



Applying Sociodrama with Music and Poetry Therapy to Enhance the Vocabulary and Reading Skills of EFL Learners with Autism Spectrum Disorder

Fatemeh Ghaderi Bafti¹, Hamid Marashi^{2,*}, and Mania Nosratinia³
¹ PhD Candidate in ELT, CT.C., Islamic Azad University, Tehran, Iran
Email: samira.gh90@yahoo.com

² Corresponding Author, Associate Professor of Applied Linguistics, Department of English, CT.C., Islamic Azad University, Tehran, Iran
ORCID: 0000-0002-7957-671X; Email: hamid.marashi@iauctb.ac.ir

³ Assistant Professor of Applied Linguistics, Department of English, CT.C., Islamic Azad University, Tehran, Iran Email: mania_nosratinia@yahoo.com

Abstract

In the context of the 21st century's rapidly advancing global and technological landscape, the importance of inclusive universal education has perhaps never been greater. This is especially relevant for one of society's most disenfranchised groups – learners with special needs. The latter includes individuals with autism spectrum disorder (ASD) who often require alternative teaching methods, as traditional educational approaches typically fail to engage them effectively. Despite the relative abundance of studies on general education for learners with ASD, a review of the English as a foreign language (EFL) literature shows a noteworthy paucity in this regard. Accordingly, this study aimed to examine the vocabulary and reading skills of EFL learners with ASD by applying sociodrama techniques combined with music therapy and poetry therapy. For this purpose, 20 male adolescents from three ASD-specialized schools in Tehran (whom the researchers managed to have access to) were selected for the study through nonrandom convenience sampling. They were subsequently divided into two groups, each receiving a 10-session intervention: one group engaged in sociodrama with music therapy, while the other participated in sociodrama with poetry therapy. The results indicated promising improvements in both groups, suggesting that perhaps the combination of sociodrama with music and poetry therapy may be an effective approach to enhancing the vocabulary and reading skill of EFL learners with ASD. This study may serve as a small step towards expanding the existing dearth of knowledge concerning teaching EFL to individuals with ASD in line with the goal of inclusivity in education.

Keywords: Autism spectrum disorder (ASD), EFL, Music therapy, Poetry therapy, Reading comprehension, Sociodrama, Special needs education, Vocabulary learning

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Introduction

Vocabulary learning is a multifaceted process integral to language acquisition and proficiency as it encompasses the development of knowledge about word meanings, usage, and appropriate use (McIntyre et al., 2020; Nation, 2018). This process involves both the breadth (the number of words known) and depth (the quality of understanding of those words) of vocabulary knowledge (Qian, 2008; Webb et al., 2023). Wen and Rosli (2023) emphasized that effective vocabulary acquisition requires a combination of deliberate learning strategies and incidental exposure; the former involves focused activities while the latter occurs through exposure to language in context.

Studies consistently highlight the close relationship between vocabulary learning and reading comprehension in the field of English language teaching (ELT); indeed, it is widely accepted that effective reading comprehension cannot be achieved without adequate vocabulary knowledge (e.g., Baker & Santoro, 2023; Grabe & Stoller, 2011; Röthlisberger et al., 2023; Schmitt, 2010; Zeng et al., 2025). However, as noted by Baixauli et al. (2021), reading comprehension is a multi-component process that involves not only word recognition but also the ability to integrate context, syntactic structures, and world knowledge to make sense of a text.

While the aforesaid composite ability may raise challenges for the majority of EFL learners (if not all), learners with specific cognitive impairments such as ASD may face more severe obstacles in the process of reading (Carlsson et al., 2020). ASD is a complex neurodevelopmental condition marked by challenges in social communication, repetitive behaviors, and a range of restricted interests (Key & D'Ambrose Slaboch, 2021; Waizbard-Bartov et al., 2023). Individuals with ASD may exhibit difficulties with verbal and nonverbal communication, problems with establishing and maintaining relationships, and a preference for routines or highly specific activities (Gao et al., 2023). The severity of these symptoms which are typically present from early childhood and can persist throughout life varies significantly across individuals, from those requiring extensive support to those who are highly independent (Hodges et al., 2020; Lecheler et al., 2020). It is arguably an established given that individuals with ASD respond not to conventional but highly innovative pedagogies (Livingston et al., 2021; Reindal et al., 2023).

One considerably creative pedagogical approach is sociodrama: a reflective procedure that dramatizes individuals' feelings, emotions, and thoughts in relation to their external world (Ashiabi, 2007; Ius, 2020). According to Sternberg and Garcia (2000), "Sociodrama is a group action method that deals with roles we share with others" (as cited in Mambarasi et al., 2018, p. 44). These roles might be family roles, character roles adopted from movies, cartoons, and stories, and functional roles such as that of a firefighter or school manager. The teacher changes the role based on the dynamics of the session (Nolte, 2014). A number of studies have been reported globally on the effectiveness of sociodrama in teaching individuals with neurodevelopmental problems including ASD (e.g., Jang et al., 2022; Rahimi Pordanjani, 2021; Thorp et al., 1995; Trudel & Nadig, 2019).

In addition to sociodrama, there are two other creative pedagogies, namely poetry and music therapy. Poetry therapy can be defined as “the intentional use of poetry and related forms of literature and creative writing for personal growth and healing” (McCulliss, 2011, p. 94). Poetry can be embedded into therapy through different ways such as “the therapist’s attunement to language, clients’ own creative work, exploring published poetry and other literature with a client” (Hedges, 2013, p. 87). In the same vein, Mazza (2021) considers three major modes in poetry therapy: the receptive / prescriptive mode, the expressive / creative mode, and the symbolic / ceremonial mode. Ample studies have been reported on the promising results of implementing poetry therapy in educational settings (e.g., Bintz & Monobe, 2018; Bramberger, 2015; Cronin & Hawthorne, 2019; Ferez Mora et al., 2020; Shabani Minaabad, 2020).

