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***Receptive Language Development in Children with
Autism Spectrum Disorder: Case study of Amani Ahmed
Primary School at Naama City, Algeria.***

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of the Requirements for the Degree of Master in Linguistics***

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Statement of Originality

Me mahdjoub wafaa, hereby declare that my master thesis entitled " Receptive Language Development Skills in Children with Autism Spectrum Disorder " is entirely a topic of my own work and, that I have written it in my own words. It contains no material that has been submitted previously, for the award of any other academic degree or diploma except where otherwise indicated. I also confirm that the present work contains no plagiarism and that any information taken from published or unpublished sources has been acknowledged.

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Dedications

This study is wholeheartedly dedicated to my parents and my kids, who have been the source of my inspiration and strength. to myself, who faced every trial with courage, embraced every setback as a lesson, and persevered through every doubt with unwavering determination.

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Abstract

Language is a fundamental aspect of social, emotional, and academic life, playing a significant role in determining an individual's level of independence and adaptability. Our comprehensive topic focuses on individuals diagnosed with autism spectrum disorder (ASD) who encounter challenges in achieving effective communication easily. Understanding the pathways of language development and the factors influencing this development in these children is paramount for identifying their specific needs and directing efforts towards developing effective intervention strategies in educational settings. This memorandum is grounded in a profound understanding of the relationship between autism spectrum disorder and receptive language development. In the initial section of the study, previous literature on the subject matter is included under key headings, providing a robust conceptual framework. Subsequently, the subsequent chapter highlights the methodologies employed, elucidating the study's specific samples, which lead us to the results finally discussed in the third chapter, culminating in recommendations derived from previous research to enhance receptive language development in these children.

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List Of Abbreviations and Acronyms

ASD: Autism Spectrum Disorder

SLT: Speech and Language Therapy

R/L: Receptive/Expressive Language

SLP: Speech-Language Pathologist

EI: Early Intervention

AAC: Augmentative and Alternative Communication

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GENERAL INTRODUCTION

General Introduction

Autism spectrum disorder (ASD) is a complex neurodevelopmental disorder characterized by difficulties in social interaction, communication, and restricted or repetitive behaviors, Autism Spectrum Disorder (ASD) is defined as a developmental disability "characterized by challenges with social skills, repetitive behaviors, speech and nonverbal communication," The disease affects a wide range of people, from people with severe intellectual and communication disabilities to people with mild disabilities who have excellent abilities in certain areas (Autism speak, 2021).

One of the biggest challenges for people with ASD, especially in academic and social situations, is in the area of language and communication. In the realm of language, being able to understand and comprehend spoken words and gestures is vital for effective communication and social engagement. This skill, known as receptive language, involves processing auditory and visual information, decoding language, and grasping the meaning behind spoken words and non-verbal signals. Deficits in receptive language can greatly hinder individuals with ASD in their understanding of instructions, participation in conversations, interpretation of social cues, and involvement in meaningful interactions with others.

In primary school environments, effective communication skills are crucial for learning and socializing, especially for children with ASD. Overcoming the hurdles of receptive language issues in this group is a big challenge for educators, clinicians, and caregivers. Despite extensive research on communication in individuals with ASD, there is still a lack of knowledge about strategies and interventions that specifically focus on improving receptive language abilities in primary school children with ASD.

This study aims to fill a gap in research by concentrating on improving receptive language skills in primary school children with ASD. By examining the obstacles these children encounter in learning receptive language, analyzing current literature on interventions, and creating and applying an extensive intervention program, the dissertation intends to support the advancement of effective practices for enhancing communication abilities in children with ASD.

The challenge at hand pertains to the impediments faced by children diagnosed with autism spectrum disorder (ASD) in acquiring receptive language skills, which are essential for their academic advancement and social integration during their formative years in primary school. Despite increased awareness of these obstacles, there remains a gap in tailored interventions and methodologies that address the unique communication needs of children with ASD. Closing this disparity is imperative for fostering the educational and social inclusion of ASD-diagnosed children within primary school settings. In this light, the problem issue of this research work could be structured in the form of the following research questions:

1. What are the specific challenges in receptive language acquisition experienced by primary school children diagnosed with autism spectrum disorder (ASD)?
2. What are the obstacles encountered by speech-language pathologists when facilitating speech production processes for autistic children?
3. What existing interventions and strategies exist for enhancing receptive language development in children with ASD?

Based on the problem of the study and the research questions, the following hypotheses have been put forward:

1. There is a probability that children diagnosed with autism spectrum disorder (ASD) in primary school will demonstrate deficits in receptive language comprehension compared to typically developing children.
2. Speech-language pathologists are likely to encounter a multitude of challenges when working with autistic children, including issues such as anger, refusal, and resistance to complying with instructions.
3. There is variability in the effectiveness of interventions and strategies aimed at enhancing receptive language skills in children with ASD, with certain approaches having a higher probability of demonstrating greater effectiveness than others.

To investigate the issues raised, this research work is divided into two parts: theoretical and practical, with a whole chapter devoted to each part. On one hand, the first chapter reviews the literature related to the theoretical framework of the study, including an analysis of previous research, theoretical concepts, and relevant studies.

On the other hand, the second chapter serves as the cornerstone of the study, as it outlines the methodology that underpins this work. It details the research design, data collection methods, data analysis techniques. Furthermore, this chapter presents the main findings that result from the analysis and interpretation of the collected data, providing insights into the research questions and contributing to the overall understanding of the topic. It can be said that through this chapter, the researcher addressed the research questions and tested the proposed hypotheses.



Chapter 01: Literature Review

1.1 Introduction

Autism spectrum disorder (ASD) is among the prevalent developmental disorders that impact various aspects of individuals' lives, particularly in terms of communication and language. While typically developing children exhibit an increasing ability to comprehend and use language during early childhood, children with autism spectrum disorder demonstrate significant delays in these foundational language skills. This delay extends to the realm of receptive language, which encompasses the ability to understand meanings, non-verbal cues, and facial expressions—a vital aspect for an individual's interaction with the external world and effective communication with others.

Unfortunately, children with autism spectrum disorder face numerous challenges in acquiring and developing receptive language skills, negatively impacting their ability to engage socially and academically as their neurotypical peers do. Proficient language comprehension and effective interaction with others are fundamental for the success of children in educational and social environments. Therefore, understanding the challenges faced by these children in the realm of receptive language is critically important to contribute to the improvement of educational and therapeutic services provided to them.

This chapter aims to delve into the depth of the impacts of autism spectrum disorder on the development of receptive language in children, through the analysis of previous research and theoretical studies in this field. We will shed light on the factors influencing language reception in these children, including biological, environmental, and social factors. By understanding these challenges more profoundly, specialists, educators, and parents can develop more effective strategies and interventions to support the development of receptive language skills in children with autism spectrum disorder, thus enhancing their overall educational and social experiences.

1.2 Understanding Autism Spectrum Disorder (ASD)

Autism Spectrum Disorder (ASD), as defined by the National Institute of Mental Health (NIH), is a developmental disorder impacting communication and behaviour, with symptoms typically appearing within the first two years of life. It is characterized by challenges in social interaction, repetitive behaviours, and difficulties in functioning across different areas of life.

ASD is recognized as a spectrum disorder due to the varying types and severity of symptoms experienced by individuals. It affects people from all ethnic, racial, and economic backgrounds and can persist throughout life, although treatments and services can help manage symptoms and improve functioning. The American Academy of Paediatrics recommends screening all children for ASD, underscoring its significance. According to the World Health Organization, ASD is categorized as a neurodevelopmental disorder, rooted in abnormalities in brain development. This umbrella term covers various conditions, including autism and Asperger's syndrome, with Asperger's generally regarded as milder. Those with ASD commonly struggle with social behaviour, communication, and repetitive activities, typically evident by age five. The prevalence of ASD globally is estimated at 1 in 160 children, with boys being diagnosed more frequently than girls. Additionally, individuals with ASD may experience co-occurring conditions such as epilepsy, depression, anxiety, and ADHD, with cognitive functioning varying greatly among affected individuals, ranging from severe impairment to high functioning (National Institute of Mental Health, World Health Organization).

