designed questionnaire were analyzed. The results indicated that the course enhanced participants' self-awareness, confidence, and understanding of expressive arts practice (EAsP). However, the participants encountered challenges with the precision of GenAI tools in generating intended images, highlighting their current limitations. These results underscore the need for the refinement of GenAI technologies to better support creative expression and therapeutic exploration. The results also provide information on the potential and challenges of GenAI in expressive arts education, emphasizing the importance of interdisciplinary collaboration to develop effective and meaningful learning and teaching experiences.

Keywords: counselor training; expressive arts practice (EAsP); generative artificial intelligence (GenAI); postmodern narrative-collaborative therapy

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1. Introduction

The rapid advancement of generative artificial intelligence (GenAI) enables its integration into education which has attracted significant attention [1–4]. GenAI encompasses technologies capable of generating content such as text, images, and music, thereby offering innovative avenues for personalized learning and instructional support [5,6]. These tools are reshaping the landscape of higher education [7]. GenAI tools foster student motivation and engagement, thereby improving academic outcomes [8–10]. Additionally, educators have recognized the potential of GenAI to personalize learning experiences and improve teaching effectiveness [11]. However, the application of GenAI in education has been explored while its impact within expressive arts counseling courses (EAsCCs) remains underexplored.

Expressive arts therapy (EAsT) integrates visual arts, music, dance, drama, and creative writing to facilitate personal growth and emotional healing [12]. This pedagogical

method merges theories with practical application, offering opportunities for experiential learning and self-expression through diverse modalities [13]. In counselor education, expressive arts therapists or teachers increasingly recognize that the capacity to cultivate a safe and respectful learning environment is achieved by collaboration and active participation. These methods incorporate group activities, storytelling, and visual aids to enrich the learning experience [14].

In education, EAsCCs aim to equip students with the skills to employ these modalities therapeutically. Integrating GenAI tools into such courses provides opportunities to enhance creative processes, offers personalized learning experiences, and simulates therapeutic healing experiences, ultimately enriching educational and learning experiences. Since Hwang and Chen [2] suggested future research on investigating the effects of GenAI-based learning, we explored the effects of integrating GenAI tools into an EAsCC. By examining the learning experiences and effects of participants, we identified potential benefits and challenges for this integration to propose teaching strategies in education and EAsT.

2. Materials and Methods

We adopted a mixed-methods approach to explore the effects of integrating GenAI tools into an EAsCC. The research was designed to understand the participants' experiences quantitatively and qualitatively [15].

2.1. Participants and Procedure

Ten college students (two males and eight females) were recruited through this research's recruitment poster. After understanding the research procedure, they agreed to participate in this four-week EAsCC. This course consisted of four three-hour sessions with practices designed to foster self-awareness and creative expression through the integration of EAsT and GenAI tools. Each session was structured around a specific theme, guiding the participants through self-exploration and artistic creation using GenAI tools. The research was conducted in the following four themes.

1. "About Me": The participants were invited to create a photo representing their identity using GenAI tools such as Canva (2024), ChatGPT (GPT-4, OpenAI, 2024), and Midjourney (version 5, 2024). This activity fostered self-awareness by encouraging participants to visualize and articulate their unique identities.
2. "My Life Milestones": The participants illustrated significant life events that had shaped their personality and values. They used GenAI tools to generate imagery that captured the essence of these experiences.
3. "My Better Future": The participants envisioned their desired future and created a photo representing this vision. This activity encouraged forward-thinking and aspirational goal-setting.
4. "My Action Plan Right Now": The participants reflected on the efforts needed to achieve their envisioned future, symbolizing these actions in a photo created with the assistance of GenAI tools.

After creating art-based photos, the participants engaged in small group discussions facilitated by the instructor. These discussions, grounded in the heart and spirit of narrative-collaborative therapy were focused on validating participants' experiences and encouraging meaningful dialogue [16,17], encouraging the participants to share their creations, explore their meanings, and connect with others in a supportive environment.

2.2. Data Collection and Analysis

Throughout the course, the participants were asked to document their reflections on the experience of GenAI-assisted artistic creation in reflection journals. These reflection journals served as a valuable source of qualitative data, capturing their thoughts, feelings, and insights related to the use of GenAI in EAsCCs.

Quantitative data were collected using a researcher-designed questionnaire administered at the end of the course to obtain descriptive statistics, including means and standard deviations (SDs), which summarized the overall patterns in participants' responses. The questionnaire results were used to assess the participants' perceived learning outcomes in confidence and skill in this EAsCC. We employed a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The questionnaire contained items such as "This course has enhanced my self-awareness" and "This course has increased my confidence in using EAsP in my work." Higher scores indicated greater perceived benefits. Qualitative data from the reflection journals were analyzed using thematic analysis [18] to identify recurring patterns and themes related to the participants' experiences with GenAI tools.

3. Results

Based on the results, we examined the effects of integrating GenAI tools into an EAsCC. The participants indicated the perceived positive learning experiences and the challenges with GenAI image generation.

3.1. Positive Learning Experiences

To assess the participants' perceived learning outcomes, a post-course questionnaire was conducted using four items. Table 1 shows the ratio, mean, and SD of responses for each item. The majority of the participants agreed or strongly agreed on all items. Specifically, 90% of the participants reported that the AI-assisted EAsCCs enhanced their self-awareness (Item 1) and developed positive self-concept (Item 2), and 100% reported that the four-week AI-assisted EAsCCs enhanced their understanding and knowledge of using EAsP (Item 3), and gained confidence in applying EAsP in their future work (Item 4). In general, the participants perceived this course as effective in enhancing self-awareness, developing a positive self-concept, improving understanding of EAsP, and gaining confidence in using EAsP. The high mean scores and low SDs indicated strong and consistent positive feedback across all items.

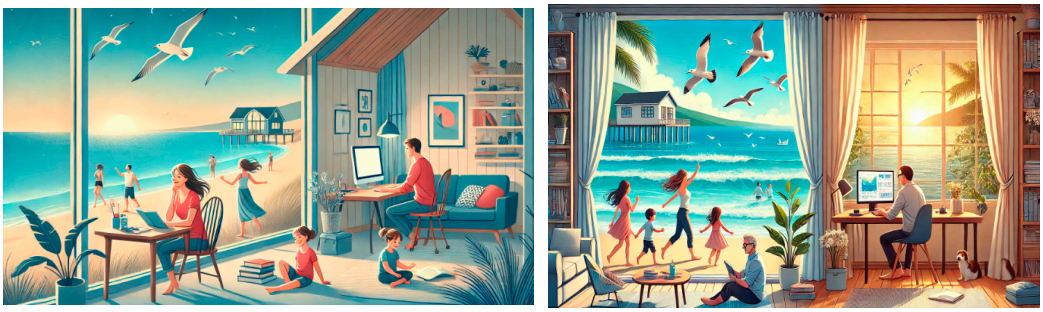
Thematic analysis of the qualitative data from the reflection journals provided information on the participants' experiences and their perceived benefits and challenges associated with GenAI tools. The participants reported that the integration of GenAI tools in the EAsP enhanced their creativity and increased their self-awareness by providing novel avenues for exploration and expression, helping them reflect deeply on their identities, significant life events, and aspirations. The act of translating their inner world into visual representations, even with the limitations of technology, encouraged self-reflection and fostered a sense of agency in shaping their identities. Such results align with previous results suggesting that EAsT fosters self-reflection and emotional growth [9]. For example, the "About Me" and "My Life Milestones" practices allowed the participants to explore and articulate aspects of their identities and life experiences, which contributed to an understanding of their identities. Furthermore, the "My Better Future" and "My Action Plan Right Now" practices helped the participants envision a desired future and identify actionable steps, promoting a sense of empowerment and goal orientation.

Table 1. Students' perceived learning outcomes (N = 10).

	Item	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean (SD)
1.	This course enhanced my self-awareness.	0%	0%	0%	10%	90%	4.9 (0.32)
2.	This course facilitated development and integration of my self-concept.	0%	0%	10%	0%	90%	4.8 (0.63)
3.	This course enhanced my understanding and knowledge of expressive arts practices.	0%	0%	0%	0%	100%	5 (0)
4.	This course increased my confidence in using expressive arts practices in my future professional work (teaching and therapeutic context).	0%	0%	0%	40%	60%	4.7 (0.84)

3.2. Challenges with GenAI Image Generation

Despite the perceived benefits, the participants encountered challenges with the GenAI image-generation tools. Specifically, they reported frustration with the tools' inability to accurately translate their textual input into the desired images. An example is illustrated in Figure 1a, one participant initially used Prompt 1 to instruct ChatGPT as follows: "Create a horizontal illustration featuring a blue ocean, a sandy beach, seagulls flying in the sky, gentle sunlight, adults and children strolling and playing on the beach. Inside a house facing the ocean, a middle-aged woman is sitting at a desk with a computer, books, and a drink, joyfully reading a book while facing the ocean and beach. On the floor nearby, two young girls interact with each other, sitting face-to-face and joyfully playing together." However, Figure 1a's generated image did not fully agree with the given prompt. There was a middle-aged man, appearing unexpectedly. Furthermore, the two young girls on the floor did not interact with each other as described.



(**a**) (**b**)

Figure 1. (**a**) AI-generated image based on Prompt 1, failure to depict intended characters and interactions; (**b**) AI-generated image based on Prompt 2, incomplete refinement of character interaction as specified. (This image was generated using ChatGPT-4 with DALL·E 3, OpenAI, 2024).

To address this discrepancy, the participant revised the prompt and submitted Prompt 2: "This image is great, but please improve it by making the two young girls on the floor interact with each other, sitting face-to-face and joyfully playing together." Nevertheless, ChatGPT was unable to accurately render the intended modifications (Figure 1b). Despite repeated attempts to refine the prompts, the generative AI outputs frequently failed to capture the desired meaning or visual elements, revealing a gap between user intent and the resulting images. This discrepancy highlighted the limitations of current GenAI technology in accurately capturing nuanced and complex user instructions into visual content. This limitation was particularly evident in practices that required highly personalized or abstract imagery. This illustrates the current limitations of GenAI in accurately translating complex or nuanced user instructions into visual content.

4. Discussion

The results of this study offer initial insights into the effects of integrating GenAI tools into an EAsCC. The participants' perceived learning outcomes, as revealed by the quantitative and qualitative data, provide a foundation for understanding the positive impact of GenAI tools. The participants reported positive learning experiences, particularly in enhancing self-awareness and confidence in applying EAsP. The results align with existing literature on the therapeutic benefits of EAsT in fostering self-awareness and personal growth [19], as well as research highlighting the positive effects of GenAI on learning outcomes [9,10]. For instance, the participants mentioned that the integration of GenAI tools in the course enhanced their creativity, boosted artistic productivity, and facilitated the exploration of the EAsT process [20,21].

The other interesting finding was that 90% of the participants reported that this course enhanced their self-awareness, facilitated the integration of a positive self-concept, and deepened their understanding of EAsP, However, 60% of the participants expressed increased confidence in applying EAsP in their future professional practice. This difference was explained by qualitative data collected subsequently, which revealed that 100% of the participants expressed a desire for more training in EAsP. The participants also indicated that this course increased their interest in EAsT and increased their motivation to engage in more advanced experiential EAsT or training workshops. The gap between theoretical knowledge and the confidence to apply it was observed, stressing the importance of experiential or practical training. This was also observed in previous research [22,23] showing the need for professional needs for experiential and practical training to help counselor-in-training integrate theory and practices, and enhance their professional competency.

Moreover, the results also revealed that the limitations of current GenAI technology—particularly in accurately generating images—posed significant challenges. Similar limitations were noted in Ref. [24]. This discrepancy between user intention and AI output underscores the need for the further development and refinement of GenAI tools to better support creative expression and therapeutic exploration in EAsT. Careful consideration and thoughtful integration of these tools in education are essential [24], especially when utilizing text-to-image generation in EAsCCs.

Another important implication of integrating GenAI tools into an EAsCC is that although these tools may enhance creative exploration and support therapeutic healing, educators and therapists must critically evaluate AI-generated content and ensure that students and clients understand both the capabilities and limitations of GenAI technologies. This suggests a need to balance the innovative and productive potential of GenAI tools with the core mindsets of EAsT such as empathy, unconditional positive regard, witness engagement [16], non-judgment, providing support, containment, empathic confrontation, compassion, love, and mindfulness so that the human connection and therapeutic relationship remain central to both the learning process and therapeutic practice [20,25].

5. Conclusions

The results of this study indicated the effects and challenges of integrating GenAI tools into an EAsCC. While positive effects on enhancing self-awareness, self-growth, and confidence were observed in applying EAsP in their future professional practice, limitations regarding the precision and responsiveness of GenAI tools in meeting users' individual needs must be addressed. The results of this study are preliminary and exploratory because of its small sample size which restricts their generalization. Future research is necessary to include more diverse participants to explore the effects of GenAI tools across different populations and contexts. Additionally, text-to-image GenAI tools highlight the need for further research to explore the effects and challenges such as music generation or

interactive storytelling within the context of EAsCCs. Despite these limitations, the study results are important for educators, developers, and researchers. Educators need to carefully consider the limitations of GenAI tools when designing EAsCCs and integrate practices to enrich students' learning experiences in counseling education while preserving the mindsets and principles of EAsT. Developers of GenAI tools must improve the precision and responsiveness of these technologies to better meet user needs. It is necessary to explore the impact of GenAI in expressive arts education and examine its impact on learning outcomes, therapeutic processes, and creative practices. These efforts underscore the importance of interdisciplinary collaboration among art educators, psychologists, and AI developers to create more effective and meaningful learning experiences for students.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author.

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References

1. Chen, L.; Chen, P.; Lin, Z. Artificial intelligence in education: A review. *IEEE Access* **2020**, *8*, 75264–75278. [CrossRef]
2. Hwang, G.J.; Chen, N.S. Exploring the Potential of Generative Artificial Intelligence in Education: Applications, Challenges, and Future Research Directions. *Educ. Technol. Soc.* **2023**, *26*, 18.
3. Selwyn, N. The future of AI and education: Some cautionary notes. *Eur. J. Educ.* **2022**, *57*, 620–631. [CrossRef]
4. Tahiru, F. AI in education: A systematic literature review. *J. Cases Inf. Technol.* **2021**, *23*, 1–20. [CrossRef]
5. Dwivedi, Y.K.; Kshetri, N.; Hughes, L.; Slade, E.L.; Jeyaraj, A.; Kar, A.K.; Baabdullah, A.M.; Koohang, A.; Raghavan, V.; Ahuja, M.; et al. Opinion Paper: "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *Int. J. Inf. Manag.* **2023**, *71*, 102642. [CrossRef]
6. Limna, P.; Jakwatanatham, S.; Siripipattanakul, S.; Kaewpuang, P.; Sriboonruang, P. A review of artificial intelligence (AI) in education during the digital era. *Adv. Knowl. Exec.* **2022**, *1*, 1–9.
7. Francis, N.J.; Jones, S.; Smith, D.P. Generative AI in Higher Education: Balancing Innovation and Integrity. *Br. J. Biomed. Sci.* **2024**, *81*, 14048. [CrossRef] [PubMed]
8. Jauhiainen, J.S.; Guerra, A.G. Generative AI and education: Dynamic personalization of pupils' school learning material with ChatGPT. *Front. Educ.* **2024**, *9*, 1288723. [CrossRef]
9. Vieriu, A.M.; Petrea, G. The Impact of Artificial Intelligence (AI) on Students' Academic Development. *Educ. Sci.* **2025**, *15*, 343. [CrossRef]
10. Bimpong, B.W. The Impact of Generative AI Educational Chatbots on the Academic Support Experiences of Students in U.S. Research Universities. 2025. Available online: https://naspa.org/blog/the-impact-of-generative-ai-educational-chatbots-on-the-academic-support-experiences-of-students-in-u-s-research-universities (accessed on 3 March 2025).

11. Kasneci, E.; Seßler, K.; Küchemann, S.; Bannert, M.; Dementieva, D.; Fischer, F.; Gasser, U.; Groh, G.; Günnemann, S.; Hüllermeier, E.; et al. ChatGPT for good? On opportunities and challenges of large language models for education. *Learn. Individ. Differ.* **2023**, *103*, 102274. [CrossRef]
12. Malchiodi, C.A. *Expressive Therapies*; Guilford Publications: New York, NY, USA, 2013.
13. Song, X. Research on the application of expressive art therapy in the teaching of mental health education courses for college students. *Pac. Int. J.* **2023**, *6*, 198–201. [CrossRef]
14. Isawi, D.; Schoonover, T.T.J.; Davis, E.; Gomez-Torres, B. Creative Pedagogy in Counselor Education: The Use of Play Strategies. *J. Creat. Ment. Health* **2024**, *20*, 1–14. [CrossRef]
15. Creswell, J.W.; Inoue, M. A process for conducting mixed methods data analysis. *J. Gen. Fam. Med.* **2025**, *26*, 4–11. [CrossRef] [PubMed]
16. Anderson, H. Collaborative relationships and dialogic conversations: Ideas for a relationally responsive practice. *Fam. Process* **2012**, *51*, 8–24. [CrossRef]
17. White, M.; Epston, D. *Narrative Means to Therapeutic Ends*; W. W. Norton & Company: New York, NY, USA, 1990.
18. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [CrossRef]
19. Haeyen, S.; Hinz, L. The first 15 min in art therapy: Painting a picture from the past. *Arts Psychother.* **2020**, *71*, 101718. [CrossRef]
20. Zubala, A.; Pease, A.; Lyszkiewicz, K.; Hackett, S. Art psychotherapy meets creative AI: An integrative review positioning the role of creative AI in art therapy process. *Front. Psychol.* **2025**, *16*, 1548396. [CrossRef]
21. Zhou, E.; Lee, D. Generative artificial intelligence, human creativity, and art. *PNAS Nexus* **2024**, *3*, 052. [CrossRef]
22. Binson, B.; Lev-Wiesel, R. Promoting personal growth through experiential learning: The case of expressive arts therapy for lecturers in Thailand. *Front. Psychol.* **2018**, *8*, 2276. [CrossRef] [PubMed]
23. Babb, K.; Campbell, L. Counselors in training value of experiential learning experiences: An exploratory analysis. *Eng. Proc.* **2023**, *6*, 67–78. [CrossRef]
24. Akcil, U.; Uzunboylu, H.; Kinik, E. Integration of Technology to Learning-Teaching Processes and Google Workspace Tools: A Literature Review. *Sustainability* **2021**, *13*, 5018. [CrossRef]
25. Bloch-Atefi, A. Balancing ethics and opportunities: The role of AI in psychotherapy and counselling. *Psychother. Couns.* **2025**, *13*, 2025. [CrossRef]

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