As for Music therapy, this is an interdisciplinary modality that integrates psychology, medicine, musicology, physical biology, and special education (Wang et al., 2023). It further applies “evidence-based music interventions to address the mental, physical, or emotional needs of an individual” (Gooding & Langston, 2019, p. 317). These interventions incorporate a profound specificity of the client-therapist interaction (Gaebel et al., 2025). Recent research (e.g., Carr et al., 2023; He et al., 2024; Schäfer, 2023; Shi et al., 2024; Williams et al., 2024; Yum et al., 2024; Zhao, 2024) underscores the efficacy of active music therapy on general wellbeing and language communication across diverse populations including those with ASD.

Review of the Related Literature

ASD

As noted earlier, ASD is a neurodevelopmental condition characterized by persistent challenges in social communication and interaction, along with restricted, repetitive patterns of behavior, interests, or activities (Carter & Hartley, 2021; Frewer et al., 2021). As the word autism comes from the Greek word *autós* meaning *self*, individuals with this diagnosis tend to be withdrawn into their personal worlds and somewhat detached from their surrounding environment (Huang et al., 2018; Mazurek et al., 2018). Early signs of ASD often include delayed babbling, reduced verbal interaction, and persistent echolalia (Hodges et al., 2020).

Learners with ASD may confront challenges such as paying attention in class, grasping complicated issues, and completing tasks, thereby failing to achieve in educational settings and thus being marginalized (Frost et al., 2024). Research highlights the unique strengths of such individuals, particularly in visual intelligence (Bedford et al., 2016; Zhou et al., 2022). Accordingly, Grandin (2006, 2009) discusses how children with ASD may communicate through visual thinking, emphasizing that visual language might be their primary mode of understanding and interaction. She further describes her thought process as thinking in pictures. More specifically on language learning among individuals with ASD, ample research demonstrates the wide variability in verbal ability among such persons, from nonverbal to highly articulate (e.g., Alasmari et al., 2024; Digard et al., 2020; Hirota & King, 2023; Kissine et al., 2023).

Vocabulary Learning

There are many different methods for teaching vocabulary to young learners and children with special needs including ASD. For instance, Huang et al. (2018) found that using gestures to teach L2 vocabulary was effective while Bakhsh (2016) emphasized the importance of games in teaching L2 vocabulary to such young learners. Gao et al. (2020) highlighted the effectiveness of using stories to teach L2 vocabulary. Nunes et al. (2021) demonstrated the impact of the positive effect of two dialogic reading interventions, namely RECALL (Reading to Engage Children with Autism in Language and Learning) and Adapted Shared Reading (ASR) on vocabulary acquisition among preschool-aged children with ASD.

Kover et al. (2013) pointed out that cognitive difficulties in children with ASD can hinder their language use, despite knowing a wide variety of words, especially with speech articulation. Furthermore, children with ASD often struggle with processing auditory information, and using sight vocabulary may help overcome this challenge (Browder & Xin, 1998, as cited in Yahya et al., 2013). A study by Gonzalez-Barerro and Nadig (2018) stressed the importance of adequate exposure to both vocabulary and morphology for children with high-functioning ASD in bilingual settings. Altakhaineh et al. (2020) examined the impact of IQ and the use of colors in teaching L2 vocabulary to students with ASD; while IQ played a significant role in learning both first and second languages, no significant effect was found when using colored pictures compared to black and white images.

Reading Comprehension

For individuals diagnosed with ASD, reading comprehension can present unique challenges. Reading comprehension difficulties among children with ASD often stem from impairments in understanding connected speech and making sense of how words, phrases, and sentences work together (Henderson et al., 2014). O'Connor and Klein (2004) identified additional strategies for students with high-functioning ASD which could help them engage with the text and improve comprehension. Nation et al. (2006) examined components of reading skill in children with ASD, noting that while word recognition and non-word decoding are often impaired, some children with ASD demonstrate relatively strong word recognition skills despite difficulties with non-word decoding. Williamson et al. (2014) found that reciprocal questioning, peer support, and story mapping strategies were effective in improving comprehension in ASD adolescents.

Other effective strategies for improving reading comprehension in children with ASD include think-aloud protocols (Howorth et al., 2016). The choice text strategy has also been shown to increase engagement and productivity among adolescents with ASD by allowing them to select texts of interest (Solis et al., 2019). Additionally, the compare-contrast text structure strategy has been found to be particularly useful for understanding scientific genres (Carnahan & Williamson, 2013).

Sociodrama

Sociodrama is characterized as a form of social play in which individuals engage their imagination and creativity, adopting various roles to construct pretended scenarios that incorporate elements of fantasy and symbolism (Ius, 2020; Nilsson, 2009). Conceptualized by Moreno (1949, as cited in Maciel, 2021), sociodrama is a pedagogy founded upon creative act. Sociodrama's theoretical framework is anchored in role theory, spontaneity theory, and social bonding anthropology (Giacomucci, 2021). The themes explored in sociodrama are inherently group-centered, typically categorized into three main areas of family roles, character roles, and functional roles (Hughes, 1999, as cited in Ashiabi, 2007).

Sociodrama has found diverse applications across various fields. In education, it serves as a pedagogical strategy for enhancing learning by enabling students to tackle complex social issues and fostering critical thinking through experiential learning (Papaioannou & Kondoyianni, 2022). While the application of sociodrama in education has been reported quite extensively with positive results (e.g., Lima-Rodrigues, 2011; Lubis & Wahyuni, 2021; Mathis et al., 1980; Pecaski McLennan, 2008; Thorp et al., 1995), only few studies have been conducted on the effect of sociodrama in language learning settings, the majority of which demonstrated the promising impact of sociodrama on EFL learners' speaking (Mambarasi et al., 2018; Nehe et al., 2019; Nuraeni et al., 2019; Taufan, 2020).