1.3 Common Signs and Symptoms of Autism Spectrum Disorders

Each individual diagnosed with autism spectrum disorder (ASD) presents a distinct behavioural profile, yet certain hallmark signs and symptoms are commonly observed:

1.3.1 Communication Challenges

Difficulties in language use and comprehension, such as delayed speech development, limited vocabulary relative to their age, repetitive use of phrases or words, narrow focus on specific topics during conversation, and exhibiting flat or monotonous speech patterns

1.3.2 Social Interaction Difficulties

Challenges in establishing and maintaining social connections, characterized by struggles in forming friendships, interacting with others, interpreting facial expressions, understanding one's and others' emotions, avoiding eye contact, reluctance to engage in

physical affection, unresponsiveness to calls, and reluctance or refusal to comply with requests

1.3.3 Repetitive Behaviors and Adherence to Routines

Engaging in repetitive physical actions such as hand flapping or object manipulation, exhibiting behaviours that may result in self-harm such as biting or head-banging, rigidly adhering to daily routines, and experiencing distress or difficulty adapting to even minor changes in their environment

1.3.4 Sensory sensitivities

Heightened or diminished sensitivity to sensory stimuli such as sounds, lights, tactile sensations, smells, pain, and other environmental cues

In summary, while each individual with autism spectrum disorder exhibits a unique behavioural profile, these common signs and symptoms encompass communication challenges, social interaction difficulties, repetitive behaviours, and sensory sensitivities.

1.4 Therapeutic Approaches for Autism

Various therapeutic approaches exist to alleviate symptoms and enhance capabilities in individuals with Autism Spectrum Disorder (ASD). Tailored therapies and interventions are pivotal for individuals with ASD to optimize their skills and abilities. While the effectiveness of these interventions may vary depending on the individual, structured and specialized programs often yield the best results. Early diagnosis and interventions, particularly during preschool years or earlier, have been shown to significantly alleviate symptoms and improve long-term outcomes. Given the symptom overlap between ASD and other disorders like attention deficit hyperactivity disorder (ADHD), personalized treatment addressing individual needs is paramount, transcending diagnostic labels (National Institute of Mental Health).

1.4.1 Behavioural Management Therapy for Autism

Behaviour management therapy aims to strengthen desired behaviours while diminishing undesirable ones, providing caregivers with guidance on proactive strategies before, during, after, and between episodes of challenging behaviours.

Grounded in applied behaviour analysis (ABA), a widely recognized method for monitoring skill enhancement, behavioural therapy encompasses various forms,

including Positive Behavioural Support (PBS), Pivotal Response Training (PRT), Early Intensive Behavioural Intervention (EIBI), and Discrete Trial Teaching (DTT). PBS seeks to identify the root cause of problem behaviours, implementing environmental changes and skill-building techniques to promote positive behaviours. PRT targets pivotal skills like motivation and communication initiative, which subsequently enhance broader skill sets and adaptive responses. EIBI delivers personalized behavioural instruction to young children with ASD, requiring significant time commitments and offering individualized or small-group sessions. DTT systematically teaches skills through controlled, step-by-step methods, with positive reinforcement to encourage skill utilization.

Moreover, while ABA remains fundamental, alternative behavioural therapies may also offer efficacy for individuals with ASD. Consulting healthcare providers can aid in determining the most suitable approach for individual needs (National Institute of Mental Health).

1.4.2 Cognitive Behaviour Therapy for Autism

Cognitive behaviour therapy (CBT) explores the intricate link between thoughts, emotions, and actions.

During CBT sessions, the therapist collaborates with individuals with autism spectrum disorder (ASD) and/or their parents to establish specific therapy goals. Throughout the treatment, individuals with autism learn to recognize and modify thoughts contributing to problematic emotions or behaviours in particular contexts (National Institute of Mental Health).

CBT follows a structured framework tailored to the strengths and weaknesses of each patient. Studies indicate that CBT effectively assists individuals with certain ASD profiles in managing anxiety and navigating social interactions, facilitating improved emotional recognition (National Institute of Mental Health).

1.4.3 Educational and School-Based Therapies for Autism

Children diagnosed with autism spectrum disorder (ASD) are entitled to receive free, suitable public education according to the provisions of Public Law 108-177: Individuals with Disabilities Education Improvement Act (2004), commonly referred to as “IDEA” (U.S. Department of Education).

IDEA mandates that children identified with specific disabilities or conditions, including ASD, receive complimentary educational services and aids to facilitate optimal learning opportunities (U.S. Department of Education).

Additionally, research supported by the National Institute of Child Health and Human Development (NICHD) has integrated communication interventions for children with ASD within classroom settings, yielding favourable outcomes (U.S. Department of Health and Human Services). Although these interventions utilized in the research may not be explicitly mandated by IDEA, elements from the program hold promise as evidence-based frameworks for future school-based therapies.

1.5 Understanding Receptive Language Development

Receptive language encompasses the ability to comprehend words and language. It involves extracting meaning and information from various sources, including everyday routines (such as recognizing that finishing breakfast signals the need to get dressed), visual cues in the environment (like understanding that a parent holding keys signifies preparation for a car ride, or interpreting a green light as a signal to proceed), auditory stimuli (such as recognizing the sound of a siren indicating the approach of a fire engine, or understanding that the word "ball" refers to a round, bouncy object used in play), as well as grasping concepts like size, shape, colours, and time. Additionally, receptive language includes understanding grammatical structures (like forming regular plurals or past tense forms) and interpreting written information (such as comprehending signs like "no climbing" or understanding narratives in written stories).

Some children who struggle with comprehending oral language may still seem to understand, as they may rely on identifying key words or obtaining visual cues from their surroundings or gestures.

1.5.2 The Significance of Receptive Language Development

Receptive language, which involves understanding words and language, plays a crucial role in effective communication. Children who experience challenges in comprehension may struggle to follow instructions both at home and in educational settings, leading to difficulties in responding appropriately to questions and requests. In school environments, difficulties in understanding can contribute to attention and

listening issues, as well as behavioural challenges. Since many school activities rely on a solid grasp of language, difficulties in receptive language may hinder a child's ability to access the curriculum and participate in age-appropriate academic tasks and activities.

1.5.3 Essential Components for Receptive Language Development

The Foundational Elements for Developing Receptive Language are the following

- **Attention and Focus:** This refers to the ability to sustain effort, concentrate on tasks without being easily distracted, and maintain focus long enough to complete activities.
- **Pre-verbal Communication Skills:** These encompass non-verbal forms of communication such as gestures, facial expressions, imitation, joint attention, and eye contact, which serve as precursors to language development.
- **Social Competence:** This involves the capacity to engage in reciprocal interactions with others, whether verbally or non-verbally, as well as the ability to negotiate, compromise, and adhere to social norms.

1.5.4 Strategies for Enhancing Receptive Language Skills

The proficiency of receptive language, essential for effective communication, can be developed and reinforced through a range of methods and approaches:

- ✓ **Establish Eye Contact:** Before issuing instructions, ensure that the child is making eye contact with you.
- ✓ **Use Minimal Instructions:** Avoid overwhelming the child with too many instructions simultaneously.
- ✓ **Simplify Language:** Adapt your language to a level that the child can comprehend, typically slightly above their expressive language level.
- ✓ **Break Down Instructions:** Divide verbal instructions into manageable parts to facilitate understanding and execution.
- ✓ **Encourage Repetition:** Prompt the child to repeat instructions to confirm comprehension.
- ✓ **Implement "First/Then" Sequence:** Utilize this concept to clarify the order in which tasks should be completed.

- ✓ Offer Clarification: Encourage the child to seek clarification if they encounter difficulties understanding or remembering instructions.
- ✓ Provide Demonstrations: Physically demonstrate tasks to aid the child's comprehension.
- ✓ Utilize Visual Aids: Incorporate visual supports such as pictures, gestures, or facial expressions to enhance comprehension and recall.
- ✓ Describe Activities: Narrate everyday activities to reinforce understanding and vocabulary acquisition.
- ✓ Highlight Target Words: Emphasize specific words and repeat them in various contexts to reinforce learning.
- ✓ Engage in Play: Participate in play activities with the child, modelling appropriate interactions and language use.
- ✓ Minimize Background Noise: Reduce distractions by eliminating background noise during interactions with the child.
- ✓ Maintain Face-to-Face Communication: Ensure direct face-to-face interaction when communicating with the child.
- ✓ Utilize Visual Supports: Integrate signs or pictures to supplement verbal instructions and aid comprehension.
- ✓ Explore Books Together: Read books that capture the child's interest, discussing the illustrations and storyline while encouraging predictions and explanations.

