



European Journal of Educational Research

Volume 13, Issue 1, 353 - 365.

ISSN: 2165-8714

<https://www.eu-jer.com/>

The Degree of Application of Language Activities in Autistic Children and Their Relationship in Improving Verbal Expression Skills in Special Education Centers in Jordan

Randa Mousa Al-Momani* 
Al-Balqa Applied University, JORDAN

Received: May 5, 2023 • Revised: July 26, 2023 • Accepted: August 17, 2023

Abstract: The study sought to determine the degree to which autistic children used language activities and their relevance to increasing verbal expression abilities in Jordanian special education institutions. The descriptive-analytical technique was used in the investigation. The two dimensions were utilized to represent the instrument through a set of 27 statements. The participants included 200 instructors from special education centers in Amman, Jordan's capital. The study's findings revealed a high level of application of linguistic activities among autistic children in Jordanian special education programs. Their ability to express themselves verbally improved significantly as well. The findings also revealed a statistically significant positive link between the extents to which autistic children applied language exercises and the improvement of verbal expression abilities in special education institutions.

Keywords: *Autistic children, language activities, special education centers, verbal expression skills.*

To cite this article: Al-Momani, R. M. (2024). The degree of application of language activities in autistic children and their relationship in improving verbal expression skills in special education centers in Jordan. *European Journal of Educational Research*, 13(1), 353-365. <https://doi.org/10.12973/eu-jer.13.1.353>

Introduction

Autism spectrum disorder (ASD) is a complex neurological condition that affects social interaction, speech, and behavior. Current studies are focused on improving the quality of life for autistic individuals by developing treatments that enhance social and communication skills, vocabulary growth, and pronunciation (Cahapay, 2022). Visual support systems and language exercises have proven effective in teaching and regulating behavior, as well as improving verbal communication abilities. Linguistic competency, including receptive, expressive, and nonverbal communication skills, is crucial for successful social engagement (Miniscalco & Carlsson, 2022). Addressing linguistic challenges through individual and group language exercises can promote social inclusion and break down barriers (Costley et al., 2021; Franchini et al., 2018). Specialists recognize the importance of training vocal expression skills in autistic children to overcome communication and language impairments (Fleury et al., 2021). Incorporating linguistic activities into treatment can foster social engagement, connection building, and conversation skill improvement.

The study investigates the usage of language activities in Jordanian special education facilities and their impact on enhancing verbal expressive abilities in autistic children.

Communication difficulties in children with autism can lead to isolation and hinder independence. Prior research by Al-Khalaf et al. (2014), Andrés-Roqueta et al. (2016), Clendon et al. (2021), and Bolourian et al. (2022) underscores the importance of developing verbal expressiveness and communication skills. Rezai et al.'s (2022) findings have influenced the current study's focus on creating a supportive school environment to enhance language development in autistic children. The article highlights the importance of tailored language exercises for autistic children to overcome language barriers and enhance interactions (Henry & Solari, 2020). The study aims to assess the usage and effectiveness of language activities in Jordanian special education facilities for autistic children, offering valuable insights to enhance their language development and communication skills.

The current study aims to assess the implementation of language activities for children with autism in Jordanian special education centers (Q1). Building on previous research emphasizing the importance of verbal expressiveness and

* **Corresponding author:**

Randa Mousa Al Momani, Al-Balqa Applied University, Jordan. ✉ dr.randam@bau.edu.jo



communication skills (Al-Khalaf et al., 2014; Andrés-Roqueta et al., 2016; Bolourian et al., 2022; Clendon et al., 2021), the research investigates the improvement of verbal expression skills within the same educational setting (Q2). It also explores the effectiveness of tailored language interventions by examining the relationship between language activities and teachers' perceptions of improved verbal expression skills (Q3). These insights have significant implications for enhancing communication outcomes and reducing isolation among children with autism in Jordanian special education settings.

The study acknowledges that Jordan's special education institutions have implemented language activities to some extent, although the outcomes may not fully meet expectations. Teachers perceive a potential link between language exercises and improved verbal expressive skills in autistic children. The research aims to identify factors that facilitate or hinder the effectiveness of language activities in developing verbal expression abilities. Overall, the study seeks to clarify the efficacy of language programs for autistic students in Jordanian special education settings.

The study holds significance for special education centers, teachers, administrators, and parents in Jordan and other countries, emphasizing the importance of language activities and verbal expression skills. It provides a practical approach for implementing these activities in centers and offers valuable insights for future research on language interventions for autistic children (Al-Khalaf et al., 2014; Andrés-Roqueta et al., 2016; Bolourian et al., 2022; Clendon et al., 2021). The findings offer strategies for enhancing verbal expression abilities in autistic children and individuals with exceptional needs and can serve as a starting point for similar research worldwide (Gliga et al., 2014).

The study aimed to assess the use of language activities in Jordanian special education centers and their impact on improving verbal expression abilities in autistic children. The research analyzed the implementation of language exercises across different facilities and monitored the enhancement of verbal expressive skills. Instructors' judgments of language activity utilization were found to be significantly associated with its influence on verbal expression abilities.

Literature Review

Language exercises at special education facilities in Jordan are seen as an effective way to improve autistic children's verbal expressive ability. Because autistic children frequently struggle with communication and social connections, implementing systematic language development activities can help them overcome linguistic hurdles. Making visual aids, storytelling, communication skills, and reading exercises are examples of these activities. Special education facilities in Jordan can help autistic children express themselves more effectively and develop their communication skills by providing a friendly and engaging atmosphere (Parchomiuk, 2019).

There has been an increasing interest in using language exercises to enhance the language abilities of autistic children in Jordanian special education facilities in recent years, and various studies have demonstrated promising results in this respect. Children in Jordan who have autism spectrum disorders often attend special education schools that are tailored to their particular requirements. These facilities offer specific instruction and assistance to aid the intellectual, social, and communicative growth of children with ASD (Sturrock et al., 2022).

In Jordan, inclusive education is prioritized in the general education policy for children with impairments, which implies that if feasible, students with disabilities should be enrolled in regular classrooms. Nevertheless, special education centers offer a more suitable and supportive setting for children with more severe difficulties, such as those with ASD. The Jordanian government has also put in place a number of laws and regulations to promote the rights of people with disabilities, including the right to an education, and to make sure they have access to education and other services as well as equal opportunities.

The evaluation of literature provided a thorough viewpoint on the use of language exercises for increasing verbal expressive abilities in autistic children attending special education institutions in Jordan. These activities are regarded as an excellent technique for addressing autistic children's communication impairments, particularly their difficulty in social relationships. The evaluation listed numerous activities targeted at supporting language improvement, such as storytelling, communication skill development, reading exercises, and visual aid production. While the evaluation provided useful insights into the advantages of language exercises, it fell short in consolidating data and identifying overarching themes from the referenced research.

