



Communication strategies used by specialised preschool teachers for children with Autism Spectrum Disorder in South Africa.

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DOI 10.21913/TAHS.v2i1.1561

Abstract

Aim and Background: The study aimed at expanding our understanding of the communication strategies used by teachers of pre-schoolers with Autism Spectrum Disorders (ASD) in Johannesburg, South Africa. By describing the use of current practices, our study aimed to provide recommendations for the development of support in the classroom, including Allied Health services. **Methods:** Through homogeneous purpose sampling, five qualified teachers were recruited from public and private pre-schools in Johannesburg. The data were gathered through semi-structured qualitative interviews, combined with observations from the classroom. A qualitative descriptive design, with the combination of both data sets and thematic analysis were used. **Results:** One overarching theme emerged

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from the data: Diversity. With three sub-themes: range of communication strategies, communication difficulties, and feelings and perceptions related to interacting with children with ASD. Diversity was prominently displayed in the children's communication and needs, in the successful use of multi-modal communication strategies used by teachers and in the teachers' feelings and perceptions related to the children. Teachers' skills and comfort level in communicating with children with diverse needs, is foundational to successful communication and learning. Allied Health support for teachers in classrooms and workforce strategies for teachers will assist in supporting teachers of young children in classrooms.

Key Words: autism spectrum disorder, communication strategies, teachers, pre-schoolers

Background

The prevalence of Autism Spectrum Disorder (ASD) in South Africa is unknown and an under-researched area. In the United States of America, the prevalence is 110 children in every 10,000 children (Springer, van Toorn, Laughton & Kidd, 2013). Over the past decades, there has been an increase in the prevalence of ASD, with uncertainty surrounding the exact cause of this increase. The increase may be due to greater awareness of the characteristics of ASD, improved detection, the expansion of the definition of ASD (in the current Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition - DSM-5, published by the American Psychiatric Association, 2013), or an actual increase in incidence or a combination of these factors (Neggers, 2014).

ASD is an indiscriminate neurodevelopmental condition with an unknown aetiology (De Angelis et al., 2009). The signs and characteristics of ASD present in the first two to three years of a child's life and are four times more likely identified in males than females (Barbaro & Dissanayake, 2009).

Individuals with ASD exhibit deficits in three distinct areas: social relationships, imaginative thought, and social communication (De Angelis et al., 2013), while the degree of

the deficits in these three areas vary from individual to individual (Sicile-Kira, 2014). Social communication impairments represent a significant deficit, with 25 per cent of children with ASD presenting with the absence of functional communication abilities (Gordon, Pasco, McElduff, Wade, Howlin & Charman, 2011). Impairments may include poor turn taking, social pragmatic abilities, speech impairments (in terms of fixations on certain topics, difficulty understanding emotions portrayed through language, and difficulty the abstract language components of understanding jocularity and sarcasm) (Jakobson, Pearson, Kozub, Hare & Rigby, 2018).

In the DSM-5, three levels of severity are articulated. Level 3 refers to severe impairments in verbal and nonverbal social communication skills, Level 2 refers to social marked deficits in verbal and nonverbal social communication, limited initiations, and reduced or unusual responses to social overtures. Level 1 refers to difficulty initiating interaction, unusual or unsuccessful responses to social overtures, and possible limited interest in social interactions.

Difficulties associated with social contact is one of the main characteristics of ASD (Johnson & Myers, 2007), with a quarter of children with ASD lacking social skills (Gordon, Pasco, McElduff, Wade, Howlin & Charman, 2011). The essential components of general attention, social reciprocity, verbal and non-verbal communication are typically impaired. Children with ASD may exhibit odd or unusual prosody, along with the absence of gestures. Prosody refers to voice intonation, pattern of stress, changes of loudness, pauses, and rhythm. Communication struggles contribute to socially unacceptable behaviors and can also effect social interaction and relationships with children's communication partners (Plumet & Veneziano, 2015).

