

**PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA**

*Ministry of Higher Education and Scientific Research*

*University of Ain Temouchent – Belhadj Bouchaib*



**Faculty of Letters, Languages and Social Sciences**

**Department of Letters and English Language**

**Using English Teaching as a Therapeutic Strategy  
to Enhance Autistic Children's Communication  
skill**

**Case of: Supported Center at Ain Temouchent**

*An Extended Essay Submitted in Partial Fulfillment of the Requirement for a*

*Master's Degree in Didactics and Applied Languages*

**Submitted by:**

NACHI Imane

**Supervised by:**

Dr. ELOUALI Fatima Zohra

**Board of Examiners**

|                    |                          |       |                           |
|--------------------|--------------------------|-------|---------------------------|
| <b>President:</b>  | Dr. Amaria FEHAIMA       | (MCA) | Ain Temouchent University |
| <b>Supervisor:</b> | Dr. Fatima Zohra ELOUALI | (MCB) | Ain Temouchent University |
| <b>Examiner:</b>   | Dr. Hassiba KORICHE      | (MCA) | Ain Temouchent University |

Academic Year: 2023/2024

## **Statement of Originality**

I hereby declare that this dissertation, submitted for the assessment of a Master's Degree in Didactics and Applied Linguistics, entirely represents my original work. All sources referenced in this research have been properly acknowledged and cited in the bibliography. I confirm that this dissertation has not been submitted previously for any degree or qualification at this university or any other institution. Moreover, I recognize that although the ideas and findings of others influence this work, the analysis, interpretation, and conclusions presented are the outcome of my independent research and have not been copied from any other sources.

Moreover, I recognize that although this work is influenced by the ideas and findings of others, the analysis, interpretation, and conclusions presented are the outcome of my independent research and have not been copied from any other sources.

### **Name**

Imane NACHI

### **Signature**

# **Dedication**

*This thesis is dedicated to:*

*My first support my mother,*

*my brother and sisters, my family and friends*

# Acknowledgments

I would like to extend my sincere gratitude and deep appreciation to everyone who has supported and encouraged me throughout this journey. Your unwavering faith in me has been a constant source of motivation and strength.

I am especially grateful to my supervisor, Dr. Fatima Zohra ELOUALI for her unending assistance and academic guidance. This thesis would not have been possible without her support. Her expertise and insightful feedback have been invaluable throughout the research process.

I would also like to sincerely thank the jury members, Dr. Amaria FEHAIMA and Dr. Hassiba KORICHE for their willingness to evaluate this dissertation. Your time, effort, and constructive comments would deeply appreciate and significantly contribute to the quality of this work.

Last but not least, I am grateful to my beloved *Mother*, whose unwavering love, support, and encouragement have been the cornerstone of my achievements. Her sacrifices and dedication have inspired me to reach for the stars and persevere through the toughest challenges. This accomplishment is as much yours as it is mine.

## Abstract

The prevalence of autism is increasing worldwide and still children with autism frequently miss out on equal educational opportunities compared to their neurotypical peers, especially in

Algeria, although this condition does not inhibit their abilities to access education across all domains and learn foreign languages. Emphasizing the importance of equitable educational opportunities for autistic children, this study aims to teach autistic children English as a therapeutic strategy, where some ad therapeutic methods are adopted to facilitate their learning and enhance their speaking skills. The investigation is conducted as a case study using an experimental design across three mainrounds; the treatment phase consisted of 17 sessions. The study involved twelve autistic children from the Ain Temouchent support center to investigate the effect of the adopted therapies on their learning process and communication skills. The present research relied on a mixed-method analysis using visual inspection and graphic representation, demonstrating performance improvements in the cases following the intervention. However, there were some problems in conducting the investigation, including limited sample and insufficient period of time. The results indicated a positive outcome; all the therapeutic methods contributed greatly in enhancing both the learning of English language skills and speaking abilities among the autistic participants. This work is considered a contribution to the development of tailored therapeutic interventions that focuses on language development and communication skills for autistic individuals.

## **Table of Contents**

|                                       |          |
|---------------------------------------|----------|
| <b>Statement of Originality .....</b> | <b>I</b> |
|---------------------------------------|----------|

|   |             |
|---|-------------|
| <b>Dedication.....</b>  | <b>II</b>   |
| <b>Acknowledgments.....</b>   | <b>III</b>  |
| <b>Abstract .....</b>   | <b>III</b>  |
| <b>Table of Contents.....</b>   | <b>IV</b>   |
| <b>List of Acronyms .....</b>   | <b>VIII</b> |
| <b>List of Tables .....</b>   | <b>IX</b>   |
| <b>List of Figures.....</b>   | <b>X</b>    |
| <b>General Introduction.....</b>  | <b>12</b>   |
| <br><b>Chapter one: Autism Spectrum Disorder and The Therapeutic Strategies</b> |             |
| <b>1.1. Introduction .....</b>  | <b>8</b>    |
| <b>1.2. Autism Spectrum Disorder.....</b>                                       | <b>8</b>    |
| <b>1.3.Types of Autism.....</b>   | <b>10</b>   |
| <b>1.4.Communicative Challenges of Autistic Children .....</b>                  | <b>13</b>   |
| <b>1.5. Definition of Language .....</b>  | <b>16</b>   |
| <b>1.6. First Language Development for Children with ASD.....</b>               | <b>17</b>   |
| <b>1.7. Teaching English as a Foreign Language to Autistic Children .....</b>   | <b>20</b>   |
| <b>1.8. Review of Previous Studies.....</b>                                     | <b>27</b>   |
| <b>1.9. Conclusion .....</b>  | <b>29</b>   |
| <br><b>Chapter Two: Research Design and Methodology</b>                         |             |
| <b>2.1. Introduction .....</b>  | <b>32</b>   |
| <b>2.2. Research Aims and Motivation.....</b>                                   | <b>32</b>   |
| <b>2.3. Research Design .....</b>   | <b>33</b>   |
| <b>2.4. Setting and Sample Population.....</b>                                  | <b>35</b>   |

|  |           |
|--|-----------|
| <b>2.5. Research Approaches.....</b>   | <b>36</b> |
| <b>2.5.1. Qualitative Approach VS Quantitative Approach .....</b>                | <b>36</b> |
| <b>2.5.2. Mixed Method Approach.....</b>   | <b>37</b> |
| <b>2.6. Variables .....</b>  | <b>38</b> |
| <b>2.7. Data Collection Instruments .....</b>                                    | <b>39</b> |
| <b>2.8. The Structured Teaching Approach .....</b>                               | <b>41</b> |
| <b>2.9. Data Analysis Procedures .....</b>                                       | <b>42</b> |
| <b>2.10. Validity and Reliability .....</b>                                      | <b>45</b> |
| <b>2.10.1. Validity .....</b>  | <b>45</b> |
| <b>2.10.2. Reliability .....</b>   | <b>46</b> |
| <b>2.11. Ethical considerations .....</b>  | <b>47</b> |
| <b>2.12. Conclusion.....</b>   | <b>48</b> |
| <br><b>Chapter Three: Data Analysis, Interpretation and Research Conclusions</b> |           |
| <b>3.2. Introduction .....</b>   | <b>51</b> |
| <b>3.3. Data Analysis .....</b>  | <b>51</b> |
| <b>3.3.2. Result Obtained From The Observation .....</b>                         | <b>54</b> |
| <b>3.3.3. Result Obtained From The Teaching process.....</b>                     | <b>57</b> |
| <b>3.3. Data Discussion and Interpretation.....</b>                              | <b>68</b> |
| <b>3.4. Limitations of the Study .....</b>                                       | <b>70</b> |
| <b>3.5. Research Implications.....</b>   | <b>71</b> |
| <b>3.6. Suggestions and Recommendations.....</b>                                 | <b>72</b> |
| <b>3.7. Conclusion.....</b>  | <b>74</b> |

**General Conclusion.....79**

**Bibliography .....79**



## **List of Acronyms**

**AA:** Algerian Arabic

**ALM:** Audio-Lingual Method

**ASD:** Autism Spectrum Disorder

**LI:** Language Impairment

**NAS:** National Autistic Society

**PDD-NOS:** Pervasive Developmental Disorder Not Otherwise Specified

**PECS:** Picture Exchange Communication System

**TEFL:** Teaching English as a Foreign Language

**TPR:** Total Physical Response

**VPES:** The Verbal Production Evaluation Scale



## List of Tables

|   |    |
|---|----|
| <b>2.1. Autistic Children’s Diagnosis</b> .....             | 47 |
| <b>3.1. Introduction to English Language Learning</b> ..... | 69 |
| <b>3.2. Course Progress</b> .....                           | 69 |
| <b>3.3. Participant’s Adaptiveness</b> .....                | 70 |
| <b>3.4. Participant’s Motivation</b> .....                  | 70 |
| <b>3.5. Participant’s cognitive memory</b> .....            | 71 |
| <b>3.6. Participant’s language use</b> .....                | 71 |
| <b>3.7.Exploring a new vocabulary</b> .....                 | 72 |
| <b>3.9. Vocabulary expansion and review</b> .....           | 73 |
| <b>3.10.Practicing conversational skills</b> .....          | 73 |
| <b>3.11. Creative Language use</b> .....                    | 74 |
| <b>3.12.Participant’s adaptiveness</b> .....                | 74 |
| <b>3.13. Participants’ motivation</b> .....                 | 75 |
| <b>3.14.Participant’s cognitive memory</b> .....            | 75 |
| <b>3.15.Participant’s language use</b> .....                | 76 |
| <b>3.16.Reviewing &amp; Observation</b> .....               | 77 |
| <b>3.17. Participant’s adaptiveness</b> .....               | 77 |
| <b>3.17. Participant’s motivation</b> .....                 | 77 |
| <b>3.18. Participant’s cognitive memory</b> .....           | 78 |
| <b>3.19.Participant’s language use</b> .....                | 78 |

## **List of Figures**

|  |    |
|--|----|
| <b>2.1.</b> Data Analysis Model of Miles Huberman.....     | 56 |
| <b>3.1.</b> Age Distribution.....                          | 63 |
| <b>3.2.</b> Gender Distribution.....                       | 63 |
| <b>3.3.</b> Native Language.....                           | 64 |
| <b>3.4.</b> Different Diagnosis of Autistic Children ..... | 65 |

# **General Introduction**

A language functions as a medium of expressing ideas and meanings, while communication encompasses skills like speaking, listening, and understanding systematically. Language proficiency is crucial for effective communication, facilitating social interactions within a community. It is common that conveying information, self-expression, adaptation and integration, and social control are the major functions of a language. Furthermore, learning languages increases the individual's ability to communicate across cultures and interact positively with different people, more precisely, the English language. English as a Foreign Language holds a significant global importance due to its role in keeping pace with rapid advancements. It is particularly valuable for the younger generation entering the era of Industry 4.0, where technological fluency and foreign language proficiency are essential for success in a competitive global landscape.

Education is a fundamental right for all Algerian citizens. However, children with special needs, particularly autistic children often lack opportunities to learn it particularly in support centers. It is imperative that education aligns with the demands of the globalization era. English proficiency is the key to success in this modern age. Teaching English to autistic children is essential to prepare them for inclusion in mainstream and public schools. The objective extends beyond language acquisition; it aims to enhance their ability to access educational materials. Furthermore, some may even find comfort in English, particularly as they may already be familiar with it through technology. Each child, including those with autism, has unique potential that can be nurtured. Autism is a multifaceted disorder distinguished by diverse traits, where autistic children can have multiple behaviours and challenges. However, with the right teaching methods and techniques, English can be effectively introduced to them.

The prevalence of ASD has become a global concern, prompting actions and interventions at local, national, and international levels due to the significant increase in the number of children diagnosed with autism spectrum disorder in the world. Despite facing various

difficulties, these students with ASD also deserve access to education across all domains, including the acquisition of foreign languages like English. Consequently, numerous researchers have proposed the feasibility of teaching and communicating in foreign or second languages for autistic children. Furthermore, Kuparinen (2017) emphasizes that intellectual giftedness is not a prerequisite for second language acquisition, employing efficient language teaching methodologies is crucial for achieving success. Similarly, Wire (2005) notes that even individuals with limited verbal abilities, such as elective mutism, can comprehend a foreign language well and may engage through non-verbal means like role-playing, gestures, and using tools like pocket translators. This underscores the importance of employing appropriate and adaptable language learning approaches tailored to autistic children's needs.