Poetry Therapy

Poetry therapy that presumably dates back to the ancient Egyptians of 4000 BCE and was incarnated in modern times in mid-20th century (Chavis, 2011) is the process through which clients can reflect their feelings using poetry (Carroll, 2005). A number of studies have been documented in the literature on the outcome of using poetry therapy in the educational environment. Williams (2011) reported the positive results of applying a supportive/empathic phase, a response/examination phase, an action/application phase, and a creative phase where learners create their own response to a selected poem. Bintz and Monobe (2018) used poetry therapy to integrate reading and writing across the curriculum among graduate students from multiple content areas while Cronin and Hawthorne (2019) noted that poetry can be used to teach writing and improve students' reflective skills.

Poetry therapy has proven to be advantageous also for learners with ASD as it enhances communication skills among adults with ASD (Davis, 1996) and in fostering emotional expression and language development among such learners (Hieb, 1997). Guttke (2018) demonstrated the effectiveness of poetry therapy on the reading comprehension of EFL learners with ASD and Shabani Minaabad (2020) reported the positive impact of poetry therapy on the language skills of students with ASD.

Music Therapy

Music therapy is "an established healthcare profession that uses music to address physical, emotional, cognitive, and social needs of individuals of all ages"

(Yinger & Gooding, 2013, p. 535). The methods used in music therapy vary depending on how the client interacts with the music and the following clinical goal, such as providing procedural support, managing pain, or addressing emotional wellbeing (Yinger & Gooding, 2013). Different music genres are used in music therapy such as new age, orchestral classical compositions, post-rock, and synthwave (Jin, 2023; Toop, 2016).

Music therapy has been reported rather extensively in the literature as an approach with favorable educational gains among all learners and those with ASD too. One such study was conducted by Fan et al. (2024) who found that Orff music therapy significantly improved language expression, comprehension, social skills, and cognitive abilities in children with ASD. Similarly, Shabani Minaabad and Dorani Lomar (2020) explored the influence of music therapy on children with ASD and observed encouraging outcomes in language development, social behavior, and literacy skills. Shi et al. (2024) conducted a systematic review and meta-analysis thereby demonstrating the positive effects of music therapy on language communication and social skills in children with ASD. Archontopoulou and Vaiouli (2020) reported that most educators of children with ASD regarded music therapy as a useful tool for language development.

Purpose of the Study

In 2015, world leaders adopted the Sustainable Development Goals (SDGs) consisting of 17 macro goals to be achieved by 2030; the fourth goal in this agenda is “a commitment to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UNESCO, 2020, p. 2). The above statement indisputably asserts that the any human being regardless of all features and factors including race and ethnicity, gender identity and expression, religious and ideological beliefs, and of course disability inter alia is entitled to the inalienable right to quality education. This universal commitment alone is adequate justification for exploring methods to enhance the English language learning – which is perhaps no longer a luxury but an educational must in the modern world – of learners with disabilities such as ASD.

Furthermore, as of the second half of the 20th century and the trend of the characterization of the concept of disease not solely as a medical phenomenon but more of a social problem, medical conditions such as ASD are known to have vivid effects on the individual’s socialization (Nelson, 1995; Saborido & Zamora-Bonilla, 2024). In other words, the epidemiological burden of disease is not only a personal problem for the affected individual but also together with societal repercussions. Ergo, the juxtaposition of the indispensable human right of an individual to education with the social consequence of marginalization – if they are denied this fundamental right – would directly translate into the continuous need for identifying more efficient ways to enhance learning among the ASD population. Accordingly, they would develop their potential and move towards autonomy, on the one side, while the community they live in would benefit from their socioeconomic participation.

As stated earlier, certain studies (albeit not plenty in number) have reported the merits of applying sociodrama, music therapy, and poetry therapy individually among learners with ASD. Excluding one study by Brandalise (2015) in Brazil that explored the integration of drama and music therapy for adults with ASD in a therapeutic and not educational facility, the researchers were not able to locate any studies on the convergence of these approaches in the ELT classroom. To address this gap, the researchers proposed a comparative study that examines the effects of sociodrama, music therapy, and poetry therapy in an ELT environment, with focus on the reading comprehension and vocabulary development of adolescents with ASD.

It is worth noting that the rationale for selecting reading comprehension and vocabulary as the study's dependent variables stems from the fact that while these two skills are typically interrelated in L2 learning (Richards & Renandya, 2008), it is unclear whether the same relationship exists for learners with ASD. These individuals may excel at understanding isolated words but struggle with synthesizing them into coherent meaning within sentences or passages (Andreola et al., 2021). The latter per se raises the possibility that the impact of the instructional methods applied in this study on reading and vocabulary acquisition may produce unpredictable results. In line with the argumentation above, the following two research questions were formulated:

- Q₁: Is there any significant difference between the impact of applying sociodrama and music therapy and sociodrama and poetry therapy on the vocabulary learning of EFL learners with ASD?
- Q₂: Is there any significant difference between the impact of applying sociodrama and music therapy and sociodrama and poetry therapy on the reading comprehension of EFL learners with ASD?