One major focus for education is the facilitation of communication (Handleman & Harris, 2001) to ensure student learning. In order to support the learner, specialized support

services for children with ASD in the educational setting is needed (Hess, Morrier, Heflin & Ivey, 2008). Schools use a variety of communication strategies, interventions and tools such as the Picture Exchange Communication System (PECS), Applied Behavioural Analysis Therapy (ABA), Treatment and Education of Autistic and Communication Related Handicapped Children (TEACCH), and Makaton. The PECS approach, for example, is widely used in education settings and was developed for non-verbal children with ASD, allowing a child to communicate via a system of symbols and visual representation (McCoy & McNaughton, 2018). PECS works well because of reinforcement (Pasco & Tohill, 2011). For example, when a child presents a picture symbolizing what he/she is requesting to a communication partner, reinforcement occurs when the child receives the requested item. The study done by Howlin et al. (2007) revealed that non-verbal children with ASD increased their rates of requesting. These researchers reported that improvement did continue to develop once the study was completed. Other studies have shown that the use of PECS results in an increase in speech production, imitation and a decrease in problematic behaviours (Charlop-Christy, Carpenter, Le, LeBlanc & Kellet, 2002). A two-day PECS workshop for teachers led to children's increased initiation and usage of PECS (Howlin et al., 2007).

Makaton is a sign language approach used with spoken language and natural facial expressions (Bogdashina, 2005). Children with ASD usually learn this form of communication via a hand-over-hand approach, to support the ability to imitate (Mostofsky, Dubey, Jerath, Jansiewicz, Goldberg & Denckla, 2006). Makaton may be useful to children with ASD as it is a multimodal approach and some children will learn using visual, auditory, or kinaesthetic input (Bogdashina, 2005). Makaton has proved to be effective in building and improving language skills, but it is also important for teachers to consider the child holistically and what will work specifically for each child (Rose & Howley, 2007).

The TEACCH program is structured and aims to develop an individualised program for the child in order to meet the child's specific needs. This program emphasises the importance of the appropriate organization of the environment and the use of visual cues. This approach also stresses the need for teachers to develop individualised programs for children (Panerai et al., 2009). The TEACCH program emphasises improving adaptation, collaborating with parents, assessing a child for treatment that is specific to that individual, enhancing the skills of the teacher and child, and additional cognitive and behavioural interventions. There is a great deal of evidence to support TEACCH's teaching principles and particular teaching techniques, such as how visual strategies and structure can be used to foster effective communication and functioning (Mesibov & Shea, 2010).

Due to the increase in prevalence of ASD, the need for specialized support for children with ASD in educational settings was recognized and Hess et al. (2013) proposed a special education curriculum. Allied Health Professionals play a vital role in the implementation of specialised intervention (Ridge & Guerin, 2011) and their collaboration with educators is pivotal. In order to support Allied Health Professionals' work in schools, an understanding of teachers' strategies in working with children with ASD is important. To the best of our knowledge, this has not been documented in South Africa before. As the education environment is shifting, this is important to be done in South Africa. Inclusive education initiatives are relatively recent and pose difficulties in their implementation (Donahue & Bornman, 2014). The support between Allied Health Professionals and teachers is therefore mutual, and it is important to constantly update and broaden the information that each brings.

Methodology

The focus of this research was to describe the strategies that pre-school teachers use in working with children with ASD, specifically focussing on communication strategies. The

research question was therefore: “what are the communication strategies used by South African pre-school teachers of children with ASD in classrooms?” Within this research question, we also aimed to understand teachers’ perspectives of interacting with children with ASD and their perspectives of effective communication methods in classrooms. This study was completed as part of an honour’s degree program at the University of Witwatersrand, South Africa. Ethical approval was received from the relevant department, ethics certificate number: STA_2016_17. In addition, ethical clearance was granted by the Department of Education, as research was conducted in a government school.

Research Design

This study used a qualitative descriptive design to gain insights into the experiences of teachers, within a contextual interpretive and constructivism research approach. A qualitative descriptive design provides a thorough summary of an event or phenomenon (Sandelowski, 2000) and is useful when little is known about a topic (Polgar et al. 2000).

The research process acknowledges that there is an interaction between reality and human behavior. Therefore, this approach allows for rational thought and encourages multiple perspectives (French, Reynolds, & Swain, 2001). Two data collection tools were utilised: a semi-structured, self-developed interview and classroom observation. We used a semi-structured interview for the combination of an unstructured, open-ended format with the blend of directionality that a survey provides (Walker, 2011). Semi-structured interviews allow the researcher to build on thoughts and provide opportunities for knowledge that could have been missed in a questionnaire or structured interview (Denscombe, 2014). The COREQ statement (Tong et al., 2007) was used to guide the planning and reporting of this research.