Since autistic children in supported centers in Algeria often lack the opportunity to learn English as a foreign language, this study aims to teach English in a therapeutic approach to enhance their speaking skills. Therapeutic methods will be employed to improve their language abilities and speaking skills. Acknowledging the diverse characteristics of these children, the researcher implemented various therapeutic approaches, each targeting specific language learning challenges. To what extent the implemented strategies are effective in enhancing the communicative skills and the learning process of autistic children in order to conduct the present research; this problematic is broken into three major research questions:

1. What are the difficulties that autistic children may face in developing English language?
2. How can the available therapeutic methods help autistic children to develop the a foreign language?
3. What is the comprehensive effect of using English language teaching as therapy on the communication abilities of autistic children?

In response to these questions, the following hypotheses are proposed:

1. Autistic children may experience challenges in multiple aspects, such as expressive language skills and interaction when learning a foreign language.
2. Autistic pupils who receive English language teaching as therapy will demonstrate a significant improvement in speaking skills, verbal fluency, and articulation.
3. The selected therapeutic strategies help the autistic children to enhance their communicative skills and develop the English language.

The current research investigation is structured into three chapters to test these hypotheses. The first chapter is partitioned into two parts; the first part is dedicated to give an overall understanding about what is autism spectrum disorder, in addition to its types and causes. It **also** highlights the communicative challenges of autistic children. The second part addresses the characteristics and challenges of autistic children learning both first and foreign languages. Furthermore, it defines the teaching and therapeutic methods adopted by this research; joint attachment, picture exchange method and music therapy.

The second chapter gives an insight into the methodological procedures and the framework that the research adopts to reach a valid result. the researcher relied on **an** experimental study in order to teach twelve autistic children in **a** therapeutic way. The study takes place in the supported Centre of Ain Temouchent. The chapter emphasizes the research design describing the sample population, the setting, and the collection instrument tools in addition to the data analysis procedures.

To accomplish the study's goal, the third chapter is structured to interpret the collected data through analytical and logical reasoning, starting from analyzing the participants' demographic



profiles in addition to the result obtained from both experiment and observation. All the analyzed data were discussed and interpreted to reach the main objectives of the research. Furthermore, the researcher sheds light on the limitations and the challenges faced during conducting this study. In addition, some suggestions and implications are proposed for future research works.

# **Chapter One**

## **Autism Spectrum Disorder and The Therapeutic Strategies**

# Theoretical Framework and Literature Review

## Chapter one: Theoretical Framework and Literature Review

|   |           |
|---|-----------|
| <b>1.1 Introduction .....</b>   | <b>8</b>  |
| <b>1.2. Autism Spectrum Disorder.....</b>                                     | <b>8</b>  |
| <b>1.3.Types of Autism.....</b>   | <b>10</b> |
| <b>1.4.Communicative Challenges of Autistic Children .....</b>                | <b>13</b> |
| <b>1.5. Definition of Language .....</b>                                      | <b>16</b> |
| <b>1.6. First Language Development for Children with ASD.....</b>             | <b>17</b> |
| <b>1.7. Teaching English as a Foreign Language to Autistic Children .....</b> | <b>20</b> |
| <b>1.8. Review of Previous Studies .....</b>                                  | <b>27</b> |
| <b>1.9. Conclusion .....</b>  | <b>29</b> |

# Theoretical Framework and Literature Review

## 1.1. Introduction

Autism Spectrum Disorder (ASD) is categorized as a neurodevelopment condition that significantly affects a child's overall development, particularly in communication and behaviour. It is prevalent in 2 to 5 cases per 10,000 children, with a notable gender difference, as it affects boys four times more frequently than girls (Brin et al., 2004, p.32). The first part of the initial chapter provides an overview of Autism Spectrum Disorder, offering insights into its origins and definition. Additionally, it illuminates the various types of autism, causes, and diagnostic methods and shows the communication problems of autistic children facilitating a clearer understanding of the issue at hand. The second part delves into the aspects of language learning in the context of autism. It outlines the distinctive language features observed in autistic individuals, exploring their difficulties in learning both their first and second languages. Furthermore, this chapter discusses the teaching and therapeutic methods employed in this study to address the unique language-learning needs associated with autism. In addition to review the previous research concerning autism spectrum disorder.

## 1.2. Autism Spectrum Disorder

Children with autism spectrum disorder were historically seen as having a mental illness, the word `autism` was first used by the Swiss physician Eugen Bleuler (1911) to refer to people who had particular symptoms of schizophrenia (Bleuler, 1950). In the 1920s nutrition and a variety of supplements were thought to be effective treatments for autism. Nonetheless, electroshock therapy was employed in the 1930s to treat patients who had autism symptoms. The recognition of autism as a separate disorder with its unique symptoms occurred in the early 1940s, when it was differentiated from other mental health conditions. This distinction was made by Austrian pediatrician Hans Asperger and Australian psychiatrist Leo Kanner, who were affiliated with John's Hopkins University School of Medicine (Byers & Valkenburg, 2021), they

## Theoretical Framework and Literature Review

noted that each person had distinct traits such as significant communication impairments and recurring behavioural patterns through an independent observation of their behaviours as a result, these individuals must be diagnosed with neurological disorders rather than mental health illnesses (Sicile-Kira, 2014). The first person who identified Autism as separate neurological disorder was Kanner in 1943.

Autism spectrum disorder encompasses a spectrum of intricate neurodevelopmental challenges, marked by differing degrees of struggles with social interaction, verbal and non-verbal communication, and repetitive behaviors (Berry & Goin-Kochel, 2020; Den Houting et al., 2019; Goel et al., 2018; Goldin & Matson, 2016; Rosen et al., 2018; Stout, 2016). Spencer & Simpson (2009) stated that autism is seen as a spectrum of disorders, or autism spectrum disorder (ASD), besides; there is a significant heterogeneity in the severity of autism and its impact on development. Children with autism can be found at all ability levels, ranging from exceptionally intelligent to very intelligent with severe learning disabilities. In ASD, the term *spectrum* denotes an extensive range of symptoms and varying levels of severity (NIMH, 2018). It indicates that needs and abilities vary significantly, from profound challenges to exceptional talents. The Autism Society of America (2012) defined autism as a complicated developmental disorder that primarily manifests in the earliest years of life and impairs a person's capacity for interpersonal engagement and communication. The U.S. Department of Health and Human Services (2010) identifies autism as a type of pervasive developmental disorder that typically manifests during infancy or early childhood. To diagnose autism, three primary criteria are considered essential: prominent deficiencies in social engagement, evident lag and shortcomings in language and communication, and the presence of restricted, repetitive, and stereotyped patterns of behaviours, activities, or interests (American Psychiatric Association, 1994).

## Theoretical Framework and Literature Review

### 1.3. Types of Autism

In recent discussions on autism, experts have introduced various types of the disorder. An article by Garg Seth and Srivastava (2022) titled "Autism Spectrum Disorder in Children: Types, Causes, Treatment, and Prevention" categorizes different types, including Asperger syndrome, Kanner syndrome, pervasive developmental disorder not otherwise specified (PDD-NOS), childhood disintegrative disorder, and Rett syndrome.

- **Asperger's Syndrome**

Asperger's syndrome is a developmental disorder marked by distinct irregularities in mutual social engagements, mirroring those witnessed in autism; individuals with this syndrome also exhibit restricted interests and engage in repetitive, stereotyped activities. Notably, cognitive and language development are generally well-developed, although Asperger's Syndrome is often associated with motor clumsiness. According to the DSM-5 diagnostic manual, it falls under level 1 of the autism spectrum disorder. It is important to recognize that individuals, including children, with level 1 spectrum disorder usually exhibit above-average intelligence and excellent verbal skills (Garg Seth, 2022).

- **Kanner's Syndrome**

Also known as "Kanner's autism," This early form of autism, observed in all races and across various socio-economic levels, is more prevalent in boys, with three to four boys affected for every one girl. In females, the symptoms are often more severe, with a significant deficit in both cognitive and language spheres. Symptoms usually start showing quite early, with around two-thirds of cases experiencing manifestations during infancy. In the remaining cases, symptoms may become apparent two or three years following a period of typical early development (Villard, 1984).

## Theoretical Framework and Literature Review

- **Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS)**

also known as "atypical autism" is milder form of autism characterized by a range of symptoms. Children with PDD-NOS may face challenges in language development, social interactions, and motor skills (Baird et al., 2001, p. 468).

- **Heller's Syndrome**

Childhood disintegrative disorder also known as Heller's syndrome, it usually affects infants and preschoolers. In this disorder, a child undergoes normal growth until around the age of two, after which there is a sudden decline in social communication skills and behavioural abilities. It's crucial to emphasize that this abrupt decline is temporary and transient for the affected child (Garg Seth & Srivastava, 2022).

- **Rett Syndrome**

An uncommon genetic condition, primarily impacts females, with an incidence rate of about 1 in 9000 for girls and 1 in 16,000 for boys (Zimmerman, 2008). It is identified as the sole diagnosable and medically identifiable variant within the autism spectrum disorder spectrum. Individuals with Rett syndrome, particularly girls, face challenges in communication, with a notable symptom being restricted hand usage for everyday tasks (Ibid.)

### **Causes of Autism**

Autism spectrum disorder does not have a single known cause, and scientists have not identified the precise factors leading to this condition. The intricacy of the disorder, coupled with the variation in symptoms among individuals, contributes to the challenge of pinpointing specific causes (Yvon, 2014).

- **Genetic Factors**

## **Theoretical Framework and Literature Review**

In some cases, autism in children can be linked with genetic factors, which may be influenced by variables such as age of the parent or specific medications taken during pregnancy. Certain genetic mutations seem to be hereditary, while others arise spontaneously (Vanover, 2016).

- **Environmental Factors**

Adverse situations during childhood, such as poverty, inadequate diet, unsafe living environments, and exposure to harmful substances like lead, drugs, and alcohol, along with abuse and trauma within the family, are being considered as environmental factors. The cumulative impact of these risk factors increases the chance of a child experiencing developmental delays, with the risk escalating as the number of these factors rises (Vanover, 2016, p. 34; Al-Adwan et al., 2019, p. 51).

- **The Antenatal Factors**

Infection of the mother with agents like the rubella virus or cytomegalovirus while pregnancy could heighten the risk of autism in her child. This heightened risk can stem from direct toxic effects on the fetus's neurons or through indirect injury mechanisms. Additionally, mothers of autistic children often experience uterine hemorrhages and threatened miscarriages, especially in the second trimester. The fetus could be impacted by direct injury or other mechanisms. Some researchers suggest that psychological and organic factors such as maternal stress or depression could also affect the fetus. While not widely confirmed, a few studies indicate that maternal depression throughout pregnancy and the postpartum period might increase the risk of autism in the child (Tardif & Gepner, 2003).

- **Perinatal Factors**



## **Theoretical Framework and Literature Review**

Occurring around birth, are also considered in understanding autism. Certain epidemiological studies suggest that states of suffering in newborns, which may lead to their placement in incubators, appear to be more frequent in autistic children's history compared to the others. In addition, conditions like prematurity or post-maturity seem to be more common in the history of autistic children (Tardif & Gepner, 2003, p. 63).

- **Postnatal Factors**

Postnatal factors are also considered relevant in the context of autism. Viral infections after birth, such as herpes, measles, or mumps, seem to be linked to some cases of autism. Additionally, severe environmental deficiencies, particularly in education and emotional support, like those experienced by children in Romanian orphanages, may also pose likelihood for developing autism (Tardif & Gepner, 2003).