Method

Participants

To achieve the objectives of this study with its quasi-experimental posttest-only comparison group design, 20 male students aged between 12 and 18 all diagnosed with ASD were selected through nonrandom convenience sampling. Simply put, this small group consisted of the individuals whom the researchers could access after an extended series of negotiations as there were indeed two significant barriers in accessing a larger sample. Firstly, entrance to ASD-specialized schools required considerable administration arrangements and the researchers succeeded in engaging with three such schools only following around six months of follow-up. Secondly, obtaining the required permissions and informed consent from the participants' parents or caregivers involved a complex process, carried out with strict attention to protecting the anonymity and privacy of the learners. Ultimately, access was granted to three special education schools for students with ASD in Tehran (the names of which are not disclosed in the interest of confidentiality). The participants were then randomly divided into two experimental

groups. Group A received sociodrama techniques combined with music therapy while Group B experienced sociodrama techniques paired with poetry therapy.

Instrumentation and Materials

Reading Texts

As the interventions in this study were based on the application of prose and poetry and since the researchers were not able to locate any such materials in English which would be comprehensible for the specific group of learners with ASD at hand in terms of their English proficiency and their neuropsychological condition, the researchers had no resort but to develop the materials themselves. In doing so, they developed the materials for both experimental groups containing the same vocabulary items. The key difference lay in the presentation format: one group received the texts in prose form accompanied by music while the other group engaged with poetry texts without music (as further explained in the procedure section). Four narrative poems – *A Rose in Autumn*, *A Robot Becoming a Human*, *The King*, and *The Little Fish and the Seagull* – were written by one of the researchers, who also conducted the instruction in both groups. These poems were tailored to the learners' language proficiency level and included the poetic elements of rhyme and rhythm. Specifically, the rhythm followed a trochaic tetrameter (DUM-da) structure with four metrical feet per line.

The poems underwent a three-stage review process. First, three IELTS examiners with native-like English proficiency used the pertinent rubric for the IELTS writing paper in assessing the linguistic accuracy and authenticity of the poems. Second, an English literature professor checked the rhyme and rhythm in accordance with the DUM-da structure. Third, an ASD specialist assessed the thematic poems' appropriateness for this specific learner population by making sure the poetry would not include elements that often disrupt the routine of such individuals, thereby instigating their sudden despair in the classroom. These narrative poems were used exclusively in the experimental group receiving sociodrama and poetry therapy as materials for vocabulary acquisition and reading comprehension.

In parallel, the same four titles were adapted into prose format with identical vocabulary for use in the music therapy group. These prose texts intentionally excluded poetic features to isolate the potential impact of the musical element. Like the poems, they were also reviewed by the IELTS examiners and the ASD specialist.

Initial Vocabulary Checklist

The researchers created the list of target vocabulary intended to be taught through both prose and poetry during instruction (as described above). This list was presented to both groups in the form of a checklist prior to the intervention. The aim was to identify unfamiliar vocabulary items which were later used to design a teacher-made vocabulary posttest. This posttest served to compare the vocabulary gains of both groups after the treatment.

Posttests

Two teacher-made posttests were developed, piloted, and administered after the treatment phase. The vocabulary posttest included 13 multiple-choice items, each with a written statement and three pictorial answer options. Learners were asked to select the image corresponding to the given word. This paper-based test was accompanied by an answer sheet and had a 13-minute time limit.

The reading posttest included two texts based on the instructional materials, each followed by four multiple-choice questions (with four options), totaling eight questions. Students were given 18 minutes to complete the reading section. Notably, the number of items in both assessments was intentionally limited, following existing research indicating that students with ASD often struggle with larger or more conventional testing formats (e.g., King & Palikara, 2018; Yang et al., 2022). Furthermore, using alternative assessment strategies was not an efficient procedure as the participants were familiar with the multiple-choice format only and the introduction of other modalities would not be advisable for learners with ASD as they happen to be significantly resistant and non-responsive to change of routines (Gibson et al., 2021; Guttke, 2018). As such, calculating reliability for a test which includes a deliberately limited number of items may not serve much purposeful (Larson-Hall, 2010).

Instrumental Music Tracks

Since there is no universally effective type of music for individuals with ASD and musical preferences and responsiveness can vary widely, the sociodrama and music therapy group experienced 24 instrumental music tracks across a diverse range of genres. These included new age, ambient, modern classical, orchestral, cinematic, neoclassical, ambient post-rock, ambient cinematic, and synthwave. The tracks featured a broad spectrum of frequencies from deep, low rumbles to high-pitched tones. They generally offered long, repetitive, slowly evolving soundscapes with soft melodies and rhythms designed to set a mood or atmosphere rather than to serve as a focal point. The selection and use of these tracks were reviewed and approved by a music therapist experienced in working with students with ASD.

Observation

The instructor adopted a semi-structured observation approach in the role of a participant-observer to document dominant behaviors exhibited by participants in both experimental groups during vocabulary learning and reading comprehension sessions. With parental consent, each session was audio-recorded for research purposes only and all participants were referred to using pseudonyms to protect their identities. After each session, the teacher-researcher transcribed the audio recordings to capture detailed classroom events and produced observation notes. This process enabled her to identify recurring behaviors among the learners and thus cautiously link these recurring themes to the quantitative findings of the study and corroborate them (as elaborated in the Discussion).

Procedure

The treatment in the two sociodrama groups was conducted by the same teacher (one of the researchers) and consisted of 10 sessions, each lasting 45 minutes over a period of 10 weeks. Prior to setting up the treatment for both groups, the teacher in collaboration with the other two researchers in this study developed a relatively comprehensive procedure for instruction (described below) with detailed lesson plans for each session. Throughout the treatment, the three researchers had regular consultation regarding the implementation of the two teaching modalities aimed at closely monitoring the process. In both groups, the learners adopted multiple sociodrama techniques (all of which are listed and described in Appendix A). They also went through common issues through techniques such as pressure circle, breaking in, behind the back, etc. and they sympathized with each other (comfort circle).