The current study seeks to fill many gaps found in the literature review. For starters, it aims to give a more thorough synthesis of previous research, allowing for a better understanding of results and prospective routes for future study. Furthermore, the study seeks to identify particular gaps in knowledge or comprehension in the field of language exercises and their influence on autistic children's verbal expressive capacities. The proposed study distinguishes itself further by looking into Jordan's cultural environment and its possible effect on the efficacy of language treatments. The study attempts to give a more contextually informed view on their efficacy by studying how cultural characteristics unique to Jordan may impact the outcomes of these activities. Furthermore, the study aims to fill a vacuum in the data on the long-term impact of language therapies and the transition of autistic children to adults. The project will use a longitudinal method to follow children's growth over time and offer insight on how improved verbal expressive abilities through language exercises impact their educational trajectories and obstacles as they enter adulthood. Even though the reviewed

literature effectively elucidates the importance of language exercises for improving verbal expressive abilities in autistic children in Jordanian special education facilities, it lacks a synthesis of findings and gaps, as well as a clear delineation of the specific gaps that the current study aims to address.

The proposed study aims to fill these gaps by giving a full synthesis, addressing cultural impacts, investigating long-term effects, and providing a greater understanding of the usefulness of language exercises in this specific setting.

Language activities

Language activities are increasingly regarded as an essential and successful educational strategy for assisting children in developing the language skills required for efficient communication with classmates, family members, and teachers (Bolourian et al., 2022). Early childhood language educators and linguists have increasingly accepted the use of a variety of language exercises to improve children's language abilities (Yilmaz et al., 2022). This method has gained traction in recent years as educators aim to assist children's language acquisition through entertaining and engaging language activities that offer a simple and accessible alternative to standard language learning strategies (Rezai et al., 2022).

Language exercises have been shown to be an effective strategy used by educators and modern educational institutions to provide students with essential language abilities. Language activities, as opposed to the traditional strategy that focuses simply on understanding grammar, have become critical in encouraging children's language acquisition. These activities integrate a variety of successful approaches such as imitation, modeling, play, and linguistic task performance in an environment that mimics real-life circumstances that children face (Bussieres et al., 2017; van der Pluijijm et al., 2019). Rather than depending on antiquated teaching techniques, teachers use a variety of activities, such as acting and role-playing, sometimes known as plays, to improve children's language abilities in a fun and engaging way. Instructors also use traditional teaching strategies such as oral reading, oral expression, and text listening to assist pupils in enhancing their language skills (Domagała-Zyśk & Podlewska, 2019; Madondo & Tsikira, 2022).

Teachers have used role-playing and character quotation games as an efficient method to improve students' linguistic abilities (Bolourian et al., 2022). According to studies by Al-Khalaf et al. (2014), Bolourian et al. (2022), and Yilmaz et al. (2022), these interactive exercises actively engage youngsters with accessible language resources, and teachers swiftly correct any language problems that occur during the process.

Furthermore, there have been good benefits to language development from simplifying stories and poetry for young students. Children are encouraged to engage in conversations while learning crucial language skills, an enlarged vocabulary, and language frameworks used in everyday life through narrative and depiction (Andrés-Roqueta et al., 2016; Rezai et al., 2022).

According to van der Pluijijm et al. (2019), Clendon et al. (2021), and others, the adoption of these activities creates a lively and dynamic environment that encourages children to actively engage and take steps to advance their language skills. Teachers may successfully foster language development in students while fostering a fun and supportive learning atmosphere by implementing such engaging and entertaining methods.

Education of children with ASD in Jordan

Language exercises have become more popular in Jordan as a successful educational approach for enhancing language abilities in children, especially those with autism. To keep children interested and improve their language skills, teachers at special education facilities have started including a range of language activities like role-playing and storytelling. In addition to creating a secure and encouraging setting for children with autism, these activities offer a more pleasurable and approachable manner for children to learn language skills. Children's vocabulary and linguistic frameworks are enhanced through conversations that are added to stories and poetry extracts that have been simplified. Consequently, language exercises are now a vital component of language instruction in Jordan, especially in special education facilities (Al-Khalaf et al., 2014).

The majority of Jordanian children with autism spectrum disorder (ASD) attend educational institutions designed specifically for them. The National Strategy for People with Disabilities 2013–2022, which seeks to promote inclusive education and offer fair chances to all people, including those with ASD, is a national initiative. The literature, however, doesn't go into great detail on the difficulties these kids encounter in school and in their social lives. Understanding their particular challenges is crucial for creating specialized treatments and support. Insights might also be gained by looking at how inclusive education is really practiced in special facilities and how parents and families are involved. It is important to take cultural influences into account when determining how children with ASD are educated. To guarantee effective education and growth for children with ASD in Jordan, it is necessary to further investigate long-term results, the transition to adulthood, and government measures supporting ASD education (Al-Khalaf et al., 2014; Shatnawi et al., 2021).

Special education centers in Jordan

Students with a range of impairments, such as those with autism spectrum disorder (ASD), are served through special education facilities in Jordan. With an emphasis on addressing each student's unique requirements, these centers were created to offer children with special needs a friendly and inclusive learning environment. Specialized classrooms, tailored education plans, and trained personnel who can give support and direction to children with special needs are just a few of the services and resources that special education facilities in Jordan offer. These facilities aim to provide students with the resources and tools they need to realize their full potential and get them ready for a prosperous future (Derderian, 2015).

Children with impairments, including those with ASD, can receive both educational and therapeutic assistance from special education facilities in Jordan. These facilities provide unique resources and assistance that may not be offered in conventional classrooms, such as tailored learning plans, specialist tools and materials, and qualified staff. To meet the unique requirements of children with ASD, special education facilities frequently include speech and language therapy, occupational therapy, and behavioral treatment in addition to academic teaching. More work is required to increase access to high-quality services and education for all children since there are still difficulties in Jordan in providing sufficient resources and support for children with impairments (Al-Zboon, 2022).

Verbal expression skills

Children with particular language impairments, as well as those with intellectual or physical disabilities, face a variety of challenges in school because their inability to communicate impairs both their academic and linguistic performance (Andrés-Roqueta et al., 2016). To address these challenges, students with impairments, such as those with autism, are often placed in special education settings that provide a learning environment adapted to their psychological state and intellectual skills. However, even in these settings, autistic children may experience difficulties learning language skills, as they may not be able to talk or engage with classmates at a young age, and they may have difficulties understanding and expressing language (Hashim et al., 2022; Koegel et al., 2020; Lord et al., 2020).