1.6. Assessing Receptive Language Development

While expressive language skills have historically received more attention in research, there is a growing interest in understanding and evaluating receptive language development (Skwerer et al., 2016). One method used for this assessment is eye tracking, which measures language comprehension based on visual attention (Petit et al., 2020). However, this approach may not be suitable for populations with impaired gaze fixation, such as individuals with Autism Spectrum Disorder (ASD) (Petit et al., 2020).

To address this challenge, researchers have developed various assessment tools for evaluating receptive language skills. One such tool is the Clinical Evaluation of

Language Fundamentals 4th Edition (CLEF-4), commonly used by Speech-Language Pathologists (SLPs) to assess language understanding in students (Sutherland et al., 2019). Another valuable screening test, particularly for infants and young children, is the Sequenced Language Scale for Infants (SELSI), which provides insights into both expressive and receptive language abilities (Yim et al., 2017; Seol et al., 2014). SELSI has been instrumental in cross-cultural research, helping to understand if the characteristics of ASD observed in Western populations also apply to Eastern populations, thereby addressing cultural differences as a confounding variable in ASD research (Yim et al., 2017; Seol et al., 2014). This suggests that the features of ASD are consistent across different cultures, possibly indicating a genetic basis for the disorder's development.

In summary, receptive language plays a crucial role in facilitating effective communication for children with autism. It is important to recognize that each child learns and develops at their own pace, so we strive to establish natural learning environments and opportunities that foster receptive language skills. Additionally, enhancing receptive language abilities not only provides children with autism more opportunities to engage with others but also enables others to observe their expressions and interactions in various ways.

1.7 Strategies for Enhancing Receptive Language Skills in Learners with Developmental Disabilities

Teaching learners with developmental disabilities to effectively respond to language requires a structured approach (Drash & Tudor, 1993; Lovaas, 1977). Early intensive behavioural intervention (EIBI) programs often focus on teaching receptive language skills as part of their curriculum (Lovaas, 2003; Smith, 2001; Sundberg & Partington, 1998). However, if instructional procedures are not optimized, several issues may arise, including slowed skill acquisition and problem behaviour (Schilmoeller et al., 1979; Green, 2001). To ensure effective learning, it is crucial to employ optimal teaching methods for receptive language skills from the outset of EIBI programming (Schilmoeller et al., 1979).

Several strategies can enhance receptive language development in learners with developmental disabilities:

- ✓ Ensure eye contact before giving instructions.
- ✓ Provide minimal instructions to avoid overwhelming the learner.
- ✓ Simplify language to a level the learner can understand.
- ✓ Break instructions into parts to facilitate comprehension.
- ✓ Encourage repetition of instructions for reinforcement.
- ✓ Use the "first/then" concept to clarify task order.
- ✓ Prompt learners to ask for clarification if needed.
- ✓ Use physical demonstrations to aid comprehension.
- ✓ Utilize visual aids such as pictures and gestures.
- ✓ Describe activities during everyday routines.
- ✓ Emphasize target words and repeat them in various contexts.
- ✓ Engage in interactive play to promote language development.
- ✓ Minimize background noise to reduce distractions.
- ✓ Maintain face-to-face communication during interactions.
- ✓ Utilize visuals such as signs or pictures for support.
- ✓ Explore books with the learner, discussing pictures and predicting story outcomes.

Implementing these strategies can optimize receptive language learning and promote effective communication skills in learners with developmental disabilities.

1.8 Activities to Enhance Receptive Language Skills in Children

Engaging in various activities can significantly improve receptive language skills in children. Here are some effective strategies:

- Engage in everyday activities: Encourage the child to talk about experiences while shopping, visiting places like parks or museums, and involve them in drawing or acting out events (Drash & Tudor, 1993; Lovaas, 1977).
- Model new words: Incorporate new words and phrases into enjoyable play activities, providing opportunities for the child to learn and practice language in context (Lovaas, 2003; Smith, 2001; Sundberg & Partington, 1998).
- Explain concepts in various ways: Use different methods to explain new concepts, such as using water to demonstrate "wet," discussing pictures, or relating concepts to real-life situations (Schilmoeller et al., 1979; Green, 2001).
- Simon says: Play the game Simon says to reinforce understanding of instructions and body parts, gradually increasing the complexity of commands (Petit et al., 2020).
- Obstacle course: Set up an obstacle course and take turns giving and following instructions, progressively increasing the difficulty of commands (Petit et al., 2020).
- Feely bag game: Place items in a bag and encourage the child to guess, describe, and ask questions about the items, promoting vocabulary and comprehension skills (Yim et al., 2017; Seol et al., 2014).
- Picture books: Read picture books with the child and discuss the pictures, encouraging questions and predictions about the story (Derwing, 2010; Levis, 2019; Tergujeff, 2012).

By incorporating these activities into daily routines, caregivers and educators can effectively support the development of receptive language skills in children with developmental disabilities.

1.9 Conclusion

In conclusion, this literature review has shed light on various aspects of Autism Spectrum Disorder (ASD), emphasizing the importance of early diagnosis, intervention, and ongoing support for individuals affected by this condition. By defining ASD and outlining its common signs and symptoms, we have provided a foundation for understanding the challenges faced by individuals with ASD in communication and social interaction. Furthermore, we have explored therapeutic approaches, such as behavioural management therapy and cognitive behaviour therapy, which have shown promise in addressing core symptoms and improving daily functioning.

Assessment methods for evaluating receptive language development have also been discussed, highlighting the significance of early detection and tailored interventions. Strategies for enhancing receptive language skills in learners with developmental disabilities have been identified, offering practical guidance for educators, caregivers, and professionals working with individuals with ASD.

Moving forward, continued research and collaboration are essential for advancing our understanding of ASD and developing effective interventions that meet the diverse needs of individuals across the spectrum. By fostering a supportive and inclusive environment, we can empower individuals with ASD to reach their full potential and lead fulfilling lives.



Chapter02 : Data Collection and Analysis

2.1 Introduction

Understanding the challenges and experiences of individuals with autism spectrum disorder (ASD) within the context of elementary schools is crucial for creating inclusive and supportive educational environments. This chapter delves into the methodologies employed to gather insights into the realities faced by students, teachers, and specialists involved in ASD education within elementary school settings.

Through a combination of observations and interviews, this research aims to uncover the nuanced dynamics of ASD education. By exploring the perspectives of educators and professionals alongside direct observations of classroom interactions, a comprehensive understanding of the unique needs and challenges of autistic students emerges.

The chapter begins by outlining the various methodologies utilized, including structured and unstructured interviews, as well as direct and participant observations. Each method offers distinct advantages in capturing the multifaceted nature of ASD education, from gathering individual perspectives to documenting real-time interactions within the classroom.

By employing a diverse array of research methods, this chapter endeavors to provide a holistic view of ASD education in elementary schools. Through these insights, educators, policymakers, and stakeholders can gain valuable knowledge to inform the development of more inclusive and effective educational practices for students with ASD.

2.2 Research Design and Sample Population

In research, the design and sample population are foundational elements that shape the validity and reliability of a study's outcomes. The research design outlines the framework and methodology guiding the investigation, determining how data is collected, analyzed, and interpreted.

Research Design

The research design utilized in this study adopts a qualitative approach to comprehensively explore the experiences of participants involved in teaching Autism Spectrum Disorder (ASD) in primary schools. This qualitative approach involves the use of qualitative methodologies, specifically semi-structured interviews and direct

observations. These methods aim to provide rich and detailed accounts of perspectives and experiences from teachers, specialists, and students.

Semi-structured interviews offer flexibility in probing participants' views and experiences regarding ASD education, allowing for a detailed exploration of individual narratives. Direct observations contribute to elucidating these narratives within the classroom environment by capturing interactions and behaviors in real-time.

This qualitative research design enables a thorough understanding of the complexities of ASD education in primary schools by offering insights into both individual experiences and broader trends and challenges. By triangulating data from multiple sources, such as interviews and observations, this research design enhances the validity and reliability of the findings, contributing to a more accurate and nuanced understanding of ASD education.

2.2.1 Sample Population

The sample for this study comprises various stakeholders involved in ASD education in primary schools, including teachers, special education specialists, speech therapists, and students diagnosed with ASD.