Sociodrama and Poetry Therapy

Firstly, the teacher started the class with greetings, introduction, and vocabulary assessment. Then, in the warm-up phase, she read the poem to the participants and asked them questions about it; she also asked them to speak about their own experiences.

Subsequently, the teacher conducted the process of reading each line and explaining it through pictures and other visual aids. The students attempted to repeat the words or the whole line. It was followed by asking questions both to comprehend the context and also to learn the vocabularies. At times, the learners attempted to know by asking questions such as What? Is it true? Can I say that? The teacher/researcher then showed them pictures. Certain learners could answer while others could not; those who could not tried to copy their friends. Next, the teacher repeated the line again as well as the new word.

In the transition from the warm-up phase to the active phase, the students were asked to don masks as part of the exercise. This transition facilitated a more immersive and engaging learning environment. Once the masks were in place, the teacher directed the students to respond to a series of questions. Each student, while wearing a mask, answered the questions in turn. When a student provided an incorrect answer, the teacher responded by offering clues to guide the student toward the correct response. This process of providing hints continued until the student arrived at the correct answer. Upon reaching the correct response, the teacher would repeat the question and the correct answer to reinforce learning and ensure comprehension (for an example of the teacher-learners interaction, see Scenarios I and II in Appendix B).

Sociodrama and Music Therapy

After the greeting, the teacher explained to the students what they were going to do during that session. Then, she asked the vocabulary to quickly assess the

students. As for the warm-up, the students listened to a music track which was selected in accordance with the topic of the story that was going to be taught that session. However, the researcher was ready to change the track whenever the students asked her to do so.

They talked about the theme and topic of the story followed by questions related to the story. The teacher asked the learners' taste and feelings about the music and if the music reminded them of something to share. She also asked each student for the word list she had prepared beforehand to ensure that all the words were new to each student before the teaching commenced. The method used regarding music therapy was imaginal listening as the participants listened to different instrumental tracks and the music was changed based on their tastes or when they experienced different moods during the process of reading. For instance, when the character needed hesitation and thinking, the teacher shifted to ambient music.

The story was used as the source of reading comprehension in this group while the music was being played in the background. The teacher read the story so that the students had this opportunity to match the sounds with the music soundscapes. Next, she read the story line by line so that she could explain the meaning of each line while emphasizing the new words that were going to be taught that session. This emphasis was done through the repetition of the new words while the word was underlined on the paper. In order to keep the students attentive in class while assessing them, the teacher asked the students to put the photos next to their corresponding written format.

In the active phase, the researcher/teacher used masks (as described in the poetry therapy group). Acting the roles, the teacher started digging up the meaning beneath the story; she asked them improvisatory questions which the students would answer (some samples are presented (for an example of the teacher-learners interaction, see Scenarios I and II in Appendix C).

In the two sociodrama groups, the learners adopted multiple sociodrama techniques such as assisting each other verbally or nonverbally or interacting to answer a question (multiple doubles), looking at each other's gesture and lip reading and then repeating (mirror), and assessing to what extent the mirrors have acted truly (focusing on differences / identification technique). They also went through common issues through techniques such as pressure circle, breaking in, behind the back, etc. and they sympathized with each other (comfort circle).

Results

The relevant descriptive and inferential statistics conducted in this study appear below chronologically. The descriptive statistics of the vocabulary and reading posttests are presented in Table 1.

Table 1

Descriptive Statistics of the Scores of Both Experimental Groups on the Vocabulary and Reading Posttests

	N	Min.	Max.	Mean	SD	Skewness	
	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	Std. Error
Vocab – Poetry	10	2	6	4.30	1.059	-.743	.687
Vocab – Music	10	3	9	7.30	2.163	-1.306	.687
Reading - Poetry	10	2	8	5.30	2.003	-.515	.687
Reading – Music	10	2	11	7.70	2.830	-.979	.687
Valid N (listwise)	10						

Regarding the vocabulary posttest, the mean and standard deviation of the scores were 4.30 and 1.06 in the sociodrama poetry group and 7.30 and 2.16 in the sociodrama music group, respectively. Also, both sets of scores enjoyed normality ($-0.743 / 0.687 = -1.081$ and $-1.306 / 0.687 = -1.900$, both falling within ± 1.96). As for the reading posttest, the mean and standard deviation of the scores were 5.30 and 2.00 in the sociodrama poetry group and 7.70 and 2.83 in the sociodrama music group, respectively. In addition, both sets of scores met the assumption of normality ($-0.515 / 0.687 = -0.749$ and $-0.979 / 0.687 = -1.425$, both falling within ± 1.96). Furthermore, the reliabilities of the scores of both experimental groups on the vocabulary posttest were 0.81 and 0.79 while those on the reading posttest were 0.78 and 0.80.

Testing the Null Hypotheses

The two null hypotheses below were formulated in line with the quantitative questions.

H₀₁: There is no significant difference between the impact of sociodrama and music therapy and sociodrama and poetry therapy on the vocabulary of EFL learners with ASD.

H₀₂: There is no significant difference between the impact of sociodrama and music therapy and sociodrama and poetry therapy on the reading of EFL learners with ASD.

To test the veracity of the two null hypotheses of the study, the researchers conducted two independent samples *t*-tests. Going back to Table 1, the score distributions in both groups represented normality. Therefore, running a parametric *t*-test was legitimized.