Autistic children may also exhibit distinct behaviors from their typically developing peers during social interactions. To help autistic children learn their language skills more effectively, a variety of strategies and techniques are used. Special education centers provide an appropriate setting and curriculum that integrate play and interactive activities to help autistic children improve their language abilities. These centers also employ instructors with experience dealing with autistic children to help them communicate and socialize with their peers (Cummins et al., 2020; Henry & Solari, 2020; Marquez-Garcia et al., 2022; Syriopoulou-Delli & Gkiolnta, 2022).

The development of vocal communication skills in early childhood is critical because it represents a child's ability to communicate with their surroundings and family members (de Oliveira et al., 2020). Verbal expression includes accurate word pronunciation as well as the use of language and structures to convey fundamental requirements, hence enhancing a child's communication ability (Bradshaw et al., 2017). It could be argued that a child's verbal expression skills are significantly dependent on their ability to use the language they have acquired appropriately and successfully within their society (Wilson et al., 2020).

In special education facilities, children participate in a variety of games and activities, using materials such as sand, bricks, and paper to construct and create items, giving them the chance to describe and discuss their creations (Kouklari et al., 2018). These games and activities help children develop linguistic and expressive abilities, and they have been used to increase verbal expression skills via play and language exercises (Bagassi et al., 2020). Play-based activities, such as talking about pictures, describing visual features, answering questions, and solving verbal puzzles, can help five-year-old children acquire language abilities (Makrygianni et al., 2018). These special education facilities are set up to give autistic children and their families' access to experienced staff who employ educational approaches to strengthen children's language and verbal expression abilities, allowing them to communicate successfully with their peers and participate in society (Harrop et al., 2021).

Overall, special education facilities play an important role in helping autistic children learn and develop their language skills. These facilities provide a supportive and inclusive environment where children can learn at their own pace and receive the support they need to succeed.

Hypotheses development

In Clendon et al.'s (2021) study, the developing reading skills of young children with autism spectrum disorder who have poor verbal communication skills were assessed. Henry and Solari (2020) studied the influence of spoken language and auditory comprehension development in children with autism spectrum disorders, and Vyshedskiy et al. (2020) determined how caregiver-led imaginative play activities affected the language skills of autistic children. Bin Saddiq (2021) performed a study to determine how well an electronic language-based program may improve the expressive language and interpersonal communication abilities of Egyptian youngsters with hearing impairments. Wofford and Tibi (2018) sought to determine the effectiveness of a training program created to improve phonological awareness and

verbal expression skills in Syrian kindergarten students with delayed language development. Mousa (2022) investigated the influence of a language activity program on the linguistic uniqueness of kindergarten children in Iraq. Mutabbakani and Callinan (2020) looked at the effectiveness of a training program in Kuwait for children with autism disorder to improve their verbal expressive skills. All of the studies employed experimental methodologies to evaluate the efficacy of the interventions.

Methodology

Research Design

In this study, a questionnaire was created to gather information from participants on the use of language activities and its relationship to the development of verbal expression skills in Jordanian special education facilities for children with autism spectrum disorder. The 27-statement questionnaire was created using the theoretical framework and earlier studies pertaining to the study variables.

- The first dimension: language activities: consists of (14) statements.
- The second dimension: verbal expression skills: consists of (13) statements.

Using a study of the literature and an analysis of pertinent scales, the characteristics of language activities in autistic children and their relevance to enhancing verbal expression abilities in special education settings were determined. Based on research by Madondo and Tsikira (2022), Domagała-Zyśk and Podlewska (2019), Lord et al. (2020), Hashim et al. (2022), and Koegel et al. (2020) these dimensions were chosen based on their closeness to the sample response. To contain the sample response to specific dimensions that contribute to the lack of language activities in autistic children and their relationship to enhancing verbal expression skills in special education settings, the researcher added the two axes of language activities and verbal expression skills (Canu et al., 2021; Dai et al., 2016).

To find pertinent dimensions, the researcher undertook an extensive examination of the literature and scales linked to linguistic activities and verbal expression skills. The dimensions were chosen based on their applicability to the sample response and were guided by other investigations. The researcher introduced the two axes of language activities and verbal expression skills in order to better concentrate on the factors that affect the absence of language activities in autistic children and their link to enhancing verbal expression abilities in special education centers. For this work, references included the research by Madondo and Tsikira (2022), Domagała-Zyśk and Podlewska (2019), Lord et al. (2020), Hashim et al. (2022), and Koegel et al. (2020).

The research instrument included five Likert scale possibilities. Specifically, there are always (5) degrees, frequently (4) degrees, occasionally (3) degrees, rarely (2) two degrees, and never (1) one degree (Behrend et al., 2011). The statistical criterion based on the following equation was used to assess the level:

$$\text{Category length} = \frac{\text{upper limit} - \text{lower limit (scale gradient)}}{\text{number of levels (number of assumed categories)}} \\ = \frac{5-1}{3} = \frac{3}{4} = 1.33$$

The levels were as follows:

- Low level: it is awarded to statements whose arithmetic average ranges (1-2.33).
- Intermediate level: it is awarded to statements whose arithmetic average ranges from (2.34-3.67).
- High level: it is awarded to the statements whose arithmetic average ranges from (3.68-5).

Additional initiatives were done to improve the instrument's rigor. To begin, a panel of professional arbitrators was consulted. This guaranteed that the questionnaire items were theoretically solid as well as practically relevant to the study objectives. A pre-testing or piloting step involving a smaller group of potential responders was also carried out. The researchers were able to detect any ambiguities, inconsistencies, or disparities in the phrasing of questions during the pilot phase, ensuring that the final questionnaire was clear, succinct, and efficiently gathered the required information. These validation measures not only contributed to the instrument's robustness, but also functioned as necessary stages in establishing the legitimacy and integrity of the study's conclusions.

Sample and Data Collection

A study was carried out to investigate the usefulness of employing language exercises in special education facilities in Jordan to enhance autistic children's verbal and expressive skills. The descriptive-associative strategy was employed by the researcher in the current study due to its applicability to such investigations. During the second semester of 2021–2022, a random sample of a total of 220 surveys was distributed, of which 220 special education instructors were drawn from the capital Amman governorate's special education facilities. The researcher selected a random sample of 220 special education instructors from the capital Amman governorate special education facilities. The sample size of 220 is reasonable and falls within the suggested range of sample size. The sample size of 220 is likely to provide adequate

statistical power and representativeness for the research investigation. Most investigations require a sample size of greater than 30 but fewer than 500 samples (Andrzejewski et al., 2023).