Teachers from Amani Ahmed School at Naama, Algeria, were selected to participate in semi-structured interviews, providing insights into their experiences, challenges, and strategies in teaching students with ASD. Additionally, speech therapist working concurrently with teachers in the same center following the adapted classroom setup for autistic patients, was interviewed to share her expertise in supporting communication and language development among students with ASD.

For direct observations, two primary school classrooms from Amani Ahmed were selected to capture the daily interactions and activities of students with ASD. These observations were conducted throughout the class session to ensure a comprehensive understanding of classroom dynamics and teaching practices without researcher intervention.

2.3 Research Tools

The research tools that are used in this study ensure the accuracy and generalizability of the results, helping to achieve the research objectives effectively and thoughtfully.

2.3.1 Interview

Interviews were conducted with a select group of individuals involved in the field of autism in elementary schools. These interviews served as a means of direct communication to gather personal opinions, experiences, and knowledge, thereby shedding light on their perspectives and challenges in dealing with autistic students.

The participants included two teachers, one speech therapist, and the school supervisor:

1. The supervisor of **Omani Ahmed** school, who oversees the integration and support of autistic students.
2. Mrs. L.A teacher from the regular section of the fourth level of the same school, specializing in English Language.
3. A speech therapist responsible for directing teachers and following up on autistic children within the classrooms at same school
4. Mrs. K.K, a specialized main teacher from the air-conditioned section of the third level of primary school Omani Ahmed at Naama

The purpose of these interviews was to delve into the participants' professional experiences and roles in their respective departments. After collecting their personal and professional information, the remaining questions were distributed to explore the specific responsibilities and challenges they encounter in their roles.

2.3.1.1 The speech therapist s interview questions:

The role as an orthophonist in supporting children with autism who are integrated into regular classrooms is crucial. Here are the questions that were asked in the interview Question 1. How does your approach in providing services to children with autism differ in the specialized department compared to the regular department?

This question aims to understand the orthophonist's approach and strategies in catering to the unique needs of children with autism in different educational settings. It helps assess their adaptability and flexibility in adjusting their methods based on the environment they work in.

Question 2. What assessment tools do you use to evaluate the language comprehension and speech production abilities of children with autism who are integrated into regular classrooms?

This question delves into the orthophonist's assessment methods, indicating the

importance of using appropriate tools to accurately evaluate the language skills of children with autism in inclusive settings. It provides insight into their diagnostic process and ensures they employ comprehensive evaluation techniques.

Question 3. How do you identify the needs of children with autism who are integrated and tailor individualized therapy plans to meet their language needs?

Understanding how the orthophonist identifies and addresses the specific needs of children with autism in inclusive classrooms is crucial. This question reveals their ability to develop personalized intervention plans that consider each child's unique challenges and strengths, promoting effective therapy outcomes.

Question 4. What strategies do you employ to stimulate language comprehension and speech production in children with autism who are integrated into regular classrooms?

By asking this question, it's possible to gain insight into the orthophonist's repertoire of therapeutic strategies. Their response reveals their creativity and resourcefulness in devising interventions tailored to enhance language skills in inclusive educational environments.

Question 5. How do you integrate visual support, such as visual schedules and cues, into therapy plans to support language comprehension and speech production in children with autism who are integrated?

Visual supports are often effective tools for children with autism to aid in communication and understanding. This question explores the orthophonist's utilization of such supports and assesses their ability to implement multimodal approaches that accommodate diverse learning styles.

Question 6. How do you determine the most effective alternative and augmentative communication (AAC) methods to support speech production in children with autism who are integrated?

AAC methods can significantly enhance communication for children with autism. This question assesses the orthophonist's expertise in selecting and implementing AAC solutions tailored to each child's needs, ensuring effective communication within inclusive classroom settings.

Question 7. How do you evaluate the effectiveness of language therapy for children with autism who are integrated and adjust therapy plans based on progress?

Monitoring progress and adjusting therapy plans accordingly are vital aspects of effective intervention. This question examines the orthophonist's approach to monitoring progress, ensuring that therapy remains dynamic and responsive to the evolving needs of children with autism in inclusive classrooms.

Question 8. How do you guide and educate teachers in regular classrooms on strategies to support language comprehension and speech production in children with autism who are integrated?

Collaboration with teachers is essential for fostering an inclusive and supportive learning environment. This question highlights the orthophonist's role in providing guidance and support to educators, promoting effective communication strategies and inclusive practices that benefit children with autism in mainstream classrooms.

2.3.1.2 The questions directed to the teacher in the specialized department:

Question 1 How does your approach to teaching language for children with autism differ in the specialized department compared to the regular department?

This question aims to understand the specific strategies and methodologies employed by teachers when teaching language to children with autism in specialized settings compared to mainstream classrooms. It provides insight into the adaptability of teaching methods to meet the unique needs of autistic students in different educational environments.

Question 2 What strategies do you use to stimulate language comprehension and speech production for students with autism in the specialized department?

This question delves into the teacher's toolkit of instructional strategies tailored to enhance language comprehension and speech production skills among autistic students in specialized settings. It seeks to uncover evidence-based practices utilized to support language development in this population.

Question 3 How do you collaborate with speech therapists to meet the needs of students with autism in the specialized department?

Collaboration between teachers and speech therapists is crucial for addressing the diverse communication needs of students with autism. This question explores the extent of collaboration between educators and specialists to ensure a holistic approach to language development and intervention.

Question 4 What are the main challenges you face when teaching language to students with autism in the specialized department, and how do you overcome them?

Understanding the challenges encountered by teachers is essential for identifying effective solutions. This question prompts teachers to reflect on the unique hurdles they face in supporting language development in autistic students within specialized settings and how they navigate these challenges to optimize learning outcomes.

Question 5. How can teachers in the specialized department enhance effective communication and language understanding among students with autism?

Effective communication is foundational for academic and social success. This question explores proactive measures taken by teachers to foster communication skills and language understanding among autistic students in specialized settings, emphasizing the importance of creating a communicative environment conducive to learning.

Question 6. Do you use specific tools or techniques to support language comprehension and speech production for students with autism in the specialized department?

This question seeks to uncover the utilization of evidence-based tools and techniques by teachers to scaffold language comprehension and speech production abilities in autistic students within specialized settings. It aims to identify best practices and innovative approaches adopted in language instruction.

Question 7 How do teachers customize support and accommodations for each autistic student in the specialized department based on their individual needs?

Recognizing the heterogeneity of needs among autistic students, this question explores the individualized approach taken by teachers to provide tailored support and accommodations that align with each student's unique profile and learning style. It highlights the importance of personalized interventions in optimizing educational outcomes.

Question 8. How do you encourage participation and active engagement of students with autism in the specialized department during language activities?

Active participation is crucial for meaningful learning experiences. This question probes into the teacher's strategies for promoting engagement and participation among autistic students during language-focused activities within specialized settings. It aims to uncover innovative approaches that foster active involvement and promote skill

acquisition.

2.3.1.3 The questions directed to the teacher in the regular department who integrates students with autism:

Question 1. How do you ensure the presence of a supportive and inclusive classroom environment for all students, including those with autism who are integrated?

This question aims to understand the teacher's approach to creating an environment where all students feel supported and included, particularly focusing on students with autism who are integrated. It assesses the teacher's awareness of the importance of an inclusive environment for promoting the overall well-being and academic success of students with autism and their peers.

Question 2. How do you adapt your teaching approach to ensure understanding and effective participation of students with autism who are integrated in the lessons?

This question delves into the teacher's ability to tailor their teaching methods to meet the diverse needs of students, including those with autism who are integrated. It seeks to uncover the teacher's strategies for accommodating different learning styles and abilities, ensuring that all students, including those with autism, can comprehend the lesson content and actively participate in classroom activities.

Question 3. What strategies do you use to address the language learning needs of students with autism who are integrated?

This question focuses specifically on language learning, recognizing that students with autism may have unique challenges in this area. It explores the teacher's familiarity with effective strategies for supporting language development in students with autism who are integrated, highlighting the importance of language skills for academic and social success.

Question 4. How do you encourage social interaction and collaboration between regular students and students with autism who are integrated in the classroom?

Social interaction is crucial for the overall development of students, including those with autism who are integrated. This question assesses the teacher's efforts to foster a sense of community and belonging among all students, promoting positive peer relationships and inclusive social dynamics within the classroom setting.