As Table 2 indicates, with the F value of 0.796 at the significance level of 0.384 being larger than 0.05, the variances between the two groups were not significantly different. Therefore, the results of the t -test with the assumption of homogeneity of the variances were reported here. The results ($t = -0.355$, $p = 0.727 > 0.05$) indicate that there was no significant difference between the mean scores of the two groups' vocabulary posttest and that the null hypothesis was not rejected. In other words and in response to the first research question, there was no significant difference between the effect of sociodrama and music therapy and sociodrama and poetry therapy on the vocabulary of EFL learners with ASD.

Table 2

Independent Samples T-Test of the Mean Scores of Both Groups on the Vocabulary Posttest

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig.	Mean Dif.	Std. Error Dif.
Equal variances assumed	.796	.384	-.355	18	.727	-.400	1.126
Equal variances not assumed			-.355	16.8	.727	-.400	1.126

The same process was conducted for the second null hypothesis. Accordingly, Table 3 presents the statistical comparison of the mean scores of both experimental groups on the reading posttest.

Table 3

Independent Samples t-Test of the Mean Scores of Both Groups on the Reading Posttest

	Levene's Test for Equality of Variances			t-test for Equality of Means			
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	5.15	.036	-1.39	18	.180	-1.000	.716
Equal variances not assumed			-1.39	13.6	.185	-1.000	.716

As Table 3 indicates, with the F value of 5.152 at the significance level of 0.036 being smaller than 0.05, the variances between the two groups were significantly different. Therefore, the results of the t -test with the assumption of heterogeneity of the variances were reported here. The results ($t = -1.396$, $p = 0.185 > 0.05$) indicate that there was no significant difference between the mean scores of the two groups' reading posttest and that the null hypothesis was not rejected. That is to say that in response to the second research question, there was no significant difference between the effect of sociodrama and music therapy and sociodrama and poetry therapy on the reading comprehension of EFL learners with ASD.

Discussion

As noted above, the quantitative data analysis indicated no significant difference between the effect of sociodrama and music therapy and sociodrama and poetry therapy on the vocabulary and reading comprehension of EFL learners with ASD. This conclusion is discussed below in the context of some of the other pertinent studies reported. To begin with, Martínez-Vérez et al. (2024) conducted a systematic review, synthesizing 80 studies on art therapy and music therapy interventions on children with ASD and ADHD and found significant improvements in their communication, and social, cognitive, emotional, and behavioral skills. Similarly, Martí-Vilar et al. (2023) concluded that theatre-based interventions using role-play, improvisation, and movement could significantly improve communication and social interaction, nonverbal language such as pragmatics and narrative ability, and emotional comprehension in individuals with ASD. Likewise, the results of the present study indicating the usefulness of sociodrama align with those of the above studies.

The results of this study also resonate with that of Yizengaw (2021) who found social skills training effective on interpersonal interactions of children with ASD. In their scoping review, Gibson et al. (2021) proposed a conceptual framework, concluding that play-based interventions can support social and communication development in autistic children aged 2–8 years. In the same vein, the findings match with that reported by Chiang et al. (2024); the researchers used social-competence group intervention featuring didactic teaching and practice in play contexts for preschool children with ASD, concluding that the intervention was effective in improving these children's social competence and reducing caregivers' parental stress.

In addition, applying a role-play assessment tool and drama-based social skills intervention for adults with ASD, Ivers (2024) found dramatherapy a flexible approach for those with difficulties in verbal expression thus leading to improvements in communication. Similarly, Trudel and Nadig (2019) applied drama-based social skills intervention for adults with ASD and used a role-play assessment tool to measure the changes thereby finding improvements in communicant and self-regulation skills from pre- to post-intervention. Again, the present study demonstrated the effectiveness of sociodrama in line with the findings of the aforesaid study.

Regarding music, the result of this research is convergent with that presented by Williams et al. (2024), indicating that children with ASD possess exceptional musical ability; integrating music with language could increase their attention to spoken word. Lim and Draper (2010) found that language training embedded with music was more effective than the speech training among low functioning participants. Saedi et al. (2021) found rhythmic poetry training effective on the language skills of children with ASD including linking vocabulary understanding, grammatical understanding, and word differentiation. Accordingly, the outcome of the present study is in accordance with that of these three studies.

Regarding poetry, Shabani Minaabad (2020) found poetry therapy effective on language development and social skills of children with ASD while Soali and Krisbiantoro (2021) asserted that showing pictures and doing fun and engaging activities were effective in writing English descriptive texts among students with ASD in inclusive schools. They also found that during the process of writing, students followed specific learning strategies, like planning before writing, outlining and picture prompting, repetition, asking for help, and teacher's modeling. Again, the conclusion of the present study was congruent with that of the above studies.

The reason for this lack of significant difference between the impact of sociodrama and music therapy and sociodrama and poetry therapy on the vocabulary and reading skill of individuals with ASD may be the immediate corollary of the high level of classroom engagement and the alacrity manifested by the learners in both groups. This proposition was perhaps tangibly observable throughout the teacher-researcher's observation during the interventions. Indeed, she made note of several cases of the learners manifesting creativity in the process of vocabulary learning and reading comprehension and while responding to the improvisatory questions during the active phase.

Another dominant behavior that the researcher observed was the learners' relating to the sociodrama and the music or poetry they were exposed which encouraged them to use language to express their feelings and aspirations. Furthermore, the teacher/researcher observed increasing verbal interaction among the learners again in both groups. This growing interaction was of course in the modality of teacher-learner and learner-learner.

Additionally, if sociodrama with music therapy (i.e., A + B) and sociodrama with poetry therapy (i.e., A + C) bear no significantly different impact, then perhaps the immediate logical deduction is that sociodrama (A) outweighs the effect of music therapy (B) and poetry therapy (C). Hence, the not so different impact of the two modes of intervention in this study is to be probably interpreted through exploring further the mechanism of sociodrama in the EFL classroom. If so, one could arguably postulate that it was in effect engaging in sociodrama that helped the EFL learners with ASD develop empathy and understand diverse perspectives. This emotional engagement probably deepened their comprehension of narratives which enabled them to relate to characters and situations within texts.