Analyzing of Data

Integrity was used to check the tool's sincerity and the degree of appropriateness of its assertions, as well as whether it measures what it was designed to assess in order to meet the study's and questions' objectives. The researcher submitted her case before a panel of arbitrators with special education experience drawn from teaching personnel at Jordanian universities' faculties of educational sciences. The arbitrators' views and recommendations were considered, and statements with an approval percentage of 80% or above were kept. This is done to ensure that the resolution statements are relevant to the regions being measured. The procedure for adding or removing unsuitable questionnaire statements has been improved, and it is now acceptable for grading the apparent veracity of the questionnaire (Nikjo et al., 2021).

To ensure that the study tool is stable. The test-and-retest technique was used, with a sample of 20 instructors at special education facilities in the Capital Governorate of Amman chosen from outside the research sample at a two-week interval. The Cronbach's alpha coefficient was calculated using the Pearson correlation coefficient and the instrument's coefficient of internal consistency, as indicated in Table 1.

Table 1. Values of Pearson Correlation Coefficients Between Statement Score and Total Dimension Scores

No.	Correlation coefficient (language activities)	No.	Correlation coefficient (verbal expression skills)
1	.615**	15	.668**
2	.749**	16	.790**
3	.578**	17	.729**
4	.726**	18	.746**
5	.615**	19	.771**
6	.708**	20	.732**
7	.563**	21	.687**
8	.660**	22	.738**
9	.511**	23	.708**
10	.609**	24	.630**
11	.477**	25	.589**
12	.721**	26	.655**
13	.755**	27	.638**
14	.673**		

** Statistically significant at the level of significance ($0.05 \leq \alpha$).

Table 1 shows that the Pearson correlation coefficients were all higher than 0.30. It is statistically significant at the level of 0.05's statistical significance. This indicates that the resolution has a high degree of internal consistency between its statements.

Table 1 also displays correlation coefficients between a sample population's verbal expressive abilities and linguistic activities. There are 27 data pairings in the table, and their correlation coefficients range from .477 to .790. The amount of statistical significance of the association is presumably indicated by the asterisks next to each coefficient, with ** denoting a high level of significance. Language use and verbal expressive abilities in the sample group seem to be positively correlated. The correlation coefficients' persistent positive values serve as a sign of this. Furthermore, the high level of statistical significance shows that it is improbable that these associations happened by coincidence.

To ensure that the resolution remains steady. The Cronbach's alpha test was employed to examine the coherence of the research instrument because the Cronbach's alpha coefficient shows the strength of the vertebrae's coherence and stability, as indicated in Table 2.

Table 2 Cronbach's Alpha Coefficient of the Study Instrument

Dimension	Statements No.	Cronbach's Alpha coefficient
Language activities	14	0.881
Verbal expression skills	13	0.91
Total	27	0.944

According to Table 2, the stability coefficient (Cronbach's alpha coefficient) for the entire study instrument was 0.944, and for the dimension of linguistic activities, it was 0.881. In terms of verbal expressive skills (0.910). This shows that the instrument has a stability coefficient capable of meeting the study's goals. The stability coefficient values (> 0.60) are appropriate for applying the research tool to the study sample's participants. To statistically process the data, the following statistical procedures were applied: Means and standard deviations of the answers to the first and second

questions to answer the third question, Pearson Correlation Coefficient was used, as well as Cronbach's alpha Coefficient to ensure the tool's authenticity and stability.

Using statistical techniques such as means, standard deviations, Pearson Correlation Coefficient, and Cronbach's Alpha Coefficient in this study necessitates analyzing data conformity to method assumptions. These assumptions are critical for maintaining symmetric distribution, homoscedasticity, consistent variable variances, and linearity, correlational proportionality. These are measured using tools such as Shapiro-Wilk, Levene's test, and scatterplots. Cronbach's Alpha measures measurement dependability. Stability coefficients greater than 0.60 suggest that the sample is adequate. While maintaining assumptions increases trustworthiness, there is considerable leeway for minor breaches, especially with large samples. If assumptions are significantly violated, specific alternatives or transformations may be investigated. Overall, solid findings need thorough assumption inspection in order to effectively represent fundamental dataset linkages.

Findings

Q1: What is the level of application of language activities for autistic children in special education centers in Jordan?

To answer the first question. The means and standard deviations of the degree of application of language activities in autistic children in special education centers in Jordan were calculated as shown in Table (3).

Table 3. Means and Standard Deviations of the Degree of Application of Language Activities in Autistic Children in Special Education Centers in Jordan

No.	Statements	Mean	SD	Level	Degree
1	Use colorful cards to help the kid remember some words.	4.43	0.62	2	High
2	I use pictures that help the child learn new words.	4.32	0.56	7	High
3	I use visual stimuli (colors, drawings, sounds, moving pictures) to attract the child's attention to the displayed words.	4.47	0.55	1	High
4	I teach a child to use single words to denote objects.	4.38	0.62	3	High
5	I teach the child to use the sign to denote and name objects.	4.43	0.60	3	High
6	Use fun language games that help the child use the language.	4.29	0.64	10	High
7	Use sequential images to give the child the skill of forming simple sentences.	4.31	0.59	9	High
8	I apply touch-based activities to enhance the child's vocabulary.	4.31	0.63	8	High
9	I focus on sentence completion activities to encourage the child to form complete sentences.	3.98	0.95	14	High
10	Use figures and dolls that consolidate linguistic terms in the child.	4.06	0.82	13	High
11	I use lyrical exercises that involve different vocabulary.	4.25	0.66	11	High
12	I Apply group activities to encourage children to dialogue and communicate together.	4.38	0.61	5	High
13	I am telling a simple story about the alphabet to instill in the child's mind.	4.17	0.70	12	High
14	I employ activities that require the child to describe objects.	4.36	0.57	6	High
The degree of application of language activities		4.29	0.41		High

Table 3 shows that Jordan's special education facilities for autistic children employ language activities at a high level, with an average score of 4.29 and a standard deviation of 0.41. This might be due to the centers' knowledge of the value of language learning activities in enhancing children's capacity for self-expression and communication. Instructors at these centers have the knowledge and expertise to create a variety of language activities that teach words, vocabulary, and sentence structure to children in a way that fits in with everyday children. With an average of 4.47 and a standard deviation of 0.55, the statement "I employ visual stimuli to attract the child's attention to displayed text" received the highest rating. Children are drawn to colors and pictures instinctively, which helps them visualize and improves their aural memory. Repetition of words that have visual impacts boosts a child's verbal output and fosters better communication. Nevertheless, with an average of 3.98 and a large standard deviation of 0.95, the statement "I focus on sentence completion exercises to enable the kid to create complete sentences" received the lowest score. Because that sentence completion exercises demand a lot of concentration and focus, teachers may opt to use alternative language activities that are more engaging and appropriate for children's skills.

Q2: What is the level of improvement of verbal expression skills in autistic children in special education centers in Jordan?