### **1.4. Communicative Challenges of Autistic Children**

Autistic individuals experience a diverse range of heterogeneous difficulties when it comes to speech and language that likely stem from several distinct causes or contributing factors, even in the same person. Furthermore, data from multiple sources indicates that autistic children's social and language environments might differ significantly from those of other kids. Thus, experiential inequalities may exacerbate initial deficiencies in language acquisition as well as in social or cognitive aspects affecting language (Konstantareas, Zajdemann, Homatidis, & McCabe, 1988; Siller & Sigman, 2002) i.e. a child's ability to communicate depends on their intellectual and social development. Individuals diagnosed with Autism Spectrum Disorder (ASD) encounter diverse communication obstacles due to the condition's hallmark features, which include difficulties in reciprocal social interaction and communication, alongside repetitive behaviours (American Psychiatric Association, 2013; Tuononen, Laitila, & Kärnä, 2014; British Columbia Ministry of Education, 2000); McCorkle, 2012).

## **Theoretical Framework and Literature Review**

The universality of both communicative and pragmatic problems in the autistic spectrum suggests that language is surlyconstructed differently in ASD, while the status of repetitive behaviours and interests is more contentious (Mandy &Skuse, 2008). Autistic childrenface challenges in communication, with some being nonverbal while others exhibit extensive language skills but struggle with the social communication. This view is supported byPry, Petersen, &Baghdadli (2009) who suggest that individuals with autism may appear engrossed in a private world where communication seems unimportant, but this is not intentional; rather, it reflects their difficulty in communicating. Alberta (2003) notes that all autistic individual's encounter difficulties in language and communication, though there are significant variations in language abilities among them. A youngster who is normally developing utilizes language to start conversations for interpersonal communication. Conversely, children with ASD tend to employ words primarily to exert control over their environment, such as making demands or expressing protests. Some kids with ASD could struggle to communicate due to apraxia or oral-motor dysfunction. Nonetheless, a social deficit-related "absence of communicative intent" frequently passes for an expressive language disability. It is simple to imagine that delayed or impaired language development could be a symptom of a decreased social motivation to converse. As a result, social impairments and communication issues frequently coexist and may even reinforce one another in autism(Mody&Belliveau, 2013).

### **a. Language Impairment and Speech Delay**

Fundamental impairments in language and communication are key characteristics of autism spectrum disorder(ASD). Language impairments are abnormalities of the language that cause problems in communication, negatively influence student's performance and/or ability to operate in a typical learning environment, and necessitate special education for the student, it also refers to a disturbance in one or more of the fundamental learning processes essential for comprehending or utilizing spoken or written language(Tager, 2015). Language impairment

## Theoretical Framework and Literature Review

(LI) is considered from different perspectives as both a delay and disorder; children and teens with language impairment have traits that are similar to those of younger children, which is a delay. For instance, children with expressive LI use shorter and less complex communication compared to their peers, as indicated by their lower mean length of utterance, a measure of language development. From this angle, LI might be conceptualized as the lower end of the language functioning spectrum. However, several features of language in kids with LI, like inconsistent grammar and issues with phonological processing, are not typical of normal language development (Leonard et al., 2003; Rice & Wexler, 1996).

There is an ongoing debate among researchers regarding language development delays, as many early signs of language impairment associated with autism are similar to those found in other conditions, despite the fact that autism is sometimes first identified due to sluggish or aberrant patterns of speech development (Beitchman & Inglis cited in Flusberg, Paul, & Lord, 2005). Therefore, difficulties in language expression during the early preschool years are not unique to autism, even though language proficiency is essential to a person with autism functioning. A small percentage of kids, often identified as having autism, do not exhibit any appreciable delays in the attainment of linguistic milestones. On the other hand, the majority of people with autism starts speaking later and acquires speech far more slowly than other people (Alberta, 2003).

### **b. Repetitive Language and Echolalia**

Autism spectrum disorder entails deficits in social communication and interaction along with repetitive behaviours and narrow interests. Repetitive speech is a key characteristic of the ASD symptom pattern within the realm of repetitive behavior (Tager-Flusberg, Paul, & Lord,

## Theoretical Framework and Literature Review

2005; Tager-Flusberg et al., 2009). Some autistic individuals have the capacity to speak however; their language is repetitive and incoherent. Repetitive language manifests in two distinct forms within autism spectrum disorder. One form involves the immediate reiteration of phrases or words spoken previously, a prominent feature categorized under repetitive behaviors. For instance, when a child echoes something they've heard earlier, it exemplifies this type of repetitive speech (Happé & Vital, 2009) this is called a self-repeat, it includes the repeating of words and expressions (Murphy & Abbeduto, 2007). The other type is echolalia where the child repeats what others said previously and this could be direct or delayed (Van-Santen, 2013). Similarly, Roberts (2014) stated that the use of echolalia by autistic children was viewed as "a hostile behaviour... indicative of a failure of [their] ego development" in psychoanalytic terms.

### **d. Lack of Cognitive Flexibility**

Cognitive flexibility is "the ability to shift to different thoughts or actions depending on situational demands" (Geurts, Corbett, & Solomon, 2009, p. 74), this could hold particular importance for academic and social progress, as it has been associated with reading comprehension, abstract mathematics skills, and social understanding (Cole et al., 2014 & Bock et al., 2015 & Purpura et al., 2017). Research has demonstrated that flexibility occurs in ASD and it is linked to repetitive behavior (South, Ozonoff, & McMahon, 2007; Yerys et al., 2009). Furthermore, based on the Wisconsin Card Sorting Task (WCST) results and measurements of routine behaviour, it is proved that there is an impairment in cognitive flexibility in ASD individuals but using alternative cognitive flexibility measures typically fail to demonstrate these abnormalities (Geurts et al., 2009).

## **1.5. Definition of Language**

According to the Swiss linguist Saussure (1966 p, 68, 73), language is described as an arbitrary system of signs comprising signifiers and signified. This definition posits that Language

## **Theoretical Framework and Literature Review**

primarily is a structure that lacks inherent logic or rationale. Secondly, it includes both entities and phrases used to refer to those entities. Thirdly, there is a random association between entities and phrases. Finally, phrases comprise sounds and written symbols utilized by humans to articulate speech and enable interaction. Moreover, Lyons (1981) asserts that languages serve as the primary means of communication for different social groups within a particular society. He highlights the significance of language as the most efficient communication tool for specific social clusters.

- **Verbal Communication**

Verbal communication entails utilizing words to convey thoughts, is the predominant mode of communication in human communities. This holds true not only for explicitly verbal messages but also encompasses a wide range of communication phenomena where language plays a direct or indirect role. Given its significance, the examination of verbal communication takes center stage in both the scientific examination of communication and the scientific exploration of language, driven by conventional wisdom (De Gruyter, et al 2016).

- **Non Verbal Communication**

Non-verbal communication encompasses facial expressions and body postures, constituting the body language (Lavergne, 2010). Nonverbal behaviour carries greater weight than verbal communication in expressing emotions or attitudes to others. When nonverbal cues conflict with spoken words, they often have a stronger influence on the message's reception. Consequently, facial expressions have a more profound impact than tone of voice and even the actual words used (Mehrabian, 1971)

### **1.6.1. First Language Development for Children with ASD**

## Theoretical Framework and Literature Review

Learning language is a crucial aspect of personal development and maturation. While typical learners vary in their preferred methods and styles of learning, individuals with autism often demonstrate distinct approaches and patterns in their learning processes. It is common that the prevalent trait among children with autism is their delayed linguistic development because most autistic children struggle to use language appropriately (Kostyuk et al., 2010). Alberta (2003) suggests that autism is commonly identified and diagnosed at approximately three to four years of age, and there remains limited understanding of the linguistic development in very young autistic children. Additionally, while many autistic children do acquire some speech and language skills, these abilities often do not reach typical levels of proficiency. Furthermore, according to the U.S. Department of Health and Human Services (2010) parents typically notice the lack of early communication in young autistic children around the age of two, a time when most children their age begin to develop vocabularies with several words. In contrast, non-disabled infants often demonstrate communication behaviours from their early months of life, such as recognizing their mothers' voices, coordinating eye gaze and movements, displaying emotional facial expressions, and engaging in verbal turn-taking (Fernald cited in Wilkinson, 1998). Besides, the progress of the language development is usually uneven, for example: children with autism might swiftly acquire a large vocabulary in a subject they are interested in (Belkadi, 2006). According to several early researchers (Tager-Flusberg, 1997), autistic children do not acquire language according to the same phases or developmental patterns as typical children, including the communication developmental. However, recent research has shown that kids with ASD demonstrate much greater similarity to normal children. Compared to earlier theories, they pick up more semantic and computational features of language, however, the rate of the growth (development) is slower (Lim, 2007). Although the deficits of autistic children in developing a language, various researchers have confirmed that most autistic children demonstrate intact speech perception and production skills, along with some degrees of functional speech development (Schuler, 1995; Tager-Flusberg, 1997). Furthermore,

## Theoretical Framework and Literature Review

Prinzant et al. (1997) further elaborate that these individuals go through two main stages of language development: the emerging language stage and the advanced language stage.

### **a. The Emerging Language Level**

In this level, children exhibit signs of having learned to communicate via a traditional symbolic approach, according to Lim (2007) children could start by learning and using a set of basic words with understanding and purpose. Then, they might progress to putting these words together to form simple sentences or combinations of signs and symbols, showing they're starting to grasp how words and meanings fit together. During this initial stage, single and multiword utterances, as well as echolalia and various other forms of unconventional verbal behavior, are significant components of expressive speech, fulfilling diverse communication needs (Prizant, et al., 1997).

### **b. The Advanced Language Level**

This phase is termed "advanced language" because children exhibit proficiency surpassing the emerging stage of language acquisition. Their expressive language capacities vary from generating more diverse and grammatically correct simple sentences to employing language in narrative and conversational contexts. They primarily acquire and convey information through language, both in expression and comprehension, using it to communicate their desires and needs to others (Lim, 2007). Proficiency at the advanced language level may entail a relatively sophisticated understanding of linguistic structures in language production, including complex sentence forms. However, challenges with pragmatics or the social aspects of language use may still be present (Prizant, et al., 1997; Tager-Flusberg, 1997).

## Theoretical Framework and Literature Review

### 1.7. Teaching English as a Foreign Language to Autistic Children

In the contemporary era, English functions as the language of international communication in multiple domains spoken by approximately 1.5 billion people (Tiersky and Tiersky 2001), people worldwide utilize English for both transmitting and receiving messages. Among all languages, English stands out as a global language and it is the second most commonly spoken language worldwide, after Chinese (Lusi et al., 2008). Teaching English as a foreign language can take place in any country, regardless of whether it is an English-speaking nation or not. EFL learners engage in the study of English for various purposes (Lusi et al., 2008). Recognizing the crucial role of English as a foreign language, both nationally and internationally, particularly in the context of the world becoming a global village, Algerian curriculum developers have included English as an additional foreign language (alongside French) in the national educational program, it is a mandatory subject in Algerian Middle and Secondary schools, as well as universities, extending to certain military/security, economic, and cultural institutions (Slimani, 2016). The process of teaching English as a foreign language (TEFL) involves instructing students in English when it is not their first language, this instruction can occur in the student's home country, either within the national education system or through private lessons. Additionally, TEFL can be conducted in an English-speaking immigrant country for individuals who have relocated. Teachers in TEFL may be either native or non-native English speakers (Anita et al.).

Autism is considered a brain disorder, can bring about various positive effects and complex challenges such as learning a new language, nurturing innate skills, and developing cognitive abilities may make difficulties. Nevertheless, it's crucial to highlight that children with this unique and intricate brain abnormality should not feel restricted or hindered by any negative aspects it may present (Castillo & Sanchez, 2016). Furthermore, Kanner (1987) proves that



## Theoretical Framework and Literature Review

“autistic children have enough intelligence to develop and achieve a high performance at any subject matter” (p.78). The aim of teaching English to autistic children is to prepare them for inclusion in mainstream and public schools; besides, the objective goes beyond imparting the foreign language; it extends to evaluating the capacity of autistic children to absorb educational materials. Each child, including those with autism, possesses a unique potential that can be nurtured. Through the selection of appropriate teaching methods and techniques, the introduction of English can be effectively facilitated for autistic children (Aprilian, 2019).