Also, the dynamic and interactive nature of sociodrama may have substantially boosted motivation among EFL learners. As the learners in both

experimental groups were actively involved in the learning process, they were perhaps more likely to engage with new vocabulary and reading materials, leading to improved learning outcomes. Furthermore, sociodrama provided a low-pressure environment for practicing social language skills. By navigating dialogues and interactions in a structured setting, the learners had the opportunity to enhance their conversational abilities and vocabulary usage thus contributing to their overall language proficiency.

Sociodrama perhaps encouraged critical thinking and problem-solving as learners negotiated roles and scenarios in both groups. This active engagement could have facilitated deeper discussions about texts thereby enhancing reading comprehension by allowing the learners to analyze and interpret language and meaning more effectively. Moreover, the safe space created in sociodrama settings perhaps alleviated anxiety for these learners with ASD, empowering them to take risks in their language use. As they gained confidence through participation, they became more willing to engage with new vocabulary and reading materials.

The aforesaid safe and congenial space may well be what learners with ASD need to feel prior to any attempt at learning new materials since for such individuals, it appears that they wish to remain in their comfort zone at all times and in all places. As such, the result of this study has perhaps indicated that sociodrama can promote such a context for learners with ASD to expand their vocabulary and reading skill.

Conclusion

The findings of this study highlight the importance of employing sociodrama techniques in language teaching for EFL learners with ASD and may offer several pedagogical implications, particularly, concerning vocabulary acquisition and reading comprehension. First, sociodrama emphasizes group participation and collaboration, fostering a supportive learning community. This social interaction can possibly create a comfortable environment for EFL learners with ASD thereby enhancing their vocabulary and reading through peer support and shared experiences. Secondly, sociodrama may allow learners to explore language in meaningful contexts. By acting out real-life scenarios, students may acquire vocabulary that is relevant and applicable to their daily lives which could significantly enhance retention and comprehension as the new words are perhaps more relatable and easier to remember.

In addition, sociodrama incorporates visual, auditory, and kinesthetic elements, catering to various learning styles. This multisensory approach arguably reinforces vocabulary acquisition and reading comprehension thus making learning more accessible and enjoyable. Also, sociodrama allows learners to express their thoughts and feelings creatively. This self-expression could foster a personal connection to vocabulary and texts, leading to a deeper understanding and retention of language.

On another front, music provides rich contexts for vocabulary use, illustrating meanings through lyrics. This contextualization may help learners establish connections between words and their applications thus enhancing comprehension and the ability to use vocabulary appropriately. EFL learners with ASD may also benefit from the auditory stimulation that music offers thereby fostering better phonemic awareness and aiding in vocabulary recognition and pronunciation. Additionally, music often evokes emotions and forges a personal connection to language learning. This emotional engagement may deepen understanding and retention of vocabulary as learners relate words to the feelings and experiences conveyed in songs. This connection may further enhance reading comprehension as they engage with narratives.

Regarding poetry therapy, it is perhaps safe to assert that poetry encourages introspection and allows learners to reflect on their experiences and thoughts. This reflective practice may deepen their understanding of vocabulary in context and improve their ability to connect personally with reading materials. The therapeutic nature of poetry creates a calming atmosphere that can alleviate anxiety, especially for learners with ASD. A relaxed environment fosters openness to language exploration thereby making it easier for students to engage with vocabulary and comprehend texts.

As elaborated above, this study delineated that both methods may foster language learning. By recognizing their effectiveness, educators may be inclined to employ the potential of the two methods to establish a more inclusive and supportive classroom environment, especially for learners who have special needs – such as ASD. Teachers may put into effect certain strategies in accordance with the findings presented above. For instance, sociodrama can be utilized to create role-playing scenarios that encourage learners to look into various perspectives and nurture empathy.

Alongside the role that teachers can fulfill in this context, syllabus designers can also incorporate these therapeutic approaches into the curriculum and prepare courses, plans, and workshops which are centered around the application of sociodrama and music/poetry therapy. As an example, a unit that combines poetry and music may help learners express their feelings and experiences thus enriching their educational journey.

One must of course not overlook the pivotal stance of educational policymakers who could be encouraged to consider the necessity of setting up training programs which would, in turn, endow teachers with the practical techniques required in these therapeutic pedagogies. Investing in teacher empowerment through PD is viewed as a concrete driver behind promoting quality education; such investments and policies indisputably call for support on behalf of high-level decision-makers to guarantee effective and sustainable implementation. Yet, the commitment of these decision-makers albeit bearing a prominent impact would not suffice on its own as the durable and consistent progress of any system requires both top-down and bottom-up engagement away from any ‘oppressive’ one-way modality – to use the Freirian term. In simple terms, all stakeholders including policymakers, educational managers, curriculum designers, mental health

professionals, head-teachers, supervisors, teachers, and very importantly the learners and their parents/caretakers themselves must be on board throughout the process. In all actuality, only by working together systemically can these institutions adopt comprehensive programs aimed at employing these therapeutic methods effectively and thus promote inclusive quality education.

During the course of the study, the following points occurred to the researchers which were engendered by the limitations of this study; accordingly, the following suggestions are presented. The same study can be run with a larger sample size and wider range of learners such as those with varying levels of language proficiency, age, gender, and other sociodemographic factors or significantly diverse backgrounds. This can help determine the applicability of the findings across different cohorts, especially if the participants were selected randomly as opposed to the nonrandom convenience sampling adopted in this study. Future studies could explore the impact of these techniques on specific language skills beyond vocabulary and reading comprehension such as speaking, writing, or listening skills, to provide a more comprehensive understanding of their effectiveness. Further research could involve replicating the study with language learners across different levels of ASD to assess whether varying degrees of ASD impact the effectiveness of sociodrama, music therapy, and poetry therapy on vocabulary learning and reading comprehension.