Question 5. What challenges do you face when teaching a diverse group of students,

including those with autism who are integrated?

Understanding the challenges faced by teachers is essential for identifying areas where additional support may be needed. This question prompts the teacher to reflect on the specific obstacles encountered when teaching a diverse group of students, including those with autism who are integrated, providing valuable insights into potential areas for improvement and professional development.

Question 6. How do you integrate language and communication activities into lessons to support the language development of students with autism who are integrated?

Language and communication skills are fundamental for academic success and social interaction. This question explores the teacher's approach to integrating language-focused activities into lessons, with a particular emphasis on supporting the language development of students with autism who are integrated, ensuring they have opportunities to practice and enhance their communication skills in various contexts.

Question 7. How do you deal with differences in skill levels between regular students and students with autism who are integrated in terms of language comprehension and speech production?

Addressing differences in skill levels is essential for creating an inclusive learning environment where all students can thrive. This question seeks to understand how the teacher manages variations in language comprehension and speech production abilities among students, ensuring that individualized support is provided to meet the diverse needs of each learner, including those with autism who are integrated.

Question 8. How do you provide necessary support for students with autism who are integrated to ensure their effective participation and success in learning within the regular classroom?

This question focuses on the teacher's role in providing support tailored to the specific needs of students with autism who are integrated, aiming to ensure their full participation and success in the regular classroom setting. It addresses the teacher's awareness of available resources, strategies, and accommodations to promote the academic and social inclusion of students with autism, fostering an environment where all students can thrive.

2.3.2 Observations

Observations were used as a tool to collect direct data from the educational environment within elementary schools. Observations were carried out in two different classrooms, one dedicated to teaching autistic children and the other to regular classes. The observations included monitoring the behavior of students and their interaction with the curriculum and educational environment, allowing the researcher to better understand the unique challenges and needs of autistic students in the school environment.

The main focus during observations was categorized into three principal axes, as follows:

2.3.2.1 Classroom Environment

It was evident that each classroom had an environment tailored to suit the needs of the students enrolled in it. The researcher noted the differences between the two classrooms to gauge their potential impact on the education of autistic students. The emphasis was particularly on colors and seating arrangements, as the typical classroom setup varied from a neurotypical child to an autistic child who requires heightened visual interaction for meaningful communication with their teachers.

2.3.2.2 Teaching Methodologies Employed by Teachers:

Undoubtedly, a teacher dealing with a neurotypical child will not teach them in the same way they would teach an autistic child. Autism necessitates the adoption of specific methods and effective communication approaches to facilitate language exchange. Thus, the researcher shed light on the comparative teaching interactions between teachers and their autistic students in a regular classroom versus those in a specialized one.

2.3.2.3 Student Interaction with Teachers:

The differences in environment and teaching methodology between the two classrooms necessitated the researcher to focus on the nature of student interaction and their cognitive engagement during class. This comparison aimed to obtain more comprehensive data leading to accurate results that fulfill the research objectives and reconcile research hypotheses.

2.4 Data Analysis

In the ongoing research, the principal dataset, acquired via interviews and observations, has been meticulously scrutinized following the predetermined framework established during the formulation of the research blueprint. The overarching objective has been to unearth valuable insights, propose cogent conclusions, and furnish decision-making support upon obtaining verified outcomes. Consequently, the researcher undertook a qualitative analysis of the data, endeavoring to furnish an elaborate, context-sensitive comprehension of the Speech-Language Pathologist's (SLP) interactions with children on the autism spectrum and the educators involved.

2.4.1 The Analysis of Interviews

During the interview (which consisted of a number of direct questions), the speech-language pathologist shared and provided valuable insights based on his professional experience, much like two teachers, each supervising one of the two different sections. The discussion covered various aspects related to the communicative language understanding of autistic children, by understanding the methods used in teaching children from both different sections and the challenges encountered in practice.

- **Answer to Question 1:** In the specialized department, the Speech therapist provides intensive one-on-one sessions tailored to each child's specific speech needs, focusing on mastering fundamental sounds. In the regular department, she integrates these techniques into classroom activities and collaborates closely with teachers, emphasizing the use of visual contact and lip movement observation to support children within a more inclusive setting.

Her approach demonstrates adaptability to different educational environments, ensuring personalized support while promoting inclusivity.

- **Answer to Question 2:** The Speech therapist employs classroom activities involving both listening and speaking to assess the language comprehension and speech production abilities of children with autism integrated into regular classrooms. This approach allows for the evaluation of interaction levels and language skills within a natural classroom environment.

By utilizing classroom activities for assessment, she adopts a practical and

comprehensive approach, providing valuable insights into the children's language abilities.

- **Answer to Question 3:** The Speech therapist identifies the needs of children with autism who are integrated by observing their initial speech abilities, such as their ability to produce sounds or specific syllables. Based on these observations, she develops customized therapy plans that start with teaching simpler, familiar sounds before progressing to more complex speech patterns.

Her emphasis on individualized therapy plans ensures effective and targeted interventions, acknowledging the importance of scaffolding in skill development.

- **Answer to Question 4:** To stimulate language comprehension and speech production in children with autism integrated into regular classrooms, the Speech therapist employs strategies such as gradually introducing new sounds, using repetition, and encouraging visual contact to help children mimic correct lip movements.

Her strategies focus on gradual skill development and multisensory approaches, fostering a supportive learning environment.

- **Answer to Question 5:** The Speech therapist integrates visual support into therapy plans by consistently making visual contact during sessions, allowing children to observe her lip movements. This direct observation aids in language comprehension and speech production, helping children understand how to form sounds and words correctly.

By leveraging visual support, she caters to the visual strengths of autistic children, fostering an inclusive environment where they can thrive.

- **Answer to Question 6:** The Speech therapist determines the most effective alternative and augmentative communication (AAC) methods by utilizing various approaches, including colours, touch and movement techniques, and eye-gaze direction. These methods support speech production in children with autism who are integrated into regular classrooms.

Her consideration of diverse AAC methods underscores her commitment to communication support, ensuring inclusivity and maximizing the potential for successful communication among children with autism.

- **Answer to Question 7:** The Speech therapist evaluates the effectiveness of language therapy for children with autism who are integrated by monitoring their ability to produce targeted sounds and words over time. Based on progress, she adjusts therapy plans, gradually introducing more complex sounds or focusing more on foundational sounds and increasing repetition as needed.

Her focus on progress monitoring and adjustment reflects a commitment to evidence-based practice, fostering positive learning experiences and outcomes for children with autism.

- **Answer to Question 8:** The Speech therapist guides and educates teachers in regular classrooms on strategies to support language comprehension and speech production in children with autism who are integrated. She shares effective strategies such as maintaining visual contact, using repetition, and being patient with gradual sound approximation, facilitating the child's speech development within the classroom environment.

Her provision of guidance underscores the importance of collaboration and knowledge sharing in supporting autistic children's language development, promoting inclusive practices and enhancing the overall learning experience for children with autism in regular classrooms.

A. Supervisor's Answers to Questions

Answer to Question 1: "We commenced integrating children with autism into government schools four years ago".

This brief response indicates the timeframe for the initiation of integration efforts, providing a clear starting point for understanding the context of the integration program. However, it lacks detail regarding commendations received, which could offer insights into the program's success and impact.

Answer to Question 2: " We do not offer any provisions."

The supervisor's response indicates a lack of specific provisions for specialized departments, contrasting with regular departments. This lack of provisions raises questions about the support and resources available for children with autism in both settings.

Answer to Question 3: " Integration into a regular department occurs when the child

begins to receive language and responds to the teacher without causing disruptions or being aggressive."

The supervisor outlines behavioural criteria for assessing a child's readiness for integration into a regular department. While clear criteria are provided, the response lacks detail on the assessment method, leaving room for ambiguity.

Answer to Question 4: " Teachers utilize sensory approaches such as playdough (colours), pictures, and printed materials".

This response highlights the reliance on sensory approaches for language development rather than specific methodologies. While sensory approaches can be beneficial, the lack of explicit language development methods may raise questions about the comprehensiveness of language instruction for children with autism.

Answer to Question 5: " The child with autism must be with a speech therapist in a specialized department, whereas in a regular department, this is not specified".

The supervisor notes the necessity of a speech therapist for children with autism in specialized departments, emphasizing the importance of specialized support. However, the lack of detail regarding teaching approaches in regular departments leaves room for interpretation regarding the support available for these children in inclusive settings.