### a. Language Teaching Methods

The academic achievement of learners is contingent upon their degree of motivation to acquire knowledge (Mohamed, 2013), however autistic children on the other hand, have psycho-educational profiles that are marked by irregular development patterns (Alberta, 2003). Due to the multifaceted nature of autism, there is no a single approach to meet the needs of all autistic students. Teaching them effectively necessitates the use of suitable strategies and methodologies tailored to their individual requirements (Chernus, 2022). Therefore, to catch students' interest and inspire a positive motivation to study the language, teachers must be creative and unique in their approach (Pal, Halder, & Guha, 2016). They must also select carefully a teaching method that suits the subjects of instruction - foreign language – taking into account the cultural context of both teaching and learning (Chernus, 2022). As a result, the eclectic approach, which involves the integration of various suitable resources, is a method that effectively serves the purpose (Weidemann, 2001). The following teaching methods are adopted by the researcher to address the speaking skill of the autistic children while learning English language.

## Theoretical Framework and Literature Review

- **Total Physical Response**

Total Physical Response (TPR) is an interesting English learning method which is developed by James J Asher in 1988, it is a language teaching method that associates speech and actions in the language teaching process (Ria Adisti, 2019). It uses physical activities to transmit knowledge; these activities are a combination of speech, command, and movement (Richard & Rodgers, 2001; Rokhayati, 2017). The Total Physical Response approach has been validated as suitable for teaching youngsters English vocabulary. It was a useful technique for assisting slow young students to learn English as a foreign language (Ghani & Hanim 2014).

- **Audio-lingual Method**

The audio-lingual or the structural method is language teaching method proposed by an American linguist in 1950s based on the principle that “a language is first of all a system of sounds for social communication; writing is a secondary derivative system for the recording of spoken language” (Carroll, 1963). The primary objective of this method is to facilitate communication in the target language. In the audio-lingual method, emphasis is placed on speaking, achieved through the repetition of dialogues to reinforce language habits in students (Mart, 2013). Larsen-Freeman suggests that by forming new habits in the language being learned and breaking old native language habits, pupils will become communicatively competent (2000, p.45). In a similar vein, Richards and Rodgers (2001) highlight that learning a foreign language fundamentally involves developing mechanical habits, and that mistakes do not foster good habits, but correct responses do (p.57). Furthermore, Nunan (2000) asserts that the audio-lingual approach has likely exerted a greater influence on the teaching of second and foreign languages than any other method.

## Theoretical Framework and Literature Review

- **Translanguaging Method**

With the global rise in the use of English, the number of individuals who speak English as a second language has now exceeded those who speak it as their first language, this has led academics, educators, and policymakers to reconsider English language education, specifically the methods of teaching, assessing, and incorporating English into the overall school curriculum (Fan et al., 2022). According to Fan et al. (2022), the sociolinguistic aspect of English acknowledges the varied ways in which communication takes place globally using the language. It is common for individuals to integrate diverse linguistic, multimodal, and multisemiotic resources in communication, moving away from the notion that adhering strictly to 'native-speaker norms' is the ultimate solution. In fact, their "playfulness" in language use can sometimes pose a difficulty to them (Li, 2018). Translanguaging has been recognized as a common approach in both educational settings catering to immigrant and refugee students and in traditional language classrooms where students seek to acquire new languages (Sara & Ofleia, 2017). Furthermore, it has found application in educational settings to enhance and facilitate learning; this includes planned pedagogical translanguaging, where teachers thoughtfully choose the language for instruction, and spontaneous translanguaging, where stakeholders utilize their full linguistic range for learning language and content (Fan et al., 2022). Apart from facilitating language learning, empowering those who have been wrongfully treated is a common topic in the adoption of translanguaging to further boost a decolonizing pedagogy and ensure a more inclusive and fair education *ibid.*

The previous teaching methods are gathered as an eclectic method to meet autistic children's need. When teaching a foreign language, the eclectic approach is a common method of instruction. This strategy integrates the ideas of several language-learning systems and methodologies based on the special needs of each student and the goals of the session (Iskan, 2017). The primary responsibility of the eclectic method is to formulate programs, develop

## Theoretical Framework and Literature Review

strategies, and foster them (Chernus, 2022). Furthermore, universal techniques would be found in various programs and systems, and educational eclecticism based on this allows one to develop his unique teaching style (Suleman & Hussain, 2016). The eclectic approach has gained widespread acceptance due to its frequent use by numerous educators as their teaching methodology (Weidemann, 2001). This means that, since every student is unique, they should all learn in different ways, thus it is worthwhile to adopt the eclectic method, which aims to address the demands that typically arise in a group of students in a variety of methods. In this sense, the adaptability of an eclectic approach increases the effectiveness of learning (Chernus, 2022).

### **b. Therapeutic Methods**

Therapeutic methods refer to therapies and treatments for people with autism target particular challenges they may encounter, including communication, social interactions, behavior, sensory sensitivities, and self-reliance. These interventions are diverse, tailored to individual needs, and are essential for improving their quality of life, development, and overall well-being (Moller, 2024).

Here are the therapeutic methods adopted by the present research to address the autistic children's learning challenges and speaking skills:

- **Joint Attachment**

Joint attention has gained significance in autism research due to being among the earliest emerging social behaviours, deficits in joint attention become noticeable even before language acquisition given that autism diagnoses typically occur around the age of three or four years understanding joint attention becomes crucial for early identification and intervention (Sigman & Capps, 1997). Additionally, Tomasello, Kruger, and Ratner (1993) suggested that the emergence of joint attention in infants may stem from their increasing recognition that other individuals possess intentions and goals. Intention, in this context,

## Theoretical Framework and Literature Review

pertains to the specific objectives or purposes that guide human behaviour (Tomasello, 1995). Joint attention is characterized by the capacity to align attention between an object and a person within a social context (Adamson & McArthur, 1995). While joint attention is often connected with autism, it is also linked to the progression of language, play, imitation, and social behaviour in typically developing children (Baron-Cohen, 1993; Bates, Benigni, Bretherton, Camioni, & Volterra, 1979). Extensive research suggests that shared attention provides children with chances to develop language abilities (Bruner, 1983; Ninio & Snow, 1996; Rollins & Snow, in press; Tomasello, 1995). Specifically, joint attention significantly impacts vocabulary acquisition. Goldfield (1990) discovered a correlation between joint attention episodes between children and their caregivers and the vocabulary size of infants and toddlers. Additionally, it has been found to aid in the acquisition of syntax for young semi-verbal children (Rollins & Snow, in press). Joint attention training consists of two stages: 1) Response training, where the child learns to correctly respond to joint attention prompts from the experimenter, and 2) Initiation training, which focuses on teaching the child to initiate joint attention with the experimenter (Christina & Laura, 2000).

- **Music Therapy**

Throughout history, music has been applied clinically for both developmental and therapeutic purposes for children with Autism Spectrum Disorder (ASD), with a specific emphasis on enhancing both verbal and nonverbal communication. Approximately 30% to 50% of children diagnosed with Autism Spectrum Disorder do not acquire verbal speech skills during their lifetime; however, they may employ speech in alternative ways (Vries et al., 2015). Music therapy is an essential intervention that improves prelinguistic communication skills, early vocalizations, social interactions, and joint attention in children with ASD. Pitch and speed are two aspects of language and music that coincide, therefore using music as a medium helps children with ASD comprehend language (Johnston, 2018), it is crucial for improving both verbal

## Theoretical Framework and Literature Review

and non-verbal communication skills in children with Autism Spectrum Disorder (ASD), since it activates typically less active brain regions in individuals with ASD, such as Broca's area and the corpus callosum, which are integral to language production and perception(Sharma et al., 2018).

- **Picture Exchange Communication System (PECS)**

Picture exchange communication system is a system based on pictures, specifically designed for learners experiencing challenges in social communication (Bondy& Frost, 2001).PECS is an applied behavior analysis program and an alternative communication system where an individual autonomously utilizes pictures to convey their desires and requirementsand employs behavioral principles and techniques, including motivation, prompting, shaping, differential reinforcement, reinforcer assessment, and transfer of stimulus control(Buchanan &Weiss, 2010).A distinctive feature of the PECS program is its focus on teaching the learner to initiate interactions with the listener. The pictures, stored in a notebook, enable the learner to construct sentences by selecting and presenting pictures to the communicative partner, expressing a request for a desired item and that is broken into four main procedures according to Buchanan et al., n.d:

- The child imitates a request for an item or activity, using various forms such as verbal language, sign language, picture exchange, gesturing, pointing or leading.
- The adult request further details through:
  - Non-verbal cues, like looking expectantly, or pointing to the item.
  - Verbal cues, such as asking “what do you want?”
  - Verbal models, such as suggesting, “say I want juice.”
- The child responds with a slightly improved version of the initial initiation. For instance, attempting to name an object is considered an improvement over simply pointing to it.

## Theoretical Framework and Literature Review

- The adult fulfills the child's request by providing the desired object (p. 27)

The National Autistic Society's school database indicates that more than half of autism-specific schools and units in the UK utilize the Picture Exchange Communication System (PECS) to improve their students' communication abilities (National Autistic Society, 2005). Several early studies have shown that PECS can improve non-verbal communication in children with ASD, and some children even develop spoken language (Ganz & Simpson, 2004; Kravits, Kamps, Kemmerer, & Potucek, 2002).

### 1.8. Review of Previous Studies

Although there is extensive research on language learning characteristics among typical learners, there is a limited investigation into the language learning trajectory of autistic children, particularly concerning the teaching of English as a foreign language to those enrolled in autism centers especially in Algeria.

A study by OUATAH Nadjat and REMILI Sabine investigated the language learning experiences of children with autism spectrum disorder (ASD), focusing on the difficulties they face in acquiring their native language. This research aimed to highlight the challenges in the language learning process for these children and identify ways teachers can provide support. Employing an exploratory qualitative research design, data were gathered through classroom observations of autistic children and interviews with their teachers at AZZOUG School Elkseur in Algeria. The analysis of this data demonstrated that the language learning process for autistic children significantly differs from that of their typically developing peers. Additionally, the research disclosed variations in learning styles among autistic children, with some facing difficulties in expressive and receptive language skills. Language challenges, including phonological and morphological disorders, were observed in the learning of the Arabic

## Theoretical Framework and Literature Review

language, with echolalia being a shared learning disorder among these children. The study also emphasized that language learning is a time-consuming process for children with autism.

Another study by Hayoung Audrey Lim examined the effects of developmental speech-language training through music on the speech production of children with autism. The aim was to examine how musical stimuli influence speech and language perception and production in children with Autism Spectrum Disorder (ASD). The research involved 50 ASD children, aged 3 to 5 years who participated in developmental speech-language training sessions that incorporated music. The participants were evaluated with pre-tests, received six sessions of training, and underwent post-tests using the Verbal Production Evaluation Scale (VPES). The VPES measured verbal production in semantics, phonology, pragmatics, and prosody for 36 target words. Both music and speech training significantly improved participants' scores on the VPES, indicating enhanced speech production in semantics, phonology, pragmatics, and prosody. Interestingly, those who underwent music training demonstrated greater progress in speech production compared to those in the speech training group.

This research is an experimental study aims to implement and introduce English as a foreign language for autistic children and suggests some therapeutic methods (music therapy, joint attachment and PECS) as a teaching approach in addition to multiple teaching methods in order to foster their communicative skills, It may contribute to the existing literature on the eclectic approach and therapeutic methods, encouraging other researchers to conduct further studies at different levels, particularly in the context of teaching autistic children. The study focuses on verbal autistic children of the specialized center of Ain Temouchent as a case study. The data will be collected from observation of tutorial sessions and experiment, and carefully analyzed following Miles Huberman data analysis model (1984) to guarantee the validity and reliability of the finding.



## **Theoretical Framework and Literature Review**

### **1.9. Conclusion**

This chapter aimed to provide a comprehensive understanding of autism, and how autistic children acquire language, and discussed the suitable teaching and therapeutic methods employed in this study. This first chapter had two main parts. The first part explored the definition of autism, its various types, causes, diagnosis, and the communication challenges faced by autistic children. The second part focused on language learning, highlighting the processes involved in how autistic children acquire their first language and the methods used to teach them English as a foreign language.