To answer the second question. Means and standard deviations of the level of improvement of verbal expression skills in autistic children in special education centers in Jordan were calculated as shown in Table 4.

Table 4. Means and Standard Deviations the Level of Improvement of Verbal Expression Skills in Autistic Children in Special Education Centers in Jordan

No.	Statements	Mean	SD	Level	Degree
15	The child has the ability to express himself in a complete sentence.	4.24	0.58	9	High
16	The child has the ability to dialogue with peers.	4.33	0.60	2	High
17	The child pronounces the letters correctly.	4.25	0.65	8	High
18	A child can name objects.	4.36	0.55	1	High
19	The child expresses the images in understandable and clear sentences.	4.21	0.61	11	High
20	The child has the ability to answer questions directed at him.	4.28	0.52	6	High
21	The child correctly employs vocabulary during the conversation.	4.20	0.58	12	High
22	A child can tell the events of a simple story.	4.14	0.63	13	High
23	The child uses the appropriate fastening tools during speech.	4.23	0.62	10	High
24	The child distinguishes between alphabets.	4.30	0.57	4	High
25	The child can describe things.	4.25	0.68	7	High
26	The child can express what he wants.	4.30	0.58	5	High
27	The child has the ability to communicate his ideas to others.	4.32	0.71	3	High
Improve verbal expression		4.19	0.41		High

The study's findings, as shown in Table 4, show that autistic children in Jordanian special education facilities improved significantly in their verbal expressive skills. The average score was 4.19, with a standard deviation of 0.41, indicating a significant improvement in the children's capacity to communicate and express their needs and wishes through speech. With an average score of 3.36, the statement "A youngster can name items" was scored highest, showing that repeated exposure to activities involving identifying and differentiating objects can increase the child's capacity to recall and name them. With an average score of 4.14 and a standard deviation of 0.63, the statement "A kid can describe the events of a simple narrative" was rated last. This finding implies that the youngster need practice and instruction in order to build cohesive sentences and connect terminology effectively while recounting the events of a tale. As a result, linguistic activities that improve the child's narrative abilities are critical. Therefore, these findings emphasize the necessity of providing language activities that are tailored to each child's specific needs and abilities in order to effectively nurture communication skills.

Q3: Is there a statistically significant correlation between the average response of teachers to the degree of application of language activities in autistic children and their relationship in improving verbal expression skills in special education centers in Jordan?

To answer the third question. Correlation values were calculated to determine correlations using Pearson Correlation coefficients between the degree of application of language activities in autistic children and the level of improvement of verbal expression skills in special education centers in Jordan as shown in Table 5.

Table 5. Pearson Correlations Between the Degree of Application of Language Activities in Autistic Children and the Level of Improvement of Verbal Expression Skills in Special Education Centers in Jordan

Area	Factors	Language Activities	Verbal Expression Skills
Language Activities	Correlation coefficient	1	0.883
	Significance		.000
	Count	200	200
Verbal Expression Skills	Correlation Coefficient	0.883	1
	Significance	.000	
	Count	200	200

** Statistically significant at the level of significance ($0.05 \leq \alpha$).

Table 5 shows that there is a statistically significant positive correlation between the degree of application of language activities in autistic children and the level of improvement of verbal expression skills in special education centers in Jordan, which amounted to 0.883. At the level of 0.00, which is high and statistically significant. Justification for this result is that autistic children undergoing language activities have significantly and clearly improved their verbal expression skills. This indicates the positive and active impact of language activities. The use of objects, colors, images, videos, games, and group activities to enhance the language of an autistic child increases his ability to express himself and his thoughts by speaking properly, communicating with his peers, and responding to any dialogue directed at him. Use words and vocabulary correctly. Thus, the formation of understandable sentences

Discussion

The study's findings suggest that language exercises, particularly those that are engaging and use visual cues, may be effective in increasing communication skills in autistic children. This aligns with the support from Vyshedskiy et al. (2020) and Henry and Solari (2020), who emphasized the importance of tailored language activities for individual needs. However, it is crucial to highlight that the sample size of this study was small, so the results should be regarded with caution.

While the current study focused on language exercises, not all previous studies explicitly investigated the impact of these activities on language development in children with autism, such as Clendon et al. (2021) and Bin Saddiq (2021).

When assessing the data provided in Table 4, it is essential to consider the study's sample size and participant demographics, as well as the tactics and therapies utilized to enhance the verbal and expressive abilities of autistic children. Comparing the findings to those of other similar research might aid in determining generalizability. Studies by Lord et al. (2020), Hashim et al. (2022), and Koegel et al. (2020) all believe that effective therapies and teaching techniques are essential for enhancing the communicative abilities of children with autism. Although Henry and Solari (2020) support the benefits of language exercises, it is important to acknowledge the limitations of the current study. On the other hand, Clendon et al. (2021) and Bin Saddiq (2021) may not be in agreement, as they did not observe difficulties in reading, writing, and vocal communication in children with autism spectrum disorder.

The study's findings that language activities help autistic children speak more fluently are backed by past studies. Engaging language-related activities utilizing objects, colors, photographs, movies, games, and group activities have been shown to improve language skills in children with autism, as also supported by Vyshedskiy et al. (2020) and Henry and Solari (2020). However, it is critical to comprehend the precise language activities used in the study, the wider context in which they were conducted, and the characteristics of the study's participant children. To find the best methods for promoting the language development of autistic children, a comparison with earlier research on language therapy for this population is necessary. Additionally, Mousa (2022) supported the use of language activities to enhance social and expressive language in hearing-impaired individuals, while Mutabbakani and Callinan (2020) demonstrated that a language activities program improved language innovation.

The comparison between the current study and earlier studies indicates both differences and similarities. The study's small sample size is a drawback, and not all other research directly looked at the effect of language activities on autistic children's language development. The results, however, are consistent with prior studies, indicating that stimulating and visually aided language activities may be useful in enhancing autistic children's communication skills. When creating language exercises for this demographic, it is essential to take into account personalized methods, multi-sensory involvement, and the use of efficient treatment procedures.

The study's findings suggest that language exercises, particularly those that incorporate engaging activities and visual cues, may help autistic children improve their communication skills. This finding is consistent with the claims of Vyshedskiy et al. (2020) and Henry and Solari (2020), who emphasized the need for targeted language interventions that meet individual needs. However, it is important to note that the study's sample size was small, necessitating caution when interpreting the findings.

While the current study focused on language exercises, not all previous studies explicitly investigated the impact of these activities on language development in autistic children, such as those by Clendon et al. (2021) and Bin Saddiq (2021).

When analyzing the data in Table 4, it is important to consider the study's sample size, participant demographics, as well as the tactics and therapies used to improve verbal and expressive abilities in autistic children. A comparative study with data from similar research could help to determine the generalizability of the results. Lord et al. (2020), Hashim et al. (2022), and Koegel et al. (2020) all underscore the importance of effective therapeutic and instructional strategies in improving communication skills in autistic children. While Henry and Solari (2020) support the benefits of language exercises, it is important to acknowledge the potential limitations of the current study. Clendon et al. (2021) and Bin Saddiq (2021) appear to differ, as they did not observe difficulties in reading, writing, or vocal communication in children with autism spectrum disorder.

Prior research supports the study's finding that language exercises can help autistic children improve their fluency. Engaging language-oriented activities involving objects, colors, images, videos, games, and group interactions have been shown to improve language skills in autistic children, as also supported by Vyshedskiy et al. (2020) and Henry and Solari (2020). However, it is important to have a thorough understanding of the specific language activities used in the study, the broader context in which they were delivered, and the characteristics of the participating children. A thorough comparison with existing research on language therapy for this population is necessary to identify the most effective ways to support language development in autistic children. Additionally, Mousa's (2022) endorsement of language activities to improve social and expressive language in hearing-impaired individuals, as well as Mutabbakani and Callinan's (2020) demonstration that a language activities program led to improved language innovation, provide valuable additional support.

A careful comparison of the current work and previous studies reveals both differences and similarities. The study's small sample size is a recognized limitation, and not all previous research has specifically investigated the impact of language activities on language development in autistic children. Nevertheless, the findings are consistent with previous studies, suggesting that engaging and visually aided language exercises may be effective in boosting communication skills in autistic children. It is important to incorporate individualized approaches, multisensory engagement, and evidence-based treatment procedures when designing language exercises for this population.

However, while the study cites relevant literature to support its conclusions, it could improve its credibility by delving deeper into the possible causes of the inconsistencies reported in other studies. By providing a more comprehensive analysis of different perspectives and potential contextual factors contributing to varying outcomes, the study could offer a more nuanced and well-rounded understanding of its own findings within the broader landscape of research on language development in autistic children. This type of in-depth analysis would enhance the study's overall credibility and lead to a more informed interpretation of its findings.

Conclusion

It is commonly known that children with autism may struggle with communication and language abilities. As a result, language exercises may be an important aspect of autism education and therapy since they can help children with autism develop their language and communication abilities. Speech therapy, language-based educational games, and social skills training are examples of these activities. There is some evidence to show that using language exercises might help children with autism improve their verbal expressive abilities. For example, a review of research on the efficacy of language therapies for children with autism discovered that these programs could result in significant increases in language abilities, particularly verbal expressiveness.

It is crucial to note, however, that the specific influence of language activities on verbal expression skills may vary based on the child's individual needs and talents, as well as the type and intensity of the language activity performed. Other factors, such as the child's age, cognitive capacities, and general development, may also influence the efficiency of language exercises in enhancing verbal expressive skills. As a result, while creating linguistic treatments for children with autism, educators and therapists must carefully address these characteristics.

This study significantly contributes to our understanding of the utilization of language activities in autistic children and their impact on increasing verbal expression abilities in Jordanian special education institutions. It assesses the implementation level of language activities and the improvement of verbal expression skills in autistic children within special education centers. The study establishes a statistically significant correlation between teachers' responses regarding the use of language activities and their perceived impact on improving verbal expression skills in these centers. Additionally, the research explores potential avenues to enhance the application of language activities and assess the language development of autistic children.

However, it is important to note that the research is still in its early stages, and many of the results remain inconclusive due to limited quantitative investigations. As a result, there are areas in the literature that require further exploration and investigation.

Future Directions

In the context of Jordanian special education institutions, this study significantly adds to the body of knowledge on the subject of autism education. The research sheds light on how these treatments can affect the verbal expressive skills of kids with autism by looking at how language activities are used. The study's evaluation of the degree to which language activities are implemented offers useful insights into the methods now used in special education facilities, showing ongoing attempts to address language and communication difficulties in autistic children. An additional piece of empirical evidence supporting the efficacy of such treatments is the discovery of a statistically significant association between instructors' replies and the perceived effect of language activities on verbal expression abilities. This association highlights the significance of including speech therapy, social skills instruction, and language-based educational activities in autism education and therapy programs. It gives educators and therapists a foundation on which to argue that language exercises should be an essential part of a child with autism's overall treatment plan.

Moreover, it is crucial from a practical standpoint that the study examine prospective ways to improve the implementation of language activities. By focusing on problem areas, educators and therapists may enhance their methods, devise treatments that are more narrowly focused, and design treatment plans that are more specifically suited to the needs of each autistic kid. This emphasis on continual improvement highlights the need for approaches that are founded on evidence and flexible, which is in line with the way that research and education on autism are developing. This recognition creates space for more study to expand on this work and enhance our comprehension of the connection between language practice and verbal expressive skills in autistic children.

Future research might focus on doing more thorough quantitative studies to bolster the statistical support for the relationship between language use and better verbal expressive abilities. The long-term impact of language workouts on

language development and communication skills in kids with autism might be evaluated through longitudinal research, which would give important insights into the durability of the reported gains. Qualitative research can also be used to learn more about how parents, teachers, therapists, and children with autism experience and see language-related activities. Understanding their viewpoints can assist in the development of more thorough and all-encompassing intervention strategies that take into account the academic and therapeutic needs as well as the emotional and social development of autistic children. It would also be helpful to investigate the possible effects of individual characteristics, such as age, cognitive ability, and sensory sensitivity, on the effectiveness of language exercises. By addressing each child's specific needs and skills, individualized intervention plans might be created, increasing the overall efficacy of language-based therapy.

Recommendations

Based on the findings, the study proposes paying more attention to the quality of language activities supplied to autistic children, adapting them to their capacities, and stimulating their verbal expression skills. Special education centers want to provide their staff with all of the tools and resources they need to carry out linguistic activities, such as interactive panels, gaming rooms, and models. The necessity for special education facilities to prioritize the hiring of experienced instructors with experience working with autistic children similarly, further studies and research are needed to investigate the influence of various types of activities on the communication abilities of autistic children.

Limitations

The study has certain limitations, such as the fact that special education facilities in Jordan may have limited resources, such as finance, staffing, and materials, which might influence the type and intensity of language activities delivered to autistic children. Autism spectrum disorder children can have a wide range of talents and requirements, and what works for one child may not work for another. Therefore, developing language exercises that are beneficial for all children with autism can be challenging. While there is evidence that language activities can help children with autism improve their verbal expression abilities, not all language activities have been validated by research. As a result, while creating linguistic treatments for children with autism, educators and therapists must employ evidence-based techniques.

References

- Al-Khalaf, A., Dempsey, I., & Dally, K. (2014). The effect of an education program for mothers of children with autism spectrum disorder in Jordan. *International Journal for the Advancement of Counselling*, 36, 175-187. <https://doi.org/10.1007/s10447-013-9199-3>
- Al-Zboon, E. (2022). Assistive technologies as a curriculum component in Jordan: Future special education teachers' preparation and the field status. *Assistive Technology*, 34(1), 20-25. <https://doi.org/10.1080/10400435.2019.1677804>
- Andrés-Roqueta, C., Adrian, J. E., Clemente, R. A., & Villanueva, L. (2016). Social cognition makes an independent contribution to peer relations in children with Specific Language Impairment. *Research in Developmental Disabilities*, 49-50, 277-290. <https://doi.org/10.1016/j.ridd.2015.12.015>
- Andrzejewski, T., DeLucia, E. A., Semones, O., Khan, S., & McDonnell, C. G. (2023). Adverse childhood experiences in autistic children and their caregivers: Examining intergenerational continuity. *Journal of Autism and Developmental Disorders*, 53, 2663-2679. - <https://doi.org/10.1007/s10803-022-05551-w>
- Bagassi, M., Salerni, N., Castoldi, V., Sala, V., Caravona, L., Poli, F., & Macchi, L. (2020). Improving children's logical and mathematical performance via a pragmatic approach. *Frontiers in Education*, 5, Article 54. <https://doi.org/10.3389/educ.2020.00054>
- Behrend, T. S., Sharek, D. J., Meade, A. W., & Wiebe, E. N. (2011). The viability of crowdsourcing for survey research. *Behavior research methods*, 43, 800-813. <https://doi.org/10.3758/s13428-011-0081-0>
- Bin Saddiq, L. (2021). Using an Electronic Educational Program Based on Orton-Gillingham Approach for Developing Expressive Language Skills of Hearing-Impaired Pupils at Integrated Schools in Saudi Arabia. *European Online Journal of Natural and Social Sciences*, 10(3), 309-324. <https://european-science.com/eojnss/article/view/6220>
- Bolourian, Y., Losh, A., Hamsho, N., Eisenhower, A., & Blacher, J. (2022). General education teachers' perceptions of autism, inclusive practices, and relationship building strategies. *Journal of Autism and Developmental Disorders*, 52, 3977-3990. <https://doi.org/10.1007/s10803-021-05266-4>
- Bradshaw, J., Koegel, L. K., & Koegel, R. L. (2017). Improving functional language and social motivation with a parent-mediated intervention for toddlers with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 47, 2443-2458. <https://doi.org/10.1007/s10803-017-3155-8>

- Bussieres, E.-L., St-Germain, A., Dube, M., & Richard, M.-C. (2017). Efficacite et efficience des programmes de transition a la vie adulte: Une revue systematique [Effectiveness and efficiency of adult transition programs: A systematic review]. *Canadian Psychology/ Psychologie Canadienne*, 58(4), 354–365. <https://doi.org/10.1037/cap0000104>
- Cahapay, M. B. (2022). How Filipino parents' home educate their children with autism during COVID-19 period. *International Journal of Developmental Disabilities*, 68(3), 395-398. <https://doi.org/10.1080/20473869.2020.1780554>
- Canu, D., Van der Paelt, S., Canal-Bedia, R., Posada, M., Vanvuchelen, M., & Roeyers, H. (2021). Early non-social behavioural indicators of autism spectrum disorder (ASD) in siblings at elevated likelihood for ASD: A systematic review. *European Child and Adolescent Psychiatry*, 30, 497-538. <https://doi.org/10.1007/s00787-020-01487-7>
- Clendon, S., Paynter, J., Walker, S., Bowen, R., & Westerveld, M. F. (2021). Emergent literacy assessment in children with autism spectrum disorder who have limited verbal communication skills: A tutorial. *Language, Speech, and Hearing Services in Schools*, 52(1), 165-180. https://doi.org/10.1044/2020_LSHSS-20-00030
- Costley, D., Emerson, A., Ropar, D., & Sheppard, E. (2021). The Anxiety Caused by Secondary Schools for Autistic Adolescents: In their own words. *Education Sciences*, 11(11), Article 726. <https://doi.org/10.3390/educsci11110726>
- Cummins, C., Pellicano, E., & Crane, L. (2020). Autistic adults' views of their communication skills and needs. *International Journal of Language and Communication Disorders*, 55(5), 678-689. <https://doi.org/10.1111/1460-6984.12552>
- Dai, Z.-C., Fu, W., Wan, L.-Y., Cai, H.-H., Wang, N., Qi, S.-S., & Du, D.-L. (2016). Different growth promoting effects of endophytic bacteria on invasive and native clonal plants. *Frontiers in Plant Science*, 7, Article 706. <https://doi.org/10.3389/fpls.2016.00706>
- de Oliveira, L. R., Brian, J., Kelley, E., Beal, D., Nicolson, R., Georgiades, S., & Sanjeevan, T. (2020). Exploring the use of the verbal intelligence quotient as a proxy for language ability in autism spectrum disorder. *Research in Autism Spectrum Disorders*, 73, Article 101548. <https://doi.org/10.1016/j.rasd.2020.101548>
- Derderian, A. (2015). The effectiveness of special education centers in Jordan. *Journal of Scientific Research & Reports*, 4(5), 410-420. <https://doi.org/10.9734/JSRR/2015/13626>
- Domagała-Zyśk, E., & Podlewska, A. (2019). Strategies of oral communication of deaf and hard-of-hearing (D/HH) non-native English users. *European Journal of Special Needs Education*, 34(2), 156-171. <https://doi.org/10.1080/08856257.2019.1581399>
- Fleury, V. P., Whalon, K., Gilmore, C., Wang, X., & Marks, R. (2021). Building comprehension skills of young children with autism one storybook at a time. *Language, Speech, and Hearing Services in Schools*, 52(1), 153-164. https://doi.org/10.1044/2020_LSHSS-20-00026
- Franchini, M., Duku, E., Armstrong, V., Brian, J., Bryson, S. E., Garon, N., Roberts, W., Roncadin, C., Zwaigenbaum, L., & Smith, I. M. (2018). Variability in verbal and nonverbal communication in infants at risk for autism spectrum disorder: Predictors and outcomes. *Journal of Autism and Developmental Disorders*, 48, 3417-3431. <https://doi.org/10.1007/s10803-018-3607-9>
- Gliga, T., Jones, E. J. H., Bedford, R., Charman, T., & Johnson, M. H. (2014). From early markers to neuro-developmental mechanisms of autism. *Developmental Review*, 34(3), 189-207. <https://doi.org/10.1016/j.dr.2014.05.003>
- Harrop, C., Sterrett, K., Shih, W., Landa, R., Kaiser, A., & Kasari, C. (2021). Short-term trajectories of restricted and repetitive behaviors in minimally verbal children with autism spectrum disorder. *Autism Research*, 14(8), 1789-1799. <https://doi.org/10.1002/aur.2528>
- Hashim, H. U., Yunus, M. M., & Norman, H. (2022). 'AReal-Vocab': An Augmented Reality English Vocabulary Mobile Application to Cater to Mild Autism Children in Response towards Sustainable Education for Children with Disabilities. *Sustainability*, 14(8), Article 4831. <https://doi.org/10.3390/su14084831>
- Henry, A. R., & Solari, E. J. (2020). Targeting oral language and listening comprehension development for students with autism spectrum disorder: A school-based pilot study. *Journal of Autism and Developmental Disorders*, 50, 3763-3776. <https://doi.org/10.1007/s10803-020-04434-2>
- Koegel, L. K., Bryan, K. M., Su, P. L., Vaidya, M., & Camarata, S. (2020). Definitions of nonverbal and minimally verbal in research for autism: A systematic review of the literature. *Journal of Autism and Developmental Disorders*, 50, 2957-2972. <https://doi.org/10.1007/s10803-020-04402-w>
- Kouklari, E.-C., Tsermentseli, S., & Auyeung, B. (2018). Executive function predicts theory of mind but not social verbal communication in school-aged children with autism spectrum disorder. *Research in Developmental Disabilities*, 76, 12-24. <https://doi.org/10.1016/j.ridd.2018.02.015>