B. Answers to the Questions Directed to the Teacher in the Specialized Department:

Answer to Question 1: The teacher explained, "I deal with them seriously and firmly, treating the autistic child like any other, but sometimes resorting to affection." This balance of firmness and compassion is essential. It demonstrates that while the teacher maintains consistent expectations and boundaries, they also recognize the need for emotional support, which is crucial for helping autistic students feel secure and understood.

Answer to Question 2: The teacher stated, "They cannot participate like a normal child; they rely only on listening." This highlights a significant challenge in engaging autistic students. The reliance on passive listening suggests the necessity of incorporating more interactive and sensory-based teaching methods to encourage active participation and enhance learning outcomes.

Answer to Question 3: The response was, "There is no collaboration." This lack of

cooperation with speech therapists reveals a critical gap in the support system. Effective education for autistic students requires a multidisciplinary approach, and the absence of collaboration can severely limit the development of comprehensive educational plans and interventions.

Answer to Question 4: The teacher identified, "Lack of concentration, distraction, and difficulty understanding some lessons." These challenges underscore the importance of creating a structured and distraction-free learning environment. Addressing these issues requires specialized strategies such as using visual aids and breaking tasks into smaller steps to improve focus and comprehension.

Answer to Question 5: The teacher mentioned, "Use of pictures, computers, data show, and dough." Utilizing visual and tactile tools aligns with best practices in autism education. These methods cater to the strengths of autistic students, making abstract concepts more tangible and enhancing engagement and understanding.

Answer to Question 6: The teacher noted, "Individual learning, use of educational tools, and use of senses." This approach highlights the importance of personalized education. Tailoring learning experiences and employing sensory-based tools can effectively address the unique needs of each autistic student, ensuring a supportive and effective educational experience.

Answer to Question 7: The teacher shared, "The autistic student in my class is very intelligent. I didn't find difficulty with language comprehension, but the difficulty lies in speech production; he speaks little." This points to the variability in abilities among autistic students. While comprehension may not be an issue for some, expressive language can be a significant challenge, necessitating targeted interventions such as speech therapy and alternative communication methods.

Answer to Question 8: The teacher emphasized, "Psychological support, treating him specially, especially in the first months." Providing psychological support and special treatment initially is crucial for building a trusting relationship. This approach helps autistic students adjust and feel comfortable, which can significantly enhance their learning experience and outcomes.

C. Answers to the Questions Directed to the Teacher in the Regular Classroom who Integrates Students with Autism:

Answer to Question 1: The teacher responded, "I haven't taught a regular class; I have taught learning difficulties, autism, and intellectual disability." This indicates extensive experience in specialized education but not in regular classrooms. It suggests a potential need for additional training to handle the dynamics of inclusive education effectively, ensuring all students' needs are met.

Answer to Question 2: The teacher explained, "I rely on sensory stimulation, especially using dough and colors." Sensory stimulation is a key strategy in teaching autistic students. Using materials like dough and colors helps make lessons more engaging and understandable, highlighting the importance of incorporating sensory activities to cater to diverse learning needs.

Answer to Question 3: The teacher noted, "In severe or aggressive cases, they control their behaviour." Managing severe behaviours is crucial. This response suggests that while behaviour management strategies are in place, there is a need for continuous support and possibly more effective interventions to address challenging behaviours, ensuring a safe and productive learning environment.

Answer to Question 4: The teacher pointed out, "Parents' denial of the illness, lack of cooperation, absence of permanent psychologists, and lack of special teaching tools." These challenges highlight significant external factors that impact the education of autistic students. Parental denial and lack of resources make it difficult to provide effective support. Addressing these issues requires a comprehensive approach, including parent education, securing adequate resources, and advocating for necessary support services.

Answer to Question 5: The teacher shared, "We give each one their due and treat each one individually and specially." This individualized approach is essential for inclusive education. Treating each student according to their specific needs ensures that all students, including those with autism, receive the necessary support to succeed.

Answer to Question 6: The teacher stated, "No, they are not available except from my own money." The lack of available resources, with the teacher having to fund materials personally, highlights a significant barrier to effective teaching. This underscores the

need for adequate funding and resources to support inclusive education, as teachers should not bear the financial burden of providing necessary tools for their students.

Answer to Question 7: The teacher explained, "With the help of the parent and the speech specialist, observing him for a long time to know if he is visual or auditory and teaching through repetition." Collaboration with parents and specialists, along with careful observation to determine the student's learning style, are critical strategies. Teaching through repetition is also effective in reinforcing learning, ensuring that methods are tailored to the student's individual needs.

Answer to Question 8: The teacher mentioned, "Just playing outside the lesson." While play is beneficial for social and communication skills development, this response suggests a potential lack of structured support during lessons. Integrating play-based learning and structured activities within the classroom can further support the inclusion and development of autistic students, enhancing their overall educational experience.

2.4.2 The Analysis of Observations

During the observation period, it was discovered that adapted classrooms differ from regular classrooms in terms of the methods employed and the approaches used to interact with students by their teachers. Additionally, the progress of an autistic patient was monitored in a regular classroom after improvements were observed in his communication with classmates and teachers. For this purpose, observations were divided into two distinct samples from different classroom settings to observe the contrast between them. The researcher thus observed autistic children and their interaction with the environment as a whole in the adapted classroom. Conversely, the observation of autistic children and their interaction in a different environment (regular classroom) was conducted.

1. Classroom Environment in Both Classrooms:

In the regular classroom (Class A), the environment appears bustling and dynamic, with students engaged in various activities. However, it lacks specialized resources for children with autism.

In the specialized classroom (Class B), the environment is structured and tailored to meet the unique needs of children with autism. It features visual supports, sensory tools, and a calm atmosphere conducive to learning.

2. Teaching Methodologies Employed by Teachers of Class A and Class B:

In Class A (regular classroom), teachers employ traditional teaching methods suitable for neurotypical students. Instruction is often delivered to the whole class, with limited individualized attention.

In Class B (specialized classroom), teachers utilize specialized teaching methodologies tailored to the needs of children with autism. They implement structured teaching approaches, visual schedules, and individualized instruction to support learning.

3. Student Interaction with Teachers (Comparison):

In Class A (regular classroom), student-teacher interaction varies, with some students actively participating while others may struggle to engage. Teachers primarily address the whole class, with limited individualized interaction.

In Class B (specialized classroom), student-teacher interaction is more personalized and frequent. Teachers engage with students on an individual basis, providing tailored support and scaffolding to meet each child's needs. As a result, students with autism receive more targeted attention and guidance in their learning process.

Table 1.1 the comparison between the two classrooms during observation

Observations	Class A	Class b
Classroom Environment	<ul style="list-style-type: none"> - Bustling and dynamic - Lack of specialized resources for children with autism 	<ul style="list-style-type: none"> - Structured and tailored - Features visual supports, sensory tools, and a calm atmosphere conducive to learning
Teaching Methodologies	<ul style="list-style-type: none"> - Traditional teaching methods - Instruction is often delivered to the whole class with limited individualized attention 	<ul style="list-style-type: none"> - Specialized teaching methodologies tailored to the needs of children with autism - Implements structured teaching approaches, visual schedules, and individualized instruction
	<ul style="list-style-type: none"> - Varies, with some students actively participating while others may struggle to engage 	<ul style="list-style-type: none"> - More personalized and frequent interaction - Teachers engage with students on an individual basis,

Student Interaction with Teachers	- Teachers primarily address the whole class with limited individualized interaction	providing tailored support and scaffolding to meet each child's needs
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2.5 Data Interpretation

1- regarding the teachers' interview:

A. Teachers in the specialized classroom: They work on providing a supportive educational environment that fosters language comprehension and speech production for students with autism spectrum disorder (ASD) who are integrated into their classrooms. They utilize tailored teaching strategies to stimulate the development of language skills.

B. Teachers in the regular classroom: They ensure the presence of a conducive classroom environment that integrates both neurotypical students and students with ASD, adopting diverse teaching strategies to ensure language comprehension and speech production for all students.

2- regarding the speech and language therapist's interview:

1. They conduct comprehensive assessments of language comprehension and speech production abilities for students with ASD who are integrated into classrooms, utilizing specialized assessment tools.