# **Chapter Two**

## **Research Design and Methodology**

# Research Design and Methodology

## Chapter Two: Research Design and Methodology

|  |    |
|--|----|
| 2.1. Introduction .....                                    | 32 |
| 2.2. Research Aims and Motivation .....                    | 32 |
| 2.3. Research Design .....                                 | 33 |
| 2.4. Setting and Sample Population.....                    | 35 |
| 2.5. Research Approaches.....                              | 36 |
| 2.5.1. Qualitative Approach VS Quantitative Approach ..... | 36 |
| 2.5.2. Mixed Method Approach.....                          | 37 |
| 2.6. Variables .....                                       | 38 |
| 2.7. Data Collection Instruments .....                     | 39 |
| 2.8. The Structured Teaching Approach .....                | 41 |
| 2.9. Data Analysis Procedures .....                        | 42 |
| 2.10. Validity and Reliability .....                       | 45 |
| 2.10.1. Validity.....                                      | 45 |
| 2.10.2. Reliability .....                                  | 46 |
| 2.11. Ethical considerations .....                         | 47 |
| 2.12. Conclusion.....                                      | 48 |

# Research Design and Methodology

## 2.1. Introduction

This chapter outlines the research methodology used in this study, with the primary goal of providing a comprehensive explanation of the procedures followed, encompassing aspects such as research methodology, design, target population, sampling methods, and the techniques utilized for data collection and analysis. Additionally, it addresses the validity and reliability considerations pertinent to the study.

## 2.2. Research Aims and Motivation

The primary objective of this study is to provide English language education in therapeutic manner to autistic children who do not have access to traditional schooling (autistic children of the supported center). This investigation holds significant global importance including Algerian context, and offers autistic children the chance to use and select the language that they feel comfortable with in their daily lives because of the pervasive use of technology exposing children, including those with autism, to various languages through screen programs, learning English becomes especially relevant. Thus, this research aims to investigate the impact of therapeutic methods on autistic children's learning process and speaking skills, these strategies are listed below:

### a. Teaching Methods

- Total physical response
- Audio lingual method
- Translanguaging

### b. Therapeutic Strategies

- Joint attachment
- Music therapy
- Picture exchange system

## **Research Design and Methodology**

The research topic emerged from the researcher's prior involvement with autistic children, particularly during their tenure as an English teacher in a nursery setting, where one of the students was a 5-years-old autistic child. This child exhibited significant challenges associated with autism, often isolating himself and avoiding interaction with others even with the other children. However, during English teaching sessions characterized by simplicity and entertainment, the researcher aim was to observe the child's attempts to engage and learn the language by repeating words and phrases. Encouragingly, the child's parents reported that he was using English expressions at home to express his needs. Driven by a personal interest in psychology and a desire to better understand and support the child, the researcher conducted a small-scale investigation into autism, this investigation provided valuable insights into the condition. Yet, it was found also that there are very few studies that tackled the process of teaching autistic individuals a second language or anything far from the diagnosis or causes, solutions, etc. So the researcher released that people with autism are neglected especially in Algeria and somehow they are treated as mentally ill. The researcher resolved to conduct a study aimed at implementing a teaching approach to facilitate language-learning process and to reach a reliable result.

### **2.3. Research Design**

According to Selltiz(1962)a research design entails organizing the conditions for collecting and analyzing data in a manner that aligns with the research objectives while ensuring procedural efficiency.Designing a research follows a systematic approach, incorporating numerous vital elements to confirm the reliability, validity, and ethical standards of the study. While particulars may differ depending on the research's nature, key components include establishing a meticulously crafted plan or strategy known as the research design to direct the systematic and logical collection, analysis, and interpretation of data. According to Kothari (1999) the importance of research design stands for “advance planning of the methods

## **Research Design and Methodology**

to be adopted for collecting the relevant data and the techniques to be used in their analysis, keeping in view the objective of the research and the availability of staff, time and money” (p.32). Furthermore, the design aids the researcher in structuring their ideas in a manner that facilitates the identification of weaknesses and shortcomings. Such a design can also be shared with others for their feedback and critical assessment (ibid.)

In the current study the researcher opted for a mixed method design where she combined elements of both experimental research and case study research. The experimental research aims to investigate the impact of independent variables on the dependents one which are the autistic children and their speaking skills. Simultaneously, the case study aims to provide an in-depth qualitative analysis of the autistic children within experimental framework.

The experimental design entails performing research methodically and under controlled conditions to ensure precision and derive specific conclusions about a hypothesis (Bell, 2009). While a case study is “a technique by which individual factor whether it is an institution or just an episode in the life of an individual or a group is analyzed in its relationship to any other in the group” (H. Odum, p.229). It is commonly applied in qualitative research and entails thorough and detailed observation of a social entity, which could range from an individual or a family to an institution, cultural group, or even an entire community (Kothari, 1990). Furthermore, the study employed a mixed-method approach, integrating both quantitative and qualitative techniques for data collection. This decision was made because it was acknowledged that using several methods enhances and supports the investigation. This design stands to ensure that pertinent information for the research is acquired.

### 2.4. Setting and Sample Population

Research setting is the physical, social, or experimental context within a research is conducted, whereas sampling is method used in research and surveys, it involves choosing a subset of individuals or elements from a larger population to gather data and make inferences or draw conclusions about the entire population (Kothari, 2004).

This study took place at Autism Support Center of Ain Temouchnet starting from November 27<sup>th</sup> during the academic year 2023-2024). This institution was established in 2017 to supervise the autism category where the child is diagnosed after presenting him to a pediatric psychiatrist and a general doctor in order to plan an individual treatment for each case, knowing that the center includes eighty (80) people aged from five (05) to eighteen (18) years old. The study involved a total of eleven children diagnosed with autism spectrum disorder, comprising seven were boys (07) and five were girls (05), ranging in age from six (06) to ten (10) from behaviour treatment classroom, the selection was made according to the criterion of speaking (inclusion criteria) as there are other classrooms of children who cannot speak. The participants of this study experience behavioural challenges along with some difficulties in language development; however, they were able to speak despite finding it hard to interact with each other, every member of this classroom exhibits unique characteristics which are different from others. The table 2.1 illustrates the different diagnosis of the participants according to the specialists of the institution:

## Research Design and Methodology

| Name | Age         | Diagnosis   |
|------|-------------|---|
| P1   | 6 yearsold  | Uneven verbal and impaired language, development, echolalia, and lack of visual interaction |
| P2   | 10 yearsold | Delay in language development<br>Behavioral problems  |
| P3   | 10 yearsold | Behaviouralproblems<br>Hyperactivity (ADHD)   |
| P4   | 10 yearsold | Echolalia<br>Tantrums   |
| P5   | 8 yearsold  | Lack of visual interaction  |
| P6   | 10 yearsold | Dysarthria (problems in pronunciation)  |
| P7   | 10 yearsold | Echolalia<br>Aggressivebehaviour  |
| P8   | 10 yearsold | Low functioningautism   |
| P9   | 8 yearsold  | Echolalia   |
| P10  | 10 yearsold | Delay in language development<br>Tantrums   |
| P11  | 7 yearsold  | Hyperactivity   |

**Table 2.1. Autistic Children's Diagnosis**

## 2.5. Research Approaches

A research approach encompasses the overall strategies and methods utilized throughout the research, including initial assumptions and hypotheses, to the particular methods employed for gathering, analyzing, and interpreting data (Creswell, 2015). Similarly, Grover (2015) describes the research approach as a strategy of inquiry. According to him, there are three main research approaches qualitative, quantitative and mixed methods.

### 2.5.1. Qualitative Approach VS Quantitative Approach

The qualitative research approach emphasizes subjective evaluations of attitudes, opinions, and behavior. In this method, the researcher's perspective and interpretation play a significant role. Additionally, the outcomes are presented in a qualitative format, which does not lend itself to strict quantitative analysis (Kothari, 2004). In a more detailed definition Creswell (2007, p.22) added



## **Research Design and Methodology**

The qualitative approach is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data. The final written report has a flexible structure. Those who engage in this form of inquiry support a way of looking at research that honors an inductive style, a focus on individual meaning, and the importance of rendering the complexity of a situation.

According to Kothari (2004), the quantitative approach entails gathering data that can be measured numerically, permitting for careful analysis utilizing quantitative method in formal and systematic manner. Furthermore, it involves testing objective theories by examining the connection between variables. These variables can be measured using instruments; the focus is more on understanding the depth and complexity of the phenomenon being studied rather than on numerical data. The conclusive written document of a quantitative investigation usually follows to a structured format, comprising segments like introduction, literature review and theory, methods, results, and discussion (Creswell, 2008).

### **2.5.2. Mixed Method Approach**

A mixed method approach integrates both qualitative and quantitative methodologies. It includes philosophical beliefs, the integration of both qualitative and quantitative methods within a single study goes beyond data collection and analysis it involves using both approaches in conjunction to enhance and strength the study (Creswell & Plano Clark, 2007). Choosing the research approach is typically determined by the objectives, experience of the researcher, and finally the intended audience of the study (Haradhan, 2017).

## **Research Design and Methodology**

This study utilized a mixed-method approach, incorporating both qualitative and quantitative techniques to investigate the same phenomena, encompassing data collection through to analysis stages. The researcher opted for a mixed-method approach as it allows for the integration of different data sets, leading to a deeper comprehension of the issue and providing a stronger evidential basis; besides, it promotes the validity of the study. The use of the quantitative approach was purposeful to find out the influence of the independent variables on the other ones, while the use of qualitative approach was to implement the therapeutic method and to collect the needed data (observation). According to Creswell (2007) the mixed method approach has several advantages; it enables the concurrent gathering of quantitative and qualitative data in a single data collection phase. This approach combines the advantages of both data types, offering a more holistic comprehension of the research subject. By integrating quantitative and qualitative methods in this way, researchers can gain insights from different perspectives or levels within the study, enhancing the overall depth and richness of the data analysis process.

### **2.6. Variables**

In experimental research, variables are the particular characteristics and factors that are intentionally manipulated and measured to examine the hypothesis. There are three types of variables dependent, independent, and extraneous variables. The dependent variables are the ones that are being observed and measured; while the independent variables, under the control and manipulation of the researcher, represent the experimental treatment. Extraneous variables are external factors that may potentially contribute to the change (Zubair, 2022).

Since the current study aims to teach English language in therapeutic manner to promote the autistic children's communicative skills, there are two main adopted variables; dependent and independent. The therapeutic strategies and the teaching methods adopted by this study are the

## Research Design and Methodology

independent variables that have an impact on the dependent one which is the autistic children's communicative skills.

### 2.7. Data Collection Instruments

Research instrument are vital components in monitoring and evaluation (M&E) as they facilitate various aspects of data collection, analysis, visualization, and reporting. According to Frankel (2005) "Instrument is the device the researcher uses to collect the data"(p.112). The selection of the research tools should be guided by particular objectives, context, and data needs of the evaluation. In the field of research, there are numerous experiment options, each requiring distinct tools to facilitate the investigation needed to address inquiries.

- **Observation**

Observation is a tool to collect data by systematically making observation and recording (Dwija, 2002). This method is widely utilized specially in behavioural sciences studies. It offers several advantages. Firstly, it helps eliminate subjective bias when conducted accurately. Secondly, the information gathered through this method pertains to current events, avoiding complications from past actions or future intentions or attitudes. Thirdly, this method operates irrespective of the respondents' inclination to engage, making it less demanding in terms of active cooperation compared to methods like interviews or questionnaires (Kothari, 2004). Kothari (2004) mentioned two main types of observation participant and non- participant. The distinction between the two types depends on whether the observer shares the life of the group being observed. In participant observation, the observer immerses themselves as a member of the group, experiencing what the group members experience. While, in non-participant observation, the observer remains detached, acting as an outside observer without attempting to experience what others feel through participation (2004).

## **Research Design and Methodology**

In the present research, the researcher assumed the role of an observer, employing participant observation as a method to collect dependable data and gain insights into the language development, particularly the communicative abilities of autistic children in the classroom.