Participants

The study was conducted in specialised education pre-schools in Johannesburg, South Africa. Five pre-schools were involved in the study. Participants were required to be qualified

teachers employed at a school that offered educational services to pre-school children with ASD. Children within the classroom were required to be within the 3.0 to 5.11 years of age. Teachers were required to have teaching experience in the field of education for children with ASD for a period of 6 months to one year.

Recruitment of Participants

Homogeneous purposeful sampling was used by which a pre-specified group of participants is purposely selected to dig deep rather than research the scope of data (Creswell 2012). Suitable participants were identified through contacting schools in and around Johannesburg. The principals of schools received information about the study and were invited to participate. All teachers provided consent before participating. Parents of children in classrooms provided consent and children provided assent. For the children, the forms had pictures that included a picture of the observer and picture of a classroom. The researchers had no pre-existing relationships with potential participants.

Participant and Classroom Observation

Prior to the interview, observations were performed to obtain reliable results of classroom's real-life experiences and functioning. The investigator made use of a checklist for observation. The observation checklist was created with the research supervisor. The aims of the research guided the items that were included in the checklist. The checklist included elements of the physical description of the classroom (number of children, layout of classroom, etc.), details on the teacher-to-child ratio, communication and interaction strategies, number of interactions, children's responses to the strategies, barriers to communication. The observations were used as part of the notes to triangulate information alongside the interview responses. Children were made familiar with the researcher's presence in the classroom, with the goal to establish a naturalistic environment.

In order to allow the children to become acquainted with an external presence, the observation process took place over two days during circle time. A pilot study trialling the observation checklist identified that circle time was the situation in which a greater number of interactions between children and between the children and the teacher occurred. The checklist was completed during this observation period, allowing for a detailed account of interactions. After circle time, observations continued to gain understanding of the interactional dynamics in an unstructured environment (e.g., during informal playtime).

Interview

After the observations, the observed teacher was interviewed for about 30 minutes. Interview questions began by exploring the background of the teacher (knowledge, training and experience), followed by exploring the teacher's feelings and perceptions about working with ASD children, use of communication strategies, barriers and success with the strategies. The structure for the interview was developed with guidance from literature (Bloch, Phellas, & Seale, 2011). Interviews were recorded digitally and transcribed verbally by the first author. Digital copies of interviews and observations were stored on a password protected device and will be stored for a maximum of 5 years after the researcher has submitted her final research report. Only the researcher and the researcher's supervisor have access to the data.

In order to eliminate any potential bias, both researchers went through the transcriptions together and analysis was carried out by both authors, by extracting the themes from the data, searching for an accurate representation of the themes in conjunction with the raw data, and including quotes from the participants.

Data Analysis

The steps included: preparing the data for the analyses to occur, conducting the analyses and understanding the data that has been analysed. Transcription allowed the

researcher to become more familiar with the data itself (King & Horrocks, 2010). Analysis of the written, visual, or auditory data that had been collected (Creswell, 2009) occurred through thematic analysis. The data from the interviews and observations were combined in the analysis. The process of thematic analysis was divided into three steps, these three steps did include: descriptive coding, interpretative coding and overarching themes (King & Horrocks, 2010).

Thematic analysis consists of sourcing themes amongst the data that was collected. Thematic analysis provided the basis for a particularly useful and flexible research tool (Braun & Clarke, 2006). The inductive thematic analysis method was divided into three steps: descriptive coding, interpretative coding, and overarching categories. The descriptive stage involved reading through transcripts, highlighting key elements, adding brief notes, and then defining the descriptive codes that were then repeated for each transcript in order to refine details (King & Horrocks, 2010).

During the coding process, descriptive codes were grouped together, and the significance of those codes interpreted. Interpretive codes were then extended to the full collection of data from interviews. The final step of thematic analysis was overarching themes where the researcher derived key themes from the data. The researcher used the interpretive codes from both a theoretical and practical aspect for all the data (King & Horrocks, 2010). The researcher then drew up a diagram/table of how the different levels of coding interacted. An overall thematic analysis of the data collected from the interviews and observation notes was used to analyse the data and to draw conclusions.

Methods to Ensure Rigour of Data Collected.

In qualitative research, trustworthiness of data should be considered via four main criteria: credibility, transferability, dependability and confirmability (Shenton, 2004).

Credibility is achieved by having spent a substantial time with the participants and in the

setting of the study (Chilisa & Preece, 2005). Except for the measures mentioned in the data collection section, the researcher also spent time in the classroom, observing the teacher she was interviewing. This allowed for the researcher to have a certain degree of insight into the way in which the teacher operates and how her responses in the interview correlate. This also ensured that the children are familiar with the researcher's presence in the classroom and observation are from a naturalistic environment.

Themes were verified by continuously comparing the data from one participant with data obtained from another participant. Another method of obtaining rigorous results and data is to track self-development throughout the study; this was be done in terms of keeping a journal and classroom observation notes in order to keep an open and unbiased mind throughout the course of the research process (Chilisa & Preece, 2005).

Results

Participant Description

In Tables 1 and 2 the demographic information of participants (i.e., teachers and the children), were provided. A total of five teachers participated in the study, each with their own class of children with ASD or with varying disabilities. The children had a diagnosis of ASD and was between the ages of 3.0-5.11 years of age. The interviewed teachers were all females. Two of the five schools were specialised for children with autism, whereas the other three schools catered for children with various and multiple disabilities. Four schools were from the private sector and one was from the government sector.

Table 1: Demographic Information from Interviews and Classroom Observations

Participants:	S1	S2	S3	S4	S5
Description of School	A private school for multiple disabilities (preschool through to grade 7)	A private school for children with Autism (ages 2 to 12 years)	A non-profit organisation which supports children with multiple disabilities	A government school catering for children with Autism (ages 3-9)	A private school catering for multiple disabilities (18 months to 18 years)
Number of children in class	7	4	6	6	6
Number of teacher/s	3 (1 teacher + 2 assistants)	2 (1 teacher +1 assistant)	1	2 (1 teacher + 1 assistant)	2 (1 teacher + 1 assistant)
Age of children	3-6 years	4-5 years	3-5 years	3-6 years	4-5years
Number of children with ASD	2	4	2	6	3

Table 2 outlines the participants' education and experience. The teachers' experience ranged from two years and six months to six years. Participants had several experiences, including initially becoming a teaching assistant, an early childhood educator and a parent of a child with ASD. Training background was diverse, from informal workshops to a degree of higher education.

Table 2: Teacher Training and Experience

	S1	S2	S3	S4	S5
Length of experience	4 years	7-8 months	6 years	2.6 years	3 years
Type of experience	Initially worked as a teacher's assistant, then studied further and became a full time teacher in a school for children with disabilities	Currently working as a teacher in a school specific for ASD, prior to that studied psychology and completed research in the field of ASD	Currently working in the early intervention care centre for children with multiple/various disabilities.	Currently employed at a school specific for autism and been working there for 2.6 years.	Currently employed at a school for children with disabilities and has a child with ASD
Type of training	Diploma in Montessori Further workshops provided by the school (Makaton and PECS)	Studied B.A. Psychology, learned through the owner of the school where the participant is currently employed.	Studied in Early Childhood Development (NQF level 4)	Trained through Autism South Africa including courses on Makaton Sign Language, 'hands on' and TEACCH	Thandulwazi teaching program for children 0-4 years. Workshops on Makaton and 'tiny hands'. Currently completing her Early Childhood Development.

Findings

One overarching main theme arose from the data, called "Diversity". Diversity played a large role in the success of communicating with the children in the classrooms across all participants, as each child was different, and the teacher had to understand each child's level

of communication. Three sub- themes, linked under the common theme of “*Diversity*”, arose from the data includes: *range of communication strategies; communication difficulties and feelings and perceptions related to interacting with children with ASD.*

The first sub-theme of *range of communication strategies* consisted of concepts related to a diverse range of formal and informal communication strategies which were evident in the classes and articulated by the teachers. Four out of the five participants used Makaton Sign Language in the classroom. The next most used communication strategy was the use of gestures. Gestures include pointing or pulling on a person to gain their attention. Across the five schools involved in the study, four of the schools made use of music and song to engage the children during a structured activity. The structured activity in which song was used was the morning ring when children greeted the teacher and other children in the classroom. Although the observations were inconsistent in song increasing communicative interactions, there were a handful of children who became more engaged when the structured activity included singing.

Following the child’s lead was a strategy prominently shown by one of the participants. One participant explained that, by following the child’s lead, it was possible to gain an understanding of that child as well as to reduce frustration levels in the classroom.