2. They formulate individualized treatment plans targeting the specific needs of each child, employing customized strategies to stimulate language comprehension and speech production, including visual support and alternative and augmentative communication (AAC) methods.

3. Their goal is to achieve significant improvement in language comprehension and speech production for students with ASD who are integrated into classrooms, aiming for better integration into regular classes and academic success.

3- regarding the supervisor's interview:

1. The school supervisor confirmed in his response that the teachers in different departments do not adhere to a unified teaching method or specific strategy since the beginning of the integration process, which has been ongoing for four years.

2. He mentioned that the only assessment method used by all teachers is observation,

which determines the differences between neurotypical learners and learners with autism spectrum disorder (ASD), as well as their progress levels in verbal communication (receptive - responsive).

3. Through the interview with the school supervisor, it is evident that the departments have limited resources compared to the needs required by students with ASD. Despite this, the teachers received support in their classrooms by having a speech therapist as a consistent and ongoing facilitator in all classrooms throughout the school year. This is the main difference between teaching a neurotypical child and a child with autism.

4- Regarding the Observations:

1. Classroom Environment:

- Regular Classroom (Class A): This environment is described as bustling and dynamic, indicating a typical classroom setting where various activities are happening simultaneously. However, it lacks specialized resources for autistic children, suggesting that the environment may not be optimized for their specific needs.

- Specialized Classroom (Class B): In contrast, this environment is structured and tailored to meet the unique requirements of autistic children. It includes visual supports, sensory tools, and a calm atmosphere conducive to learning. This setting recognizes and addresses the specific needs of autistic students, providing them with an environment where they can thrive.

2. Teaching Methodologies:

- Regular Classroom (Class A): Teachers employ traditional teaching methods suitable for neurotypical students, implying that the instruction may not always be adapted to the learning styles of autistic children. Whole-class instruction is common, with limited individualized attention.

- Specialized Classroom (Class B): Teachers here utilize specialized teaching methodologies designed specifically for autistic students. These methods include structured teaching approaches, visual schedules, and individualized instruction, which are tailored to support the unique learning needs of autistic children. This approach acknowledges and accommodates the diverse learning styles within the classroom.

3. Student-Teacher Interaction:

- Regular Classroom (Class A): Interaction between students and teachers varies, with

some students actively participating while others may struggle to engage. Teachers primarily address the whole class, resulting in limited individualized interaction.

- Specialized Classroom (Class B): In this setting, student-teacher interaction is described as more personalized and frequent. Teachers engage with students on an individual basis, providing tailored support and scaffolding to meet each child's needs. This personalized approach ensures that autistic students receive the attention and guidance necessary for their academic and social development.

From the interpretations provided, the research results can be summarized as follows:

Table 2.1: The results extracted from the interviews

Research Findings	Summary
Teaching Approaches	- Teachers in specialized classrooms focus on providing tailored support for students with ASD, while those in regular classrooms ensure inclusivity and diversity in teaching strategies.
Speech Therapy	-Speech and language therapists conduct assessments and develop individualized treatment plans to improve language skills for students with ASD, aiming for better integration into regular classes.
Supervisory Insights	- Supervisors note a lack of unified teaching methods across departments since the integration process began. They highlight the reliance on observation as the primary assessment method and the need for increased resources to support students with ASD.

This table effectively organizes the research findings into distinct categories, making it easier to understand the key points derived from the interpretations. Each category highlights a specific aspect of the research, including teaching approaches, speech therapy interventions, and supervisory insights.

Table 2.2: The summary of observation's findings

	(Class A)	(Class B)
Classroom Environment	-Described as bustling and dynamic, lacks specialized resources for autistic children, not optimized for their specific needs.	-Structured and tailored, includes visual supports and sensory tools conducive to learning, recognizes and addresses specific needs.
Teaching Methodologies	-Traditional methods, whole-class instruction, limited individualized attention, not adapted for autistic learning	-Specialized methods for autistic students, structured approaches, visual schedules, individualized instruction, accommodates
Student-Teacher Interaction	-Varied interaction, limited individualized interaction, primarily whole-class instruction.	-Personalized and frequent interaction, tailored support and scaffolding, attention to academic and social development.

This table effectively organizes the research findings into distinct categories, making it easier to understand the key points derived from the interpretations. Each category highlights a specific aspect of the research, including classroom environment, teaching methodologies, student-teacher interaction.

The challenge at hand pertains to the impediments faced by children diagnosed with ASD in acquiring receptive language skills, which are essential for their academic advancement and social integration during their formative years in primary school. Despite increased awareness of these obstacles, there remains a gap in tailored interventions and methodologies that address the unique communication needs of children with ASD. Closing this disparity is imperative for fostering the educational and social inclusion of ASD-diagnosed children within primary school settings.

Based on the findings from the interviews and observations, the hypotheses and questions of the study could be addressed as follows:

1. The Hypotheses:

- a. Through the results, as interviews and observations revealed, the children with ASD in regular classrooms often face difficulties in understanding receptive language, indicating a deficit compared to their typically developing peers. The challenges identified include difficulties in understanding and processing language, as well as limitations in expressive language skills among children with ASD, particularly in regular classroom settings
- b. As speech-language pathologists confirmed facing difficulties such as resistance from students and the need for continuous support and resources to facilitate effective speech production processes. Speech-language pathologists face obstacles such as student resistance, the need for ongoing support and resources, and the challenge of implementing effective interventions in diverse classroom settings
- c. Through the results, as observations and interviews showed, there is variability in the effectiveness of interventions. Specialized classrooms employing tailored teaching strategies showed better results in enhancing receptive language skills compared to regular classrooms using traditional methods. Existing interventions include tailored teaching strategies, individualized treatment plans, and the use of visual supports and alternative communication methods. However, the effectiveness of these interventions varies, with specialized classrooms showing more promising results.

To conclude, the findings from the interviews and observations provide valuable insights into the challenges and opportunities for improving receptive language acquisition in children with ASD in primary school settings. Addressing these challenges requires tailored interventions, ongoing support, and collaboration among teachers, speech-language pathologists, and school administrators to foster the educational and social inclusion of children with ASD.

2.6 Suggestions and Recommendations

In response to the challenges encountered by speech-language pathologists in educational settings, the study presents a series of evidence-based

recommendations to enhance education, increase support and resources, and provide continuous professional development:

1. Support further research and knowledge exchange to improve our understanding of the needs and responses of children with ASD, and to develop effective and innovative interventions to aid their academic and social progress.
2. . Encourage more in-depth assessment processes and regular reports to measure progress in developing receptive language skills in children with ASD, identifying strengths and weaknesses in applied interventions.
3. Develop and provide training programs for parents and the local community to increase awareness of the challenges and needs of children with ASD, and to enhance their support and solidarity with this important student population.
4. Conduct more research on best practices and effective strategies to improve receptive language skills in children with ASD, with a focus on sustainable communication and learning in diverse educational environments.

By implementing these recommendations, efforts can be enhanced to improve our understanding and support for children with ASD in developing receptive language skills, thus achieving their academic and social success in primary school settings.

2.7 Limitation of the Study

The challenges facing studies often require prolonged progress, far beyond the time available to researchers. This prompts the inclusion of a list of encountered limitations, as a means to shed light on the reasons that necessitate confining the study to a single method.

1. The program implemented in inclusive schools for children with autism is considered new under the new inclusive education law (four years). Consequently, most teachers, especially newcomers or those taking over, lack comprehensive understanding of the subject. This deficiency hampers researchers' ability to obtain convincing and accurate answers.
2. The familial aspect of students with autism is largely overlooked in the research landscape, attributed to its absence in the educational system. This has obliged researcher to focus primarily and only on educators and

specialists who interact indirectly with students.

3. The research period is insufficient to accurately monitor the progress of communication in students with autism, thus restricting the research to conclusions based on observations rather than comprehensive and intensive applications directed towards students over a not-so-short period.

2.8 Conclusion

In conclusion, in this chapter, we have reached the essence of what the research began with, which is verifying the validity of the hypotheses and answering the research questions through data analysis and extracting the study results.



General Conclusion

GENERAL CONCLUSION

The research was structured into three chapters, each fulfilling a specific role in achieving the main objective of the study. In the first chapter, relevant literature was reviewed, and the research problem, research questions, and hypotheses were identified. Additionally, theoretical and conceptual frameworks related to the research topic were discussed. The second chapter focused on describing the research methodology, study sample, and data collection tools. Finally, in the third chapter, the results were presented and discussed in detail, with a focus on the achieved outcomes compared to the research objectives and hypotheses.