- **Experiment**

Experiments are widely utilized in the social sciences due to their high reliability and effectiveness in gathering and validating data or challenging theories. They primarily serve to investigate causal relationships, specifically determining whether changes in an independent variable, manipulated within the data, lead to changes in a dependent variable (Taheri et al., 2015). Contrasted with surveys, experiments afford researchers greater control over experimental conditions and events, often taking place in controlled settings such as laboratories. Boehlert (2000) also notes that experiments facilitate direct comparisons, minimizing biases and errors in comparison. The subject of an experiment, serving as the sampling unit, provides measurements based on the experimental manipulations.

To examine the hypothesis of the ongoing research, the researcher utilized experiments as a tool to collect data concerning variables. The objective was to gather information on how therapeutic methods affect the learning process and speaking skills of autistic children.

- **The Experimental procedures**

This study was divided into three main stages: preparation, implementation, and data processing. Here is how each stage was carried out:

- a. Preparation Stage:

- Conducted a comprehensive literature review to gather relevant theories on the research topic.

## **Research Design and Methodology**

- Prepared a research proposal outlining the systematic approach to be taken in the study.
- Submitted the research proposal for evaluation to determine its feasibility. If feasible, the proposal was accepted and progressed to the thesis stage.
- Designed the research by creating and organizing all necessary research instruments.

### b. ImplementationStage:

- Implement the structured plan as outlined in the research proposal.
- Observed the progress of autistic children while teaching them.

### c. Data ProcessingStage:

- Verified the collected data for accuracy and reliability.
- Analyzed the research results based on the theories employed.
- Drew conclusions from the research findings.
- Offered suggestions, recommendations, and implicatures for future research.
- Compiled and wrote the research report.

## **2.8. The Structured Teaching Approach**

The researcher devised a structured plan aimed at teaching autistic children, incorporating various strategies and therapeutic methods to facilitate the learning of English as a foreign language. The primary focus of this plan was to enhance the speaking skills of the participants, ensuring a comprehensive approach to language learning tailored to their needs.

All the sessions were enriched with various teaching strategies such as the total physical response method, audio-lingual method, and translanguaging. These approaches were implemented to enhance student engagement, improve information retention, and support students in achieving their learning objectives. Additionally, therapeutic methods were incorporated to assess their effectiveness in enhancing the academic performance of autistic

## **Research Design and Methodology**

children. In each session, the teacher initiated with joint attachment techniques to capture the children's attention. Following that, she utilized PECS as an illustrative tool, along with music therapy towards the end of the lecture. These methods were aimed at enhancing the children's interaction, memory and encouraging speech. The researcher meticulously structured the session time to ensure that each child had sufficient opportunities to learn the language effectively.

### **2.9. Data Analysis Procedures**

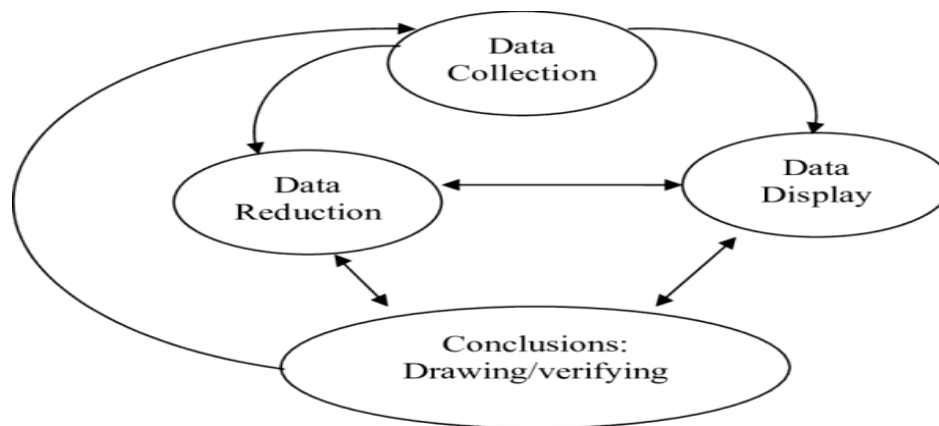
Data pieces are singular units of information requiring measurement, collection, reporting, and analysis. Data generally refers to information or knowledge that is structured or coded in a way that makes it useful for improved utilization or processing because it transforms into actionable information that can guide decision-making only after undergoing some form of analysis (Oyekan, n.d.) Data analysis often referred to as data analytics or analysis of data, is the systematic procedure of examining, refining, converting, and structuring information to uncover valuable insights, propose conclusions, and aid in decision-making processes. In short, data analysis involves utilizing information and numerical data to tackle and resolve research questions, playing a vital role in discovering solutions to research inquiries (Ashirwadam, 2014).

Data analysis methods can be categorized into qualitative, quantitative, or mixed methods, each serving distinct purposes. Qualitative analysis entails interpreting non-numeric data, such as text, images, or video, to reveal underlying themes or patterns. On the other hand, quantitative analysis deals with numerical and measurable data. These approaches complement each other and are instrumental in deriving meaningful insights from data (Kothari, 2004; Creswell & Creswell, 2018). A mixed method analysis refers to “mix[ing] or combin[ing] quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (Johnson & Onwuegbuzie, 2004, p. 17). In mixed methods research, data

## Research Design and Methodology

analysis is closely tied to the chosen research strategy. This means that in a research proposal, the procedures for analysis should be clearly outlined within the overall design. The analysis encompasses both quantitative methods and qualitative methods (including description and thematic analysis of text or images) often bridging the gap between these two approaches.

Considering the nature of our research, a mixed-methods approach was adopted to analyze the collected data. The qualitative method includes the analysis of the conducted observation. Whereas, a quantitative method was for the descriptive and inferential of numeric data. The process of the research (especially data analysis) follows the model of Miles Huberman (1984) in analyzing the data



**Figure 2.1. Data Analysis Model of Miles Huberman (1984)**

### a. Data Reduction

According to Miles Huberman (1984), in qualitative data collection, researchers employ various techniques repeatedly to gather extensive and detailed data. However, the data obtained in the field is often complex, raw, and lacks a systematic organization. Therefore, researchers need to analyze this data by reducing it, which involves summarizing, identifying themes, creating categories, and recognizing patterns to derive meaning from the data. Data reduction is a form of analysis that involves refining, focusing, discarding irrelevant parts, and organizing

## **Research Design and Methodology**

data to facilitate drawing conclusions. This process ensures that only relevant and essential data is used for analysis and interpretation.

### **b. Data Display**

Data display is the step that follows data reduction in qualitative research. It involves presenting the data in various formats such as summaries, charts, diagrams that show relationships between categories, and patterns. The purpose of data display is to make the information easily understandable for the readers or audience. By arranging the data systematically and presenting it visually, readers can grasp the concepts, categories, relationships, and differences among various patterns or categories more effectively. This enhances the clarity and accessibility of the research findings(Miles, 1984).

### **c. Conclusion Drawing and Verification**

The third step in the interactive is decision-making and verification. This stage is crucial as it involves making conclusions based on the analyzed data and ensuring their validity through verification processes. In qualitative research, preliminary conclusions are regarded as provisional until they are substantiated by reliable and consistent evidence. This flexibility allows for adjustments if new evidence or insights emerge during the analysis. The result of the study should address the research problems or questions effectively. They should not only provide answers to the formulated problems but also contribute new findings or insights to the scientific field. These new contributions could take various forms, such as a clearer description of an object or phenomenon that was previously ambiguous, the development of new hypotheses, or the formulation of a new theory based on the study's findings. The process of decision-making and verification ensures that the conclusions are robust and contribute meaningfully to the progress of knowledge in the research field.



## Research Design and Methodology

### 2.10. Validity and Reliability

According to Creswell (2012), reliability and validity are bound together in complex ways. These concepts often interact in nuanced ways, sometimes converging and other times diverging. When evaluating an instrument's suitability, validity is the broader concept that encompasses various aspects. Reliability, on the other hand, is simpler to grasp as it gauges the consistency of measurements. Without reliable scores, the validity of those scores is compromised. Hence, establishing stability and consistency is a prerequisite for meaningful and valid scores.

#### 2.10.1. Validity

Fraenkel & Wallen (2005) emphasize that a valid instrument effectively measures what it aims to measure. They highlight validity as the paramount consideration when developing or choosing an instrument for a study. Isnawati (2011) identifies four main types of validity: face validity, content validity, construct validity, and criterion-related validity. In assessing the validity of the instrument for data collection, the researcher focused on content validity and face validity. Here is an explanation of content validity and face validity:

- **Content validity**

Content validity holds significant importance, especially in achievement assessments, as it verifies that the test content precisely mirrors the skills or knowledge under evaluation. This aspect becomes particularly critical in tests concerning speaking skills, as the test questions should adequately cover the breadth and depth of these skills to offer an accurate assessment of an individual's speaking proficiency. According to Creswell (2012) content validity is defined as the extent to which the questions within a tool and the scores derived from these questions effectively represent all possible questions relevant to the content area or skill under assessment. In this study, the researcher asked the autistic children to answer the test to measure students'

## Research Design and Methodology

speaking skills. In the term to ensure the content validity of the test, the researcher will design the test according to recognized standard competencies. This involves creating detailed test specifications for both the pretest and posttest.

- **Face validity**

According to Ary (2010) face validity refers to how well examinees perceive that the instrument is measuring what it is intended to measure. The face validity of this research is based on experts' opinions. The first is an advisor who guides the researcher in the process of conducting the study. Besides, the opinions of different scholars relying on observation to collect valid data since it permits the researcher to obtain a comprehensive understanding and an overview of the implemented process, and sample in a given setting. It also has multiple advantages that are previously mentioned in the definition of the data instrument.

### **2.10.2. Reliability**

Reliability refers to the stability and consistency of a method in measuring a phenomenon. If the same method used under the same conditions consistently yields the same result, it is considered reliable (Middleton, 2019). There are multiple ways to measure the reliability of a research, one of them is the interrater reliability, which assesses the consistency of a measure when administered by different raters or observers, determining if similar results are obtained regardless of who performs the measurement (Middleton, 2019). To ensure the reliability of the study, the researcher made a concerted effort to remain objective and avoid including any factors or criteria that could influence the outcome of the data, such as the parents or other teachers opinion.

## Research Design and Methodology

### 2.11. Ethical considerations

In the context of research, ethics pertain to the standards and principles that influence choices related to data collection, analysis, and the sharing of research findings (Gedutis et al. 2022). Since ethical consideration is a set of principles that guide the research designs and practices, researchers rely on some basis to conduct this study ethically.

- **Permission to conduct the study**

Permission to conduct the study was sought from the head of the department of English language at Ain Temouchet University and granted to the head master of Autism support center of Ain Temouchet. The researcher notified the parents of the participants regarding the study and committed to ensuring that the operations of the center would not be disturbed.

- **Principles of Research Ethics**

During data collection, the principles of beneficence and respect for human dignity were respected, which entail ensuring freedom from harm and exploitation (Polit & Hungler. 1999, p.133). No physical or psychological harm resulted from implementing the plan of the study or in the observation sessions. For the principle of respect for human dignity, it includes the right to self-determination and to full disclosure (Ibid.). The principle of full disclosure was respected as the researcher provided detailed information about the study's nature and the participants' rights to choose whether to participate. Moreover, confidentiality was preserved by withholding names in the research report to safeguard the anonymity of the participants.

### 2.12. Conclusion

This chapter summarized and gave an overview about all the important steps of conduction this research from designing the research till the ethical procedures tackled of this study describing the sample population and the setting where the research took place, the data collection instrument that the researcher relied on in gathering the data and the process of data analysis in order to reach a valid result.