In addition, other studies could include the collection and thematization of qualitative data through interviews or focus group discussions with learners, educators, and therapists. This can enrich the understanding of the subjective experiences and perceptions of individuals involved in these interventions. In the course of this study, the teacher was also the observer which may have caused bias. In future studies, two different individuals could be assigned these two roles to eliminate such probable bias. Last but not least, other studies could explore specific methodologies and outcomes related to sociodrama, music therapy, and poetry therapy in diverse educational settings.

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Appendix A: Sociodrama Techniques

Technique	Application
Multiple doubles	All members work together and provide extra assistance to the protagonist
The pressure circle	Encircling the protagonist by other members to show the pressure
Comfort circle	Encircling the protagonist by other members to show their sympathy
Circle of friends	Listening to the protagonist's dreams
Breaking in	Encircling the protagonist forming a wall between them and their significant other
Behind the back	Talking about the protagonist behind their back
Behind your back audience technique	Protagonist talking about the audience behind their back
Focusing on differences	Asking the protagonist to recognize the distinguishing features between the two auxiliary egos
The identification technique	Asking the protagonist to recognize the identical features between the two auxiliary egos

Appendix B: Sample Scenarios in the Sociodrama and Poetry Therapy Group

Scenario I

Abolfazl (all names are pseudonyms) sits on the chair and assumes the role of the robot. Matin (Sad) and the teacher (Joy) are circling him. Abolfazl is asked to put his hands on his face pretending to be sad. The technique used here is comfort circle.

Act I

Teacher: What happened to you little robot?

Matin: Why sad?

Teacher: Why are you sad? [mirroring]

Abolfazl: Because... I want home...! I lost. No friends.

Teacher: Oh, you are lost! [mirroring] What do you want little robot?

Abolfazl: I want friends.

Teacher: We are with you little robot; we are your friends!

Matin: I take back, heart! (giving the heart to Abolfazl)

Scenario II

Matin stands behind Abolfazl and gives his opinion about the robot: the technique being used here is *behind your back technique*.

Act II

Teacher: Matin, do you think our robot is sad or happy? (referring to the roles Sad and Joy)

Matin: Happy (showing Joy).

Teacher: Look at the face of the robot! (putting on the role of *look at*)

Matin: Sad ... sad (assuming the role of Sad).

Teacher: Why is he sad do you think?

Matin: Because, ... no friend, no home (referring to the pictures of friends and home).

Teacher: He has no friends and no home [mirroring].

Matin: Yes!

Matin: پول چی می‌شه؟ (asking for the word money).

Teacher: Money (she draws the picture of money with the spelling on top of it and repeats the word several times) [double].

Matin: No money!

Teacher: Aha, what else? (she translates the sentence into Persian) [double].

Matin: No art!

Teacher: That's right. So, what should we do for him?

Matin: Find friends. I want happy!

Teacher: You want him to be happy? [mirroring]

Matin: Yes.

Appendix C: Sample Scenarios in the Sociodrama and Music Therapy Group

Scenario I

The students circle Mahyar who plays the role of Fish. Mahyar is pretending to be Sad. The teacher and the other students are round him. The techniques being used are double, comfort circle, and circle of friends. The participants consist of Pooria, Shayan, Mahyar, and the teacher.

Act I

Teacher: Why are you sad little fish?

Mahyar: Because... because... sad.

Teacher: why are you sad?

Mahyar: Because School!

Teacher: You don't like school? [double]

Mahyar: No! [laughing] (The teacher asked Pooria to go behind Mahyar and double him).

Teacher: Why are you sad, little fish? (she repeats the question).

Pooria: Because fish want sea! [double]

Teacher: Yes, fish wants sea! [mirroring]

Teacher: What do you wish for? [circle of friends]

Mahyar: Wish?

Teacher: You can draw it. (Mahyar draws a picture of himself and he says wish is me)

Scenario II

The teacher takes the role of Seagull and pretends to be sad. She goes to Fish to start a conversation and attempts to show that she flies; the technique being used here is focusing on differences.

Act II

Teacher: Oh, God, I wanted to be a little fish.

Pooria: sea ... sea (he plays the role of the sea). I want fish here.

Mahyar: I want sea.

Teacher: Pooria [Sea], which of us do you welcome?

Pooria: Fish!

Teacher: Why?

Pooria: fish ... swim ... [focusing on differences].

Teacher: So, where should I go?

Shayan: Playing the role of sky (bird, ... sky...).

Authors' Biographies



Fatemeh Ghaderi Bafti is a PhD candidate of TEFL at Islamic Azad University, Central Tehran Branch. She has been teaching at several universities in Tehran and Mashhad and her main area of research interest is methodology of English language teaching with a particular focus on teaching individuals with ASD.



Hamid Marashi is Associate Professor of Applied Linguistics at Islamic Azad University, Central Tehran Branch. He currently teaches graduate and postgraduate courses with his main areas of research interest including innovative teaching practices and learner variables. He has published in international academic journals (including *TESOL Journal* and *Language Learning Journal*) and also presented in international conferences.



Mania Nosratinia is Assistant Professor of Applied Linguistics at Islamic Azad University, Central Tehran Branch. She has been teaching at undergraduate, graduate, and postgraduate levels in the areas of English language teaching methodology, language testing, and research methodology in language studies. She has published in national and international academic journals and presented in several national and international conferences/seminars.