The communication strategy that was used least was the Picture Exchange Communication System (PECS). The concept of PECS was observed to be understood by non-verbal children, while this approach was not initiated by children voluntarily. This approach was only utilised by the teachers to aid their communication. Participants expressed that most of the communication via PECS is done by the teacher with children of a young age with ASD.

The teachers understood the child and their communication by the child making eye contact “*Just them making eye contact is another form of communication*” (Participant 2). As

reported by the teachers from each school, they use eye contact with the child as a way of gauging the child's understanding. The teachers reported they understand the child and the child's response using eye contact.

It was observed that one participant made use of no communication strategies for children with severe learning difficulties. The teacher in the classroom made use of typical verbal input only with the children in the class, which consisted of children with varying disabilities, including non-verbal children with ASD.

In Table 3, the communication strategies observed in structured and unstructured settings are outlined. The diverse range of strategies used were aided, unaided and multimodal communication modes.

Table 3: Summary of communication strategies observed in the classroom

	S1	S2	S3	S4	S5
Structured observation					
PECS	X	X		X	
MAKATON	X	X		X	X
VERBAL	X	X	X	X	X
GESTURE	X	X		X	X
OTHER	Music and song	Music and song	Music and song	Music and song	
COMBINATION OF STRATEGIES	PECS, Makaton and verbal				
Unstructured observation					
PECS	X				
MAKATON	X	X		X	
VERBAL	X	X	X	X	X
GESTURE		X		X	
OTHER					
COMBINATION OF STRATEGIES	PECS, Makaton and verbal			Makaton and verbal	

Communication Difficulties was the next sub-theme. An evident access barrier displayed during the classroom observations in all the schools was seen in children's behaviour in the form of communication difficulties. Teachers showed their understanding of the link between communication difficulties and behaviour: "*For them to get frustrated and*

miserable, that is something else because they can't express it, they don't know how to deal with it..." (Participant 4).

The main idea that came across from the findings is teachers' adaptation to the diverse needs of the different children, their functioning and their communication. Teachers had greater difficulties communicating with children who showed lower functional performance and who are non-verbal. The children who were non-verbal often appeared unresponsive to the teacher. This led to teachers' struggles in understanding whether children understood the input they were given. Participant 4 showed how she adapts her communication strategies according to the child's level of functioning. For example, when interacting with a non-verbal and hypersensitive child, the teacher held up two picture symbols and had the child look at the picture of his choice. *"It's not what I want them to do, it is how I can assist them in what they are doing. I don't force them to do what I want them to do, I'll rather let me assist them in what they are busy with. Then it is much easier, because at the end of the day they won't get frustrated."* (P4).

The sub-theme of *Feelings and perceptions of teachers related to interacting with children with ASD*, was a prominent theme. A diverse range of feelings and perceptions were expressed and observed, including frustration when communicating with and trying to the understand the children. On the other end of this spectrum, most of the teachers expressed enjoyment when working with the children with ASD in their classes. The positivity of the teacher had a positive effect on the teachers' teaching style, along with enhancing the method of communicating with the children in the classroom – *"I find it easy, because if you put your heart here, you will find it easy"* (Participant 5).

Discussion

Our study aimed to describe the communication strategies used by South African pre-school teachers of children with ASD in a classroom. We uncovered a diversity within our

findings which fit with our population context within South Africa and link with the diversity of ASD. Findings revealed that teachers made use of a diverse range of multi-modal communication strategies, each specific to their training, level of functioning of their children, and individual needs of the children.

Makaton was used in this study more widely than other systems. This could be to the fact that Makaton is available locally whereas PECS is imported. Also, it may also be because Makaton uses unaided signed language mostly that can be understood by many individuals and the iconic nature of signs and symbols require less working memory than the language spoken alone (Rowland & Schweigert, 2000). On the other hand, PECS uses aided symbols (picture cards), has several stages to it, building in complexity, starting from simple requests, then drawing in more people, then making more complex and more explicit requests, involving some sentence structure. The issues preferring using certain AAC systems are also observed in other studies and may be attributable to lack of access to resources, on the part of the supporting adults, as well as inadequate priority being given to the implementation of such a system (Norburn, Morgan, Levin, & Harding, 2016; Al-Shammari, 2006; McConkey & Bhlingri 2003). This indicates that frequent training about the reasoning behind certain AAC systems is required to allow consistent usage.

The communication strategy that was least used was the Picture Exchange Communication System. Literature describes PECS as being a method of Augmentative and Alternative Communication (AAC) that improves children with ASD's use of non-verbal social communication and increases the ability of a child to verbally request (Howlin et al., 2007). Despite this, it is not being enforced in the schools. The use of PECS requires that teachers be trained and qualified to make use of PECS to address children's communication. This may have contributed to fewer schools making use of this successful approach. Literature reveals that the introduction of PECS in the classroom dramatically decreases a

child's aggressive behaviour, given that children are given a means of communicating more effectively (Frea et al., 2001).

In adding to the link between communication and behaviour, behavioural difficulties in our study, as well as level of functioning were found to lead to communication breakdowns in the classroom. Behavioural problems or emotional outbursts from children with ASD are often their only means of communication, as children have no other way in which to express themselves (Frea, Arnold, & Vittimberga, 2001). The use of communication strategies such as Makaton has therefore been shown to be effective in handling challenging behaviors.

An unexpected finding in the data was that one participant did not use any communication strategies for children with severe learning difficulties, displaying only using typical verbal input with the whole class, consisting of children with varying disabilities. The absent use of communication strategies could be ascribed to the limited knowledge of methods to help the children develop communication (Yssel et al, 2007). Several research studies have indicated that aided modelling approaches could be successful for children with ASD. In addition, both teacher and learners could benefit when communication is effective. With these augmented and alternative communication methods, a teacher can provide a child with a model that is consistent with the type of output expected. This method is like verbal models that children normally develop. It shows the child how the system can be used and sends a message to the child that the AAC is an acceptable form of communication (Drager et al., 2006).

Following the child's lead was a strategy prominently used by one participant. Studies have shown that following the child's lead lends itself to longer interactions with an ASD child (Lowry, 2011). Following the child's lead does not mean copying or repeating what the child does. Instead, this involves engaging a child in an activity that they are interested in,

leading to encouraging joint attention and communicative interaction (Greenspan & Weider, 2006).

Teachers play an important role in every child's life. Teachers' perceptions and feelings towards disability can lead to an increased level of participation in a classroom (Natof & Romanczyk, 2009). The teacher plays an important role, given that young children are at the foundation stages of their language development (Brassard & Boehm, 2007). A predominant aspect of feelings and perceptions that arose during data collection included frustration and enjoyment, frustration when communicating with the children and frustration when trying to understand the children. Enjoyment expressed for working with the children, based on providing children with help.

The popular saying of "no two people are alike" is undeniably true for children with autism (Tincani, Travers, & Boutout, 2009). Diversity was an overarching theme which occurred prominently through all our data. Diversity amongst children with autism relate to each individual child and to each single child daily. In terms of communication and diversity, the diversity was expressed through different children being able to understand or make use of certain communication strategies, while some children not being able to understand these strategies. Given greater exposure and experience with these strategies, children may develop better understanding. In addition, teachers' skills, confidence and level of comfort in using a diverse range of communication strategies with this diverse range of children, is an important consideration to facilitate optimal communication and learning for all children.

Limitations of the Study

The findings of this study are context specific to Johannesburg, South Africa and the educational settings within which data was collected. This is an urban area; no rural areas were included in the study. A broader sample from other schools could further expand our description of the communication strategies used in classrooms in South Africa.

Practice Implications and Future Research

Consideration needs to be given to workforce development and preparation for working with children with diverse needs, such as children with ASD. Due to these diverse needs, teachers need to feel confident in their abilities to address the communication and learning needs in a diverse range of ways. It is recommended that teachers are supported through policy development and workforce strategies for working with a diverse range of children in classrooms in South Africa. Allied Health Professionals are ideally placed to provide support to the classroom teacher. Further research should examine in-depth the form of teacher preparation and qualifications that are necessary for teachers working with children with disabilities, as well as the best ways of supporting teachers in classrooms, including the input from Allied Health services.

Key Messages of Article

- Due to young children's foundational language development, it is imperative that teachers focus on communication, which will support children's school performance.
- For communication to be successful, teachers need to understand each child's unique needs, level of functional performance and communication.
- A diverse range of multimodal communication strategies is required to address the diverse needs of children with ASD.

Funding: This research received no external funding

Conflicts of Interest: The Authors declare that there is no conflict of interest.

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