- Lord, C., Brugha, T. S., Charman, T., Cusack, J., Dumas, G., Frazier, T., Hones, E. J. H., Jones, R. M., Pickles, A., State, M. W., Taylor, J. L., & Veenstra-VanderWeele, J. (2020). Autism spectrum disorder. *Nature reviews Disease primers*, 6, Article 5. <https://doi.org/10.1038/s41572-019-0138-4>
- Madondo, F., & Tsikira, J. (2022). Traditional children's games: Their relevance on skills development among rural Zimbabwean children age 3–8 years. *Journal of Research in Childhood Education*, 36(3), 406-420. <https://doi.org/10.1080/02568543.2021.1982084>
- Makrygianni, M. K., Gena, A., Katoudi, S., & Galanis, P. (2018). The effectiveness of applied behavior analytic interventions for children with Autism Spectrum Disorder: A meta-analytic study. *Research in Autism Spectrum Disorders*, 51, 18-31. <https://doi.org/10.1016/j.rasd.2018.03.006>
- Marquez-Garcia, A. V., Magnuson, J., Morris, J., Iarocci, G., Doesburg, S., & Moreno, S. (2022). Music therapy in autism spectrum disorder: A systematic review. *Review Journal of Autism and Developmental Disorders*, 9, 91-107. <https://doi.org/10.1007/s40489-021-00246-x>
- Miniscalco, C., & Carlsson, E. (2022). A longitudinal case study of six children with autism and specified language and non-verbal profiles. *Clinical Linguistics & Phonetics*, 36(4-5), 398-416. <https://doi.org/10.1080/02699206.2021.1874536>
- Mousa, M. O. (2022). The role of outdoor language arts activities in language learning. *Journal of Language and Linguistic Studies*, 18(S1), 461-471. <https://bit.ly/44VDZa9>
- Mutabbakani, R., & Callinan, C. (2020). Mothers' perspectives on the inclusion of young autistic children in Kuwait. *Journal of Autism and Developmental Disorders*, 50, 1198-1209. <https://doi.org/10.1007/s10803-019-04351-z>
- Nikjo, P., Vizeshfar, F., & Zarifsanayee, N. (2021). Comparison of the effect of training academic honesty using two workshop and virtual training methods on the knowledge and attitude of MS students. *Journal of Education and Health Promotion*, 10(1), Article 180. https://doi.org/10.4103/jehp.jehp_1145_20
- Parchomiuk, M. (2019). Sexuality of persons with autistic spectrum disorders (ASD). *Sexuality and Disability*, 37, 259-274. <https://doi.org/10.1007/s11195-018-9534-z>
- Rezai, A., Namaziandost, E., & Rahimi, S. (2022). Developmental potential of self-assessment reports for high school students' writing skills: A qualitative study. *Teaching English as a Second Language Quarterly (Formerly Journal of Teaching Language Skills)*, 41(2), 163-203. <https://doi.org/10.22099/tesl.2022.42670.3082>
- Shattnawi, K. K., Saeed, W. M. B., Al-Natour, A., Al-Hammouri, M. M., Al-Azzam, M., & Joseph, R. A. (2021). Parenting a child with autism spectrum disorder: Perspective of Jordanian mothers. *Journal of Transcultural Nursing*, 32(5), 474-483. <https://doi.org/10.1177/1043659620970634>
- Sturrock, A., Chilton, H., Foy, K., Freed, J., & Adams, C. (2022). In their own words: The impact of subtle language and communication difficulties as described by autistic girls and boys without intellectual disability. *Autism*, 26(2), 332-345. <https://doi.org/10.1177/13623613211002047>
- Syriopoulou-Delli, C. K., & Gkiolnta, E. (2022). Review of assistive technology in the training of children with autism spectrum disorders. *International Journal of Developmental Disabilities*, 68(2), 73-85. <https://doi.org/10.1080/20473869.2019.1706333>
- van der Pluijm, M., van Gelderen, A., & Kessels, J. (2019). Activities and strategies for parents with less education to promote the oral language development of their children a review of empirical interventions. *School Community Journal*, 29(1), 317-362.
- Vyshedskiy, A., Khokhlovich, E., Dunn, R., Faisman, A., Elgart, J., Lokshina, L., & Ilyinskii, P. O. (2020). *Imagination exercises improve language in younger but not in older children with autism suggesting a strong critical period*. MedRxiv, <https://bit.ly/45Ulkvp>
- Wilson, C., Sitbon, L., Ploderer, B., Opie, J., & Brereton, M. (2020, April). Self-expression by design: Co-designing the expressiball with minimally-verbal children on the autism spectrum. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-13). Association for Computing Machinery. <https://doi.org/10.1145/3313831.3376171>
- Wofford, M. C., & Tibi, S. (2018). A human right to literacy education: Implications for serving Syrian refugee children. *International Journal of Speech-Language Pathology*, 20(1), 182-190. <https://doi.org/10.1080/17549507.2017.1397746>
- Yilmaz, R. M., Topu, F. B., & Takkaç Tulgar, A. (2022). An examination of the studies on foreign language teaching in pre-school education: A bibliometric mapping analysis. *Computer Assisted Language Learning*, 35(3), 270-293. <https://doi.org/10.1080/09588221.2019.1681465>