The analysis and discussion of the research findings have revealed significant insights and provided answers to the research problem. Furthermore, avenues for further research in this area have been opened. Upon reflection of the findings and hypotheses examined throughout this study, it becomes apparent that children diagnosed with Autism Spectrum Disorder (ASD) encounter notable obstacles in developing receptive language skills within primary school environments. The research underscores the pronounced challenges faced by these children, indicating a deficiency in understanding and processing language compared to typically developing peers, particularly within regular classroom settings. Additionally, the study sheds light on the significant hurdles encountered by speech-language pathologists, who grapple with student resistance and the ongoing necessity for support and resources to facilitate effective speech production processes. These findings collectively underscore the complexity of addressing communication needs for children with ASD in educational settings.

In alignment with the research questions and hypotheses, the study reveals variations in the effectiveness of interventions, with specialized classrooms employing tailored teaching strategies showing more promising outcomes compared to traditional classroom settings. Despite these challenges, opportunities for improvement emerge, as evidenced by the potential efficacy of tailored interventions and the integration of visual supports and alternative communication methods.¹

Looking ahead, future research endeavors should delve deeper into the variability

¹ The hypotheses and questions of study: Check page (11)

in intervention effectiveness and explore strategies to optimize support for children with ASD. How can we ensure sustained progress in enhancing receptive language skills among children with ASD across diverse educational contexts? This question serves as a crucial impetus for guiding future research efforts and advancing the educational and social inclusion of children with ASD in primary school settings.

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Appendices

Appendix A: Interview questions conducted with the speech therapist.

These inquiries were specifically addressed to the speech therapist at Ahmed Omani School, with the objective of acquiring comprehensive insights into their methodologies for managing individuals with autism spectrum disorder within specialized classroom settings. This detailed inquiry aids in the furtherance of research outcomes concerning the subject of receptive language among learners diagnosed with autism spectrum disorder.

Question 1. How does your approach in providing services to children with autism differ in the specialized department compared to the regular department?

Question 2. What assessment tools do you use to evaluate the language comprehension and speech production abilities of children with autism who are integrated into regular classrooms?

Question 3. How do you identify the needs of children with autism who are integrated and tailor individualized therapy plans to meet their language needs?

Question 4. What strategies do you employ to stimulate language comprehension and speech production in children with autism who are integrated into regular classrooms?

Question 5. How do you integrate visual support, such as visual schedules and cues, into therapy plans to support language comprehension and speech production in children with autism who are integrated?

Question 6. How do you determine the most effective alternative and augmentative communication (AAC) methods to support speech production in children with autism who are integrated?

Question 7. How do you evaluate the effectiveness of language therapy for children with autism who are integrated and adjust therapy plans based on progress?

Question 8. How do you guide and educate teachers in regular classrooms on strategies to support language comprehension and speech production in children with autism who are integrated?

Appendix B: Interview questions conducted with Mrs. A.L:

These questions were directed to a teacher in a specially designed classroom environment for individuals with autism spectrum disorder at Ahmed Omani School, with the aim of gathering sufficient information about their methodologies in dealing with this group of learners within specialized classrooms for comparison with results from regular classes. This effort provides intricate insights that assist in advancing research outcomes related to the domain of receptive language among learners with autism spectrum disorder.

Question 1 How does your approach to teaching language for children with autism differ in the specialized department compared to the regular department?

Question 2 What strategies do you use to stimulate language comprehension and speech production for students with autism in the specialized department?

Question 3 How do you collaborate with speech therapists to meet the needs of students with autism in the specialized department?

Question 4 What are the main challenges you face when teaching language to students with autism in the specialized department, and how do you overcome them?

Question 5. How can teachers in the specialized department enhance effective communication and language understanding among students with autism?

Question 6. Do you use specific tools or techniques to support language comprehension and speech production for students with autism in the specialized department?

Question 7 How do teachers customize support and accommodations for each autistic student in the specialized department based on their individual needs?

Question 8. How do you encourage participation and active engagement of students with autism in the specialized department during language activities?

Appendix C: Interview questions conducted with Mrs. K.K:

These questions were directed to a teacher in a regular classroom environment that integrates learners diagnosed with autism spectrum disorder who had shown progress in verbal communication from Ahmed Omani School, with the aim of gathering sufficient information about their methodologies in dealing with this group of learners within mixed classrooms for the purpose of studying the results accurately. This effort provides intricate insights that assist in advancing research outcomes related to the domain of receptive language among learners with autism spectrum disorder.

Question 1. How do you ensure the presence of a supportive and inclusive classroom environment for all students, including those with autism who are integrated?

Question 2. How do you adapt your teaching approach to ensure understanding and effective participation of students with autism who are integrated in the lessons?

Question 3. What strategies do you use to address the language learning needs of students with autism who are integrated?

Question 4. How do you encourage social interaction and collaboration between regular students and students with autism who are integrated in the classroom?

Question 5. What challenges do you face when teaching a diverse group of students, including those with autism who are integrated?

Question 6. How do you integrate language and communication activities into lessons to support the language development of students with autism who are integrated?

Question 7. How do you deal with differences in skill levels between regular students and students with autism who are integrated in terms of language comprehension and speech production?

Question 8. How do you provide necessary support for students with autism who are integrated to ensure their effective participation and success in learning within the regular classroom?

Appendix D: Questions Posed by Researcher During the Observation

These were the main questions that prompted the researcher to answer during the observation process within the classrooms:

1. how can the environment of both classrooms be described in terms of arrangement, decoration, and the availability of necessary resources for learners?
2. What are the methods followed by teachers in the adapted classroom compared to teachers in a regular classroom?
3. How did the speech-language pathologist intervene and when?
4. What were the responses of learners with Autism Spectrum Disorder and typical learners during the session?
5. Any additional observations or other matters?

ملخص:

غالبًا ما يواجه الأطفال الذين يعانون من اضطراب طيف التوحد تأخرًا ملحوظًا في تطوير اللغة. فهم العوامل التي تؤثر على تطوير اللغة في هؤلاء الأطفال أمر بالغ الأهمية لتحديد احتياجاتهم وتوجيه استراتيجيات التدخل الفعالة في بيئات التعليم. تستكشف هذه المذكرة العلاقة بين اضطراب طيف التوحد وتطوير اللغة الاستقبالية، باستخدام بيانات مجمعة بعناية يساهم البحث في فهم تطوير اللغة الاستقبالية لهؤلاء الأطفال والتحديات التي يواجهونها في فصول الدراسة مقارنة بأقرانهم الذين يعانون من استجابة عصبية طبيعية. يعالج البحث الأسئلة والفرضيات، ويقدم حلولًا وتوجيهات لتعزيز الدراسات المستقبلية.

كلمات رئيسية: تطوير اللغة، اللغة الاستقبالية، فهم اللغة، الاضطراب العصبي التنموي، التطور العقلي

Summary

Often, children with autism spectrum disorder (ASD) experience significant delays in language development. Understanding the factors affecting language development in these children is crucial for identifying their needs and guiding effective intervention strategies in educational settings. This memorandum explores the relationship between ASD and receptive language development, using carefully collected data. The research contributes to understanding the development of receptive language in these children and the challenges they face in classrooms compared to their neurotypical peers. The study addresses questions and hypotheses, providing solutions and guidance to enhance future research.

Key words: Language development, Receptive language, Language comprehension, Neurodevelopmental disorder, Cognitive development

Résumé

Souvent, les enfants atteints de trouble du spectre de l'autisme (TSA) connaissent des retards significatifs dans le développement du langage. Comprendre les facteurs influençant le développement du langage chez ces enfants est crucial pour identifier leurs besoins et orienter des stratégies d'intervention efficaces dans les environnements éducatifs. Cette note explore la relation entre le TSA et le développement du langage réceptif, en utilisant des données soigneusement collectées. La recherche contribue à comprendre le développement du langage réceptif chez ces enfants et les défis auxquels ils sont confrontés en classe par rapport à leurs pairs neurotypiques. L'étude aborde les questions et les hypothèses, fournissant des solutions et des orientations pour améliorer les recherches futures.

Mots clés : Développement du langage, Langage réceptif, Compréhension du langage, Trouble neurodéveloppemental, Développement cognitif