

ARTIFICIAL INTELLIGENCE-ASSISTED POETRY READING AND WRITING THERAPY FOR PEOPLE WITH MENTAL DISABILITIES

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Abstract

This study aims to describe using Artificial Intelligence (AI) technology to support poetry reading and writing for individuals with intellectual disabilities. Intellectual disabilities often hinder verbal and written self-expression, yet reading and writing poetry can be a means of expressive therapy with emotional and psychological benefits. In this context, AI is used as a creative medium to assist in developing diction, metaphors, and poetic structure that align with the feelings and imagination of individuals with intellectual disabilities. This study employed a descriptive qualitative approach involving participants from a social organization for individuals with intellectual disabilities. Through observation, interviews, and documentation of poetry work, the study found that using AI (such as ChatGPT or other AI-based creative writing applications) can increase participants' self-confidence, active participation, and the quality of their literary work. AI acts as a dialogue partner, providing word choices, guiding questions, and instant feedback, without the pressure of judgment typically present in human interactions. The resulting poems reflect the feelings, experiences, and inner worlds of individuals with intellectual disabilities, which were previously difficult to express verbally or in writing. It can be concluded that AI has great potential for use in pedagogical and therapeutic approaches for individuals with intellectual disabilities, particularly in reading and writing. However, using this technology still requires human support to maintain the emotional well-being of participants. These findings are expected to contribute to developing inclusive education models based on humanistic technology.

Keywords: *mental disability, poetry writing, artificial intelligence*

INTRODUCTION

Poetry is a form of literature that not only functions as a medium for artistic expression but also significantly influences an individual's mental health (Rizqi et al., 2025). In this context, poetry can be an expressive therapy that helps individuals process emotions and channel inner experiences. However, the use of poetry in the realm of mental health has received little attention, especially for people with mental disabilities. Mental disabilities themselves are often viewed as taboo in society (O'Reilly, 2009; Majumder, 2019), thus hindering efforts for optimal inclusion and support. According to the World Health Organization (2001), mental disabilities

encompass impairments in cognitive mental functioning that can affect an individual's behavior, emotions, and ability to interact socially. Therefore, it is important to explore various creative approaches, including literature, that can open up spaces for participation and recovery for this group. Individuals with mental disabilities often experience difficulties in social interaction, building relationships, and participating in community activities. Quality of life for people with disabilities encompasses several life domains, including physical, social, emotional, and environmental (Davis et al., 2018).

According to data from the Central Java Province Statistics Agency (BPS) in 2021, the number of people with mental disabilities was 6,079 (BPS 2022). This figure indicates that mental disability is a serious problem that requires careful management in Central Java. The issue of handling mental disabilities has been a government concern in recent years. One concrete step the government took to demonstrate its commitment to addressing this issue was the ratification of Law of the Republic of Indonesia Number 8 of 2016 concerning Persons with Disabilities (RI 2016). This represents one of the government's commitments to handling disabilities. Disability protection is provided by the government not only through policies and regulations but also through mental health services. Several studies have shown that mental disability treatment has been carried out through mental health services (Choudhry et al. 2021, Lawrence et al. 2021) and various therapies such as music therapy (Sotomayor et al. 2021).

People with disabilities need to feel comfortable in society, so the perception that disabilities are associated with a lower social status can be overcome (Bryan et al. 2022, Hinson et al. 2024, Brown et al. 2022). People with intellectual disabilities often experience various difficulties in adapting and interacting socially. Impaired social development in individuals with intellectual disabilities can hinder their ability to form healthy and effective relationships with others, which in turn can impact their overall quality of life. Many therapeutic methods have been developed to help overcome these barriers, such as cognitive behavioral therapy and play therapy. However, time constraints, resources, and personalization to individual needs limit their effectiveness. Therefore, one alternative is media related to literary works, which allows individuals to express their thoughts, emotions, and life experiences. Poetry can be used as a means for people with disabilities to explore their insights and circumstances (Fenge et

al. 2016). Through poetry, they can learn to communicate more effectively, develop empathy, and increase their self-confidence (Abdullah 2017). Similarly, poetry therapy effectively improves the personal and social performance of patients with mental illness (Archibald 2020). With technological advances, Artificial Intelligence (AI) has shown great potential in various fields, including healthcare and therapy. AI enables creating systems that are adaptive and responsive to individual needs and can provide more personalized and real-time interventions. In therapy for people with mental disabilities, AI can create imaginative and simulated environments designed to help improve social skills. Imagery therapy is one method that can provide space for individuals to express themselves and develop social skills through imagined scenarios. With the help of AI technology, this therapy can be more effective because it can adjust interactions based on user responses, provide appropriate feedback, and enable a more interactive and dynamic social learning process. Based on this, this study aims to describe AI-assisted reading and writing therapy for people with mental disabilities.

RESEARCH METHOD

Research Approach

This study used a descriptive qualitative approach to provide an in-depth overview of the phenomenon being studied naturally (Creswell, 2014). This approach was chosen because the study focused on understanding the experiences of participants in Artificial Intelligence (AI)-assisted poetry reading and writing therapy and comprehensively describing the therapy process and outcomes. Descriptive qualitative research allows researchers to explore data in depth through direct interaction with research subjects and understand the social context in which the phenomenon occurs. Research Location and Subjects The study was conducted in two locations: 1) the "Pangrukti Mulyo" Mental Disability Social Services Center in Rembang Regency; and 2) the "Ngudi Rahayu" Mental Disability Social Services Center in Kendal Regency. The study included 20 individuals with mental disabilities (10 participants in each center) selected based on the following criteria: ability to participate in simple learning activities, ability to interact verbally and nonverbally, and willingness to participate in the entire therapy series.

Data Collection Techniques

Data were collected using the following techniques. 1) Participatory observation, to directly observe the process and responses of participants during AI-assisted poetry reading and writing therapy; 2) In-depth interviews, conducted with the caretakers and participants (with communication adjustments based on the participants' abilities) to obtain information about their initial reading and writing abilities, experiences with therapy, and responses to the use of AI; 3) Documentation, in the form of participants' poetry works and notes on the learning process obtained during therapy activities.

Research Procedures

1. Pre-Therapy Phase: a) Researchers interviewed caregivers to determine participants' initial reading and writing abilities; b) Researchers conducted observations to map each participant's literacy needs and abilities. 2. Therapy Implementation Phase, as follows: 1) Therapy was conducted in four sessions at each caretaker's home, each session lasting 60–90 minutes; 2) Therapy activities included: a) AI-guided poetry reading exercises through audio-visual media; b) Simple word and sentence writing exercises as an introduction to poetry writing; c) Simple poetry creation, where AI assisted participants to find inspiration for words, develop ideas, and organize them into verses. 3. Post-Therapy Stage: 1) Researchers collected participants' poetry; 2) Re-interviews were conducted with participants and caregivers to evaluate their therapy experiences and perceived changes in abilities.

Data Analysis Techniques

Data were analyzed using qualitative descriptive analysis with the following steps (Miles & Huberman, 2014): 1) Data reduction: selecting, focusing, and simplifying data from observations, interviews, and documentation; 2) Data presentation: organizing data into narratives, tables, and direct quotes from participants to provide in-depth understanding; 3) Conclusion drawing: formulating research findings regarding the effectiveness of AI-assisted poetry reading and writing therapy for people with intellectual disabilities. Data validity was maintained through triangulation of sources and techniques, combining data from observations, interviews, and documentation. Additionally, member checks were conducted with the nursing home administrators to ensure the accuracy of the information. Research Flowchart The following is a flowchart of the implementation of the AI-assisted poetry reading and writing therapy research.

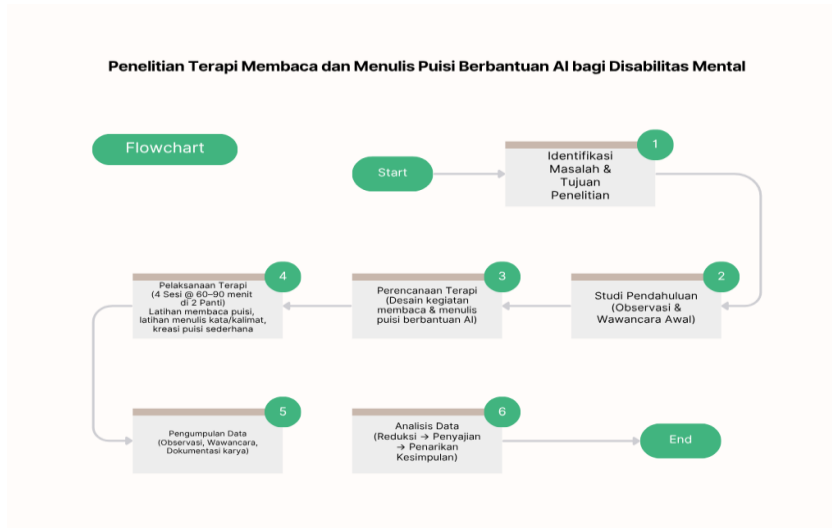


Figure 1 Research Flowchart

RESULTS AND DISCUSSION

Results

Initial Reading and Writing Skills of Participants Based on in-depth interviews with the care home administrators and participant observation of participants at the two research locations, it was found that most people with intellectual disabilities had limited literacy skills. Of the 20 participants, 16 could construct simple sentences, while the other four were still at the stage of recognizing letters and basic words. The care home administrators revealed that a structured reading and writing therapy program had never been implemented with artificial intelligence (AI)-based technology. Existing learning activities focused on letter recognition or conventional reading exercises, without involving creative media such as poetry. This finding indicates the need for an innovative learning approach to bridge these limitations and facilitate participants in developing literacy skills while expressing their emotions: AI-Assisted Reading and Poetry Writing Therapy Implementation Process. The therapy was conducted over four sessions at two care homes, each lasting 60–90 minutes. The therapy process was designed in stages to allow participants to adapt to using AI as a learning medium. Activities in each session included: 1. Practicing writing simple words and sentences using AI. Participants were introduced to AI-based media that provided examples of words and sentences relevant to the theme, allowing them to imitate and gradually develop their writing. 2. Poetry reading practice through AI-assisted audio-visual media. Poetry texts were read aloud with engaging intonation and accompanied by simple visualizations to aid comprehension. Participants were then encouraged to

repeat the reading at their own pace. 3. Simple Poetry Creation. Participants were guided to create poems inspired by AI-guided words and stanza structures, while developing their ideas and experiences into simple literary works. During therapy, AI served as an interactive medium, providing reading material and motivating participants through positive feedback, engaging visualizations, and presentations tailored to their ability level. This interaction made participants more actively engaged and comfortable in the learning process, improving Poetry Reading and Writing Skills. Based on descriptive analysis of observations and work documentation, all participants experienced improved reading and writing skills after therapy. Of the 20 participants, 16 showed significant progress in reading and writing simple sentences, while 4 improved in recognizing basic words and phrases. The resulting poetry also reflected growth in creativity and emotional expression. Participants could express their daily experiences, feelings, and hopes in simple poetry. Here is an example of one participant's poetry.

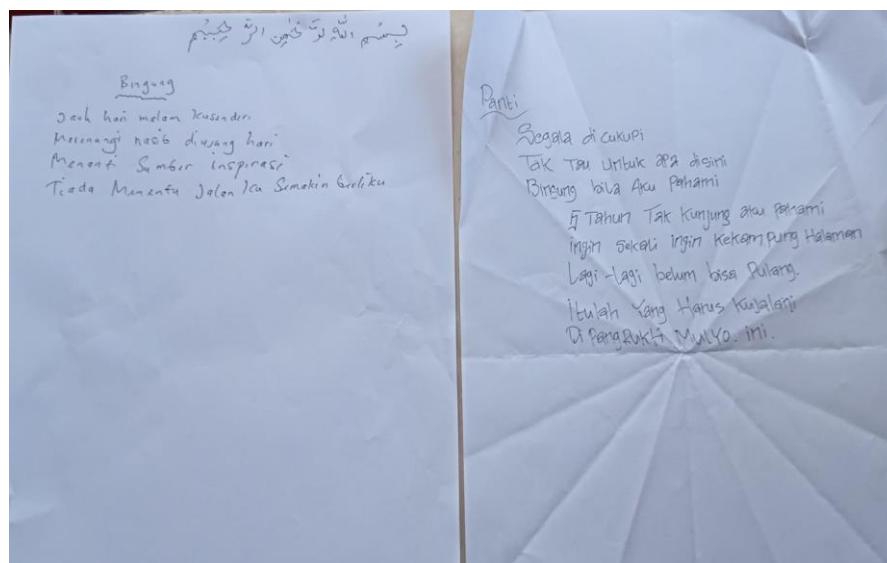
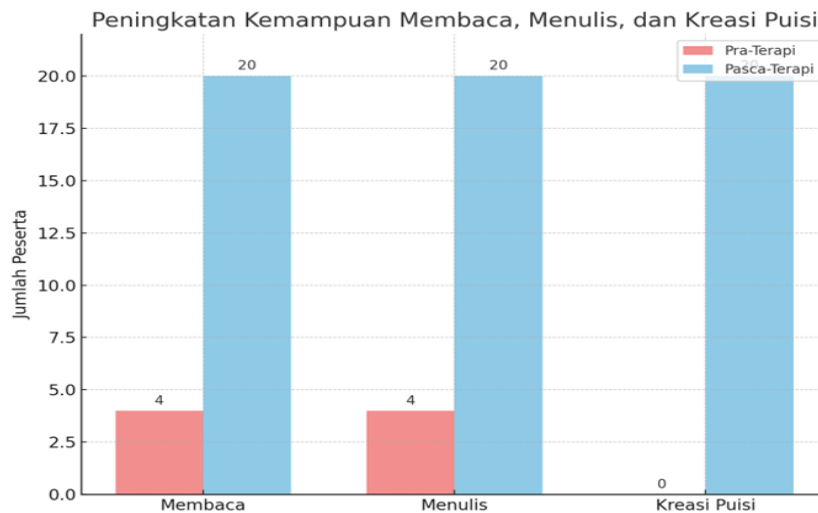


Figure 3 Examples of Poems by Participants

The results of this poetry work demonstrate the participants' ability to connect imagination with feelings in a simple yet meaningful way. The following compares the participants' abilities before and after therapy.



Graph 1 Comparison of Participants' Abilities Before and After Therapy

Responses from Participants and Orphanage Administrators

Post-therapy interviews showed that participants were happy, motivated, and interested in AI-assisted learning. They considered this technology a novelty that made learning easier and more enjoyable. Orphanage administrators also gave positive feedback, stating that this method was more effective than conventional methods because it could adapt learning to each participant's abilities and create a more interactive learning environment.

Discussion

Effectiveness of AI-Assisted Reading and Writing Therapy

The results of this study indicate that AI-assisted poetry reading and writing therapy effectively helped people with intellectual disabilities improve basic literacy skills. Participants' interaction with AI technology increased learning motivation, accelerated word recognition, and facilitated comprehension through audio-visual support. This aligns with constructivist learning theory, which emphasizes adaptive learning experiences tailored to individual needs (Bruner, 1996).

The Role of Poetry in Improving Literacy and Emotional Expression

The choice of poetry as a therapy medium has been shown to have a positive impact. Writing poetry hones literacy skills and provides a safe outlet for emotional expression. This supports Leavy's (2015) findings that poetry can help individuals channel pent-up feelings, improve emotional well-being, and build self-confidence.

Artificial Intelligence as an Adaptive Learning Medium

The use of AI offers significant advantages, including: 1) Personalized materials, adjusting the level of difficulty to the participant's abilities; 2) Multimodal interaction, combining text, audio, and visuals to facilitate understanding; 3) Positive feedback, which builds participant confidence. These findings support research by Holmes et al. (2019), which states that technology can increase the engagement of learners with special needs.

Research Challenges and Limitations

This study faced several limitations, including: 1) Limited therapy duration. Four sessions were insufficient for long-term impacts; 2) participant abilities varied. 3) Differences in basic literacy levels required more personalized strategy adjustments. 4) Limited competency of the orphanage administrators. Orphanage administrators require training to utilize AI optimally.

Recommendations

To increase program effectiveness, the following are needed: 1) Sustainability of the program with a longer duration; 2) Training for orphanage administrators on using AI in learning; 3) Development of poetry content contextualized to the cultural and emotional needs of participants.

CONCLUSION

This study shows that: (1) Artificial Intelligence (AI)-assisted poetry reading and writing therapy is efficacious in improving basic literacy skills and emotional expression in people with mental disabilities at the "Pangrukti Mulyo" Social Service Center in Rembang Regency and "Ngudi Rahayu" in Kendal Regency; (2) Improved literacy skills: Participants experienced significant progress in recognizing letters, reading simple words/sentences, and writing simple sentences. They even produced simple poems that reflected their creativity and emotions. AI as an adaptive learning medium; (3) AI technology has been proven capable of providing personalized materials, audio-visual support, and positive feedback that help participants learn at their own pace. This increases participants' engagement, motivation, and confidence in the learning process; (4) Poetry as a therapeutic tool, not only helps participants improve their literacy skills but also provides a means to express their feelings, life experiences, and hopes, thus supporting emotional well-being; (5) Positive responses

from participants and orphanage administrators, namely that participants felt happy and motivated to participate in therapy, while orphanage administrators considered this method innovative, effective, and more interesting than conventional learning; (6) Challenges and further needs, namely limited duration of therapy, variations in participant abilities, and lack of competence of caregivers in utilizing AI technology, are obstacles that need to be overcome.

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