# **Chapter Three**

## **Data Analysis, Interpretation and Research Conclusions**

# Data Analysis, Interpretation and Research Conclusions

## Chapter Three: Data Analysis, Interpretation and Research Conclusions

|  |    |
|--|----|
| 3.2. Introduction .....                                | 51 |
| 3.3. Data Analysis .....                               | 51 |
| 3.3.2. Result Obtained From The Observation .....      | 54 |
| 3.3.3. Result Obtained From The Teaching process ..... | 57 |
| 3.3. Data Discussion and Interpretation .....          | 68 |
| 3.4. Limitations of the Study .....                    | 70 |
| 3.5. Research Implications .....                       | 71 |
| 3.6. Suggestions and Recommendations .....             | 72 |
| 3.7. Conclusion .....                                  | 74 |

# **Data Analysis, Interpretation and Research Conclusions**

## **3.2. Introduction**

The preceding chapter detailed the methodology employed in this study, aiming to provide a thorough understanding of the procedures undertaken. It encompassed aspects such as research methodology, method, population, sampling, and data collection and analysis methods. This chapter delves into the data analysis process and interprets the key findings of the study. The instruments used in the research were scrutinized to ensure clarity in presenting the gathered data, utilizing percentages and graphs when applicable. Moreover, potential recommendations and future implications stemming from the research were explored and discussed.

## **3.3. Data Analysis**

After the process of data reduction, the collected data is depicted through diverse formats including graphs, diagrams, and tables for analysis. This section illustrates the examination of demographic data such as age, gender, native language, and diagnosis of the participants, along with the findings derived from both observation and the teaching process.

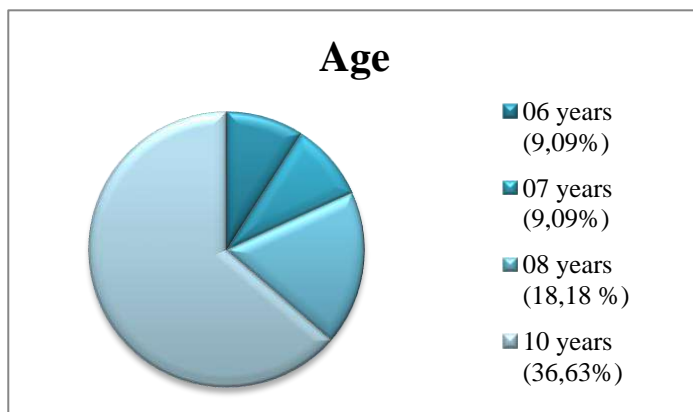
### **3.3.1. Demographic Data**

The data presented in this sub-section offers a concise overview of the primary demographic traits of the autistic child participants in this study. This information is bolstered by the inclusion of figures, tables, and comparative data about the various participants in the research. The researcher collected the data based on their age, gender, native language, and diagnosis.

## Data Analysis, Interpretation and Research Conclusions

### a. Age

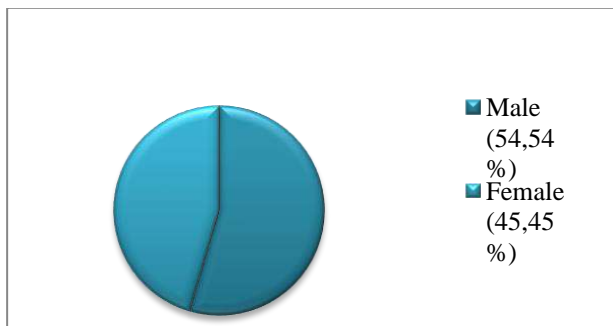
Participants in this study ranged in age from 6 to 10 years old. According to the statistics shown in the graph 3.1, the largest proportion approximately 64%, consisted of children aged 10 years, which corresponds to 7 individuals, followed by 18,18% under the age of 8 years old and 9,09% for 7 and 6 years, which is the minimum age of the autistic children.



**Figure 3.1. Age distribution**

### b. Gender

There was a greater proportion of boys among the autistic children compared to girls. According to the data presented in the graph, the gender composition of the participants was 54, 54% male and 45, 45% female, which is equivalent to 5 girls and 7 boys.



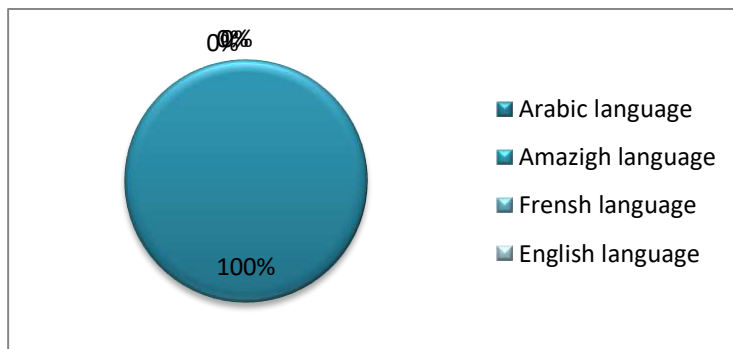
**Figure 3.2. Gender Distribution**



## Data Analysis, Interpretation and Research Conclusions

### c. Native language

As depicted in Figure 3.3, the native language of all the participants (100%) in this study is Algerian Arabic, since they acquired it in their earliest childhood. This linguistic background is crucial, as it forms the basis for understanding their language development and acquisition processes. It also highlights the cultural and linguistic context within which the study is conducted, providing valuable insights into how English as a foreign language is approached and learned autistic individuals in an Arabic-speaking environment.

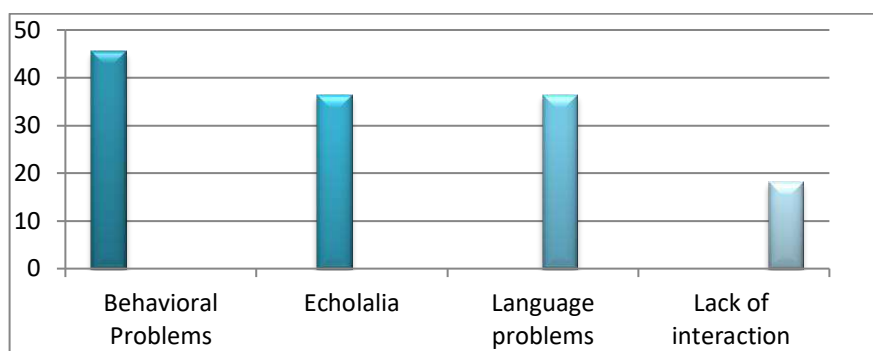


**Figure 3.3. Native language**

### d. Diagnosis

We refer to autism as a spectrum disorder precisely because it encompasses a wide range of characteristics, behaviours, and symptoms that can differ significantly from one person to another. Indeed, this is true for the participants in this study: each child is unique, with their own set of experiences, perceptions, and challenges. This diversity in the class highlights the importance of understanding and accommodating individual differences. Every autistic child participant receives a distinct diagnosis that differs from others, even though they are all influenced by autism spectrum disorder, and they are categorised together under the same class focused on addressing behavioural aspects. Figure 3.4 illustrates the severity of these diagnoses.

## Data Analysis, Interpretation and Research Conclusions



**Figure3.4. Different Diagnosis of autistic Children**

The different diagnoses of autistic children are divided into four problems; the behavioural problems, which include hyperactivity, aggression, and tantrums, have a high percentage of 45,45%. The second diagnosis, echolalia, affects a significant number of participants, approximately 36,36%. The third one is language problems, which refer to delays in language development and problems with pronunciation. 36.36% of autistic children suffer from language problems. The final diagnosis indicates a deficiency in social interaction, as evidenced by the fact that 18,18% of autistic children either avoid or struggle from social interaction.

### 3.3.2. Result Obtained From The Observation

The study used participant observation, in which the researcher immersed herself in the daily activities of the classroom participants to gather qualitative data on the progress of autistic children's speaking and learning skills.

We can monitor the observation results based on the received information. The therapeutic methods employed by the researcher to teach English to autistic children played a significant role in the classroom, leading to their acceptance of learning a foreign language and improvement in their speaking skills. Each method contributed uniquely in enhancing the teaching-learning process. Furthermore, the autistic children demonstrated an acceptable capacity to learn English as a foreign language, despite the influence of autism on certain aspects of language learning like pronunciation and production. However, this was not considered a

## **Data Analysis, Interpretation and Research Conclusions**

significant obstacle or barrier to learn the second language. Another aspect affected by autism spectrum disorder, which is considered the primary symptom of autism spectrum disorder, is interaction. Participants in this study have difficulty speaking and accepting the presence of people they have just met, and that is what happened to the researcher in the first sessions.

All the gathered data was categorized into four main themes: joint attention, interaction (especially with the teacher), pronunciation, production, and comprehension

### **a. Joint attachment**

Initially, there was a notable absence of joint attachment among the autistic children, particularly during the initial sessions. Many children struggled to concentrate during the lessons, especially those with hyperactivity, making it challenging to sit and engage or focus with the teacher. However, some other children were calm, attentive listeners, and they were trying to make an effort to participate in the activities with the teacher. As the sessions progressed and the focus shifted towards enhancing joint attachment, these children began to adjust to the classroom environment and the foreign language in particular. The teaching tools used to convey knowledge attracted them, demonstrating a growing interest and engagement.

### **b. The Interaction**

In the first session, most of the autistic children showed reluctance to communicate or make eye contact with the researcher. Some even completely ignored the presence of a new person in the classroom, with the exception of P6, who immediately welcomed the researcher and expressed interest in learning a new language.

The joint attachment therapy significantly improved autistic children's interactions, particularly with the teacher. We achieved this by using appropriate tools like the "shapes matching game" to capture their attention. Allowing each individual to participate in the game

## **Data Analysis, Interpretation and Research Conclusions**

one by one and providing small rewards served as motivation, creating a bond between the researcher and the autistic children. This bond greatly enhanced the interaction between them.

### **c. The Pronunciation**

The majority of autistic children in this study demonstrated good pronunciation of English words and letters, except for two participants who faced challenges with pronunciation, even in their native language. However, a significant issue observed was their difficulty in conveying the appropriate tone while speaking sentences. The autistic children generally struggled to use intonation that reflects the speaker's emotions or thoughts. Their pronunciation tended to be rigid and lacked the expressive quality typically associated with conveying feelings or ideas and that what was observed during the sessions. Some children were observed to accurately mimic the researcher's tone while speaking sentences, especially when aided by the teacher. However, when speaking without direct assistance, they tended to forget about maintaining the appropriate tone in their sentences.

### **d. The Comprehension**

By employing various facilitative tools and teaching methods aimed at enhancing academic performance, particularly translanguaging, the researcher effectively improved the learning outcomes of the participants. Utilizing the native language to translate English words and expressions as needed greatly aided in the understanding of spoken English among the autistic children, enabling them to grasp different linguistic elements more comprehensively.

### **e. The Production**

The primary observation result regarding autistic children's speech production was their general reluctance to speak. Initially, most participants avoided engaging in conversations and interaction. However, after several sessions of implementing therapeutic methods and

## **Data Analysis, Interpretation and Research Conclusions**

motivational techniques, there was a noticeable improvement. They began to respond to questions by repeating or imitating the researcher's speech. Despite this progress, their overall production level remained lower than their comprehension skills. They struggled with recalling and expressing information from memory, although they could respond to simple questions and memorise specific words such as colours and numbers. Towards the end of the sessions, some participants successfully learned how to introduce themselves briefly, representing a satisfactory outcome given the constraints of time and their individual cases.

### **3.2.3. Result Obtained From The Teaching process**

This experimental study is designed to explore how the independent variable influences the dependent variable. Typically, data collected in experiments is quantitative, providing insights into participants' states, reactions, and developmental progress. The gathered data is structured into three main rounds, each highlighting the level of development within the classroom environment. To test the development of the language learning process the researcher relied on tables of adaptiveness, motivation, cognitive memory and language use that illustrate the change in each round.

#### **a. The First Round: Lesson Implementation**

The initial phase or first round of the study reflects the early stages of implementing the teaching plan. During this time, most children exhibited shyness and apprehension toward the new teacher, which is a common response among autistic individuals. While some children began to adjust to the new situation, others remained indifferent to the presence of the teacher. The following sub-section illustrates the implemented plan, the results obtained and reflection of this round.

- **Teaching Plan**

## Data Analysis, Interpretation and Research Conclusions

The initial phase comprises four sessions within the implemented plan, covering the first two weeks of the teaching process. During these sessions, the researcher emphasized fostering a sense of joint attachment among the autistic children, as indicated in the accompanying tables 3.1. and .3.2.

|                            |   |                          |
|----------------------------|---|--------------------------|
| <b>1<sup>st</sup> Week</b> | <b>1<sup>st</sup> session</b><br>Introduction to the English language | Joint attachment         |
|                            | <b>2<sup>nd</sup> session</b><br>Alphabets (part01)                   | Joint attachment<br>PECS |

**Table 3.1. Introduction to English Language Learning**

The process of teaching focused first on joint attachment to attract the autistic children's attention. To do so, the researcher relied on games, coloured pictures, and songs. After that, the researcher began the lectures gradually, starting with the alphabets, which are the basic skills that represent the English sounds that the learner needs to recognize.

|                            |  |  |
|----------------------------|--|--|
| <b>2<sup>nd</sup> Week</b> | <b>1<sup>st</sup> session</b><br>Alphabets (part 02) | Joint attachment / PECS /<br>Music therapy |
|                            | <b>2<sup>nd</sup> session</b><br>Numbers (part 01)   | Joint attachment / PECS                    |

**Table 3.2. Course Progress**

In the second week, the focus was shifted to Part 2 of the alphabet and the first part of numbers. The researcher utilized the Picture Exchange Communication System (PECS) to visually represent letters and numbers. Additionally, music therapy was introduced to aid students in memorizing the alphabet during the second part of the alphabet lecture.

- **Data Obtained from Teaching The Plan**

This initial adjustment phase had varying effects on language learning development, particularly influencing those with limited exposure to the English language. Interestingly, two autistic children already had some background in English, showing familiarity with letters,

## Data Analysis, Interpretation and Research Conclusions

words, and expressions. The states of children in the first round are reported in the following tables.

| <b>Adaptiveness</b> | <b>Participants</b> | <b>Percentages</b> |
|---------------------|---------------------|--------------------|
| <b>High</b>         | 05                  | 41,66%             |
| <b>Low</b>          | 07                  | 58,33%             |

**Table 3.3. Participant's Adaptiveness**

Table 3.3 represents the response of autistic children on learning a new language specifically their adaptiveness to both the language itself and the teacher. The data presented clearly shows that most participants around 58,33% responded by ignoring the new language and teacher. Whereas, the other 41,66% of the participants (03 girls and 02 boys) showed a positive reception to learn the new language, they were actively participating and engaging in classroom activities.

---

| <b>Motivation</b> | <b>Participants</b> | <b>Percentage</b> |
|-------------------|---------------------|-------------------|
| <b>High</b>       | 05                  | 41,66%            |
| <b>Low</b>        | 07                  | 58,33%            |

**Table 3.4. Participant's Motivation**

The table 3.4 provides the motivation rate of the participants, 58,33% of the participants their motivation was low whereas 41,66% of the remaining participants showed a high motivation to learn the English language. As it is presented in the table the result is similar to the adaptiveness result since both are somehow interrelated because when individuals are motivated, they are more likely to be adaptive in their approach to learning a new language.

| <b>Cognitive Memory</b> | <b>Participants</b> | <b>Percentage</b> |
|-------------------------|---------------------|-------------------|
| <b>Strong</b>           | 03                  | 25%               |
| <b>Weak</b>             | 09                  | 75%               |

**Table 3.5. Participant's Cognitive Memory**

## Data Analysis, Interpretation and Research Conclusions

In the initial round, the cognitive memory of the participants was notably weak. Out of the total participants, 74% of the individuals struggled to memorize English words, while the remaining participants around 25% showed varying degrees of effort in producing and using English words in their speech.

| Language Use | Participants | Percentage |
|--------------|--------------|------------|
| High         | 03           | 25%        |
| Low          | 09           | 75%        |

**Table 3.6. Participants Language Use**

The usage of the English language was limited among the participants in the initial round. Most of them were not familiar with the language, leading to only 25% of the participants being able to use the language dependently to their native language (Algerian Arabic). Among these, two boys had a decent background in English, while the remaining ones, two girls, showed curiosity and excitement toward learning the new language. The rest of the participants (75%) required assistance from the teacher to use the language effectively.

- **Reflection on Data Obtained from Teaching The Plan**

In the initial round, the children's lack of familiarity with the new language resulted in lower rates of adaptiveness and motivation among the participants. Most children struggled to memorize English words quickly, and their native language influenced their performance in the target language, preventing them from using English independently.

### **b. The Second Round: Course Progress**

During the second phase of teaching autistic children a second language, the researcher focused at implementing the planned teaching strategies and therapeutic methods. She directed attention to vocabulary since it affects greatly the speaking performance.



## Data Analysis, Interpretation and Research Conclusions

- **Teaching Plan**

This phase includes four sessions within the implemented plan, spanning six weeks of the teaching process. Throughout these sessions, the researcher focused on teaching vocabulary, pronunciation, and basic conversational utterances.

|                            |  |  |
|----------------------------|--|--|
| <b>3<sup>rd</sup> Week</b> | <b>1<sup>st</sup> session</b><br>Numbers (part 02) | Joint attachment / PECS /<br>Music therapy |
|                            | <b>2<sup>nd</sup> session</b><br>Colors            | Joint attachment / PECS /<br>Music therapy |

**Table 3.7. Exploring New Vocabulary (part 01)**

The same process was repeated for the second part of teaching the numbers, music therapy was conducted in the end of the lecture of number. The following lectures focused on basic vocabulary that autistic children may need to express their wants and needs starting with numbers and colours.

|                            |   |  |
|----------------------------|---|--|
| <b>4<sup>th</sup> Week</b> | <b>1<sup>st</sup> session</b><br>Face organs      | Joint attachment / PECS /<br>Music therapy |
|                            | <b>2<sup>nd</sup> session</b><br>School materials | Joint attachment / PECS /<br>Music therapy |

**Table 3.8. Exploring New Vocabulary (part 02)**

The lectures of the 4<sup>th</sup> week were directed to teach vocabulary, the first lecture was face organs, it was informative and engaging. It provided a detailed exploration of the different parts of the face. The second lecture on school materials likely covered essential items such as books, pencils, pens, and schoolbag. Incorporating hands-on activities or interactive demonstrations, the researcher tried to create a supportive and inclusive environment where children feel encouraged to participate and engage with the material being taught. Tailoring the content to their interests and needs can also enhance their motivation to learn.

## Data Analysis, Interpretation and Research Conclusions

|                            |   |                         |
|----------------------------|---|-------------------------|
| <b>5<sup>th</sup> Week</b> | <b>1<sup>st</sup> session</b><br>Greeting (part 01) | Joint attachment / PECS |
|                            | <b>2<sup>nd</sup> session</b><br>Greeting (part 02) | Joint attachment / PECS |

**Table 3.9. Vocabulary Expansion and Review**

Teaching greetings to autistic children during the two sessions of the second month was a crucial step in enhancing their social and communication skills. The researcher employed various strategies, such as joint attachment, when necessary, emphasising the importance of social connection and interaction. Additionally, using PECS to show pictures of children greeting each other was an effective visual aid to help autistic children understand and learn greetings in different social contexts.

|                            |   |  |
|----------------------------|---|--|
| <b>6<sup>th</sup> Week</b> | <b>1<sup>st</sup> session</b><br>Emotions and attitude            | Joint attachment / PECS /<br>Music therapy |
|                            | <b>2<sup>nd</sup> session</b><br>Introducing themselves (part 01) | Joint attachment / PECS                    |

**Table 3.10. Practicing Conversational Skills**

The initial session of the sixth week focused on imparting knowledge about emotions and attitudes, chosen for their significant impact on the social and emotional growth of autistic children, aiding them in expressing their feelings. The subsequent lecture aimed to teach autistic children the fundamental skill of self-introduction.

|                            |   |                         |
|----------------------------|---|-------------------------|
| <b>7<sup>th</sup> Week</b> | <b>1<sup>st</sup> session</b><br>Introducing themselves (part 02) | Joint attachment        |
|                            | <b>2<sup>nd</sup> session</b><br>Request (part01 )                | Joint attachment / PECS |

**Table 3.11. Creative Language Use**

## Data Analysis, Interpretation and Research Conclusions

The 7th week's first session expanded on the previous lesson, instructing autistic children on how to briefly introduce themselves. The second lecture focused on teaching them how to make requests, aiming to assist them in effectively communicating their needs, desires, and intentions. Developing this skill improves their ability to interact with others in various settings, enhancing their communication skills, independence, and self-assurance. This knowledge enables them to navigate social situations more adeptly, both in educational environments and in their everyday interactions.

- **Data Obtained from Teaching The Plan**

Based on the results the participants began adjusting to the new learning environment, showing noticeable changes in various factors influencing language acquisition.

| <b>Adaptiveness</b> | <b>Participants</b> | <b>Percentage</b> |
|---------------------|---------------------|-------------------|
| <b>High</b>         | 08                  | 66,66%            |
| <b>Low</b>          | 04                  | 33,33%            |

**Table 3.12. Participant's Adaptiveness**

In the second round, there was a significant improvement in the adaptability of autistic children to the learning environment. 66.66% of the children (8 participants) demonstrated greater adaptability and comfort with both the researcher and the teaching plan. This increased adaptability was evident in their enhanced comfort levels while learning the new language. Meanwhile, 33.33% of the remaining participants were still in the process of adjusting to the teaching environment, as they remained relatively quiet in the classroom.

| <b>Motivation</b> | <b>Participants</b> | <b>Percentage</b> |
|-------------------|---------------------|-------------------|
| <b>High</b>       | 07                  | 58,33%            |
| <b>Low</b>        | 05                  | 41,66%            |

**Table 3.13. Participant's Motivation**

## Data Analysis, Interpretation and Research Conclusions

The motivation level among autistic children to learn the second language varied during the second round. 58,33% of the participants showed a high level of motivation and enthusiasm, they were actively engaging with the teacher and participating in classroom activities. Whereas, 41,66% of the remaining participants were notably silent and hesitant, displaying shyness and reluctance to participate. The table indicates the overall motivation trends observed during this phase. However, there were some changes noted in the later sessions of the second round.

| Cognitive Memory | Participants | Percentage |
|------------------|--------------|------------|
| Strong           | 06           | 50%        |
| Weak             | 06           | 50%        |

**Table 3.14. Participant's Cognitive Memory**

There was a notable improvement in the cognitive memory of the participants in the second round, with the number of participants who could memorize English vocabulary doubling from 3 to 6 participants. These children showed a faster acquisition of vocabulary during this phase. However, the remaining participants fell into two categories: some were actively trying to memorize and learn, while others showed a lack of motivation and engagement.

| Language Use | Participants | Percentage |
|--------------|--------------|------------|
| High         | 07           | 58,33%     |
| Low          | 05           | 41,66%     |

**Table 3.15. Participant's Language Use**

In the second round, there was a noticeable increase in the use of the English language among the participants. 58,33% of the autistic children were actively using English words to express their needs and participate in activities where they received rewards for their efforts. 41,66% of the other participants (05 participants) were also making an effort to engage in activities and respond when motivated by the researcher, although they were not yet using the language independently.

## **Data Analysis, Interpretation and Research Conclusions**

- **Reflection on The Data Obtained from Teaching The Plan**

The second phase showed significant progress compared to the first phase, mainly due to the implementation of therapeutic methods in the classroom. These methods positively influenced various aspects among autistic children. Both adaptiveness and motivation rates saw an increase, primarily because of joint attachment techniques that effectively captured their attention toward the target language. The use of the Picture Exchange Communication System (PECS) proved highly beneficial in aiding language memorization and use, as indicated by the results. PECS facilitated memorization and appreciation of the learned material, leading to improved interactions. This, in turn, resulted in enhanced language usage during this phase, with autistic children beginning to incorporate English expressions to convey their needs more freely. Besides, they also start verbal interactions by using single words, memorized chunks or imitating the teacher and generating new utterances, multi-constituent constructions though they are often ungrammatical.

### **c. The Third Round: Post- Observation**

The third round marked the conclusion of the implemented plan, designed as a revision to assess the final progress of autistic children in learning English as a foreign language. Additionally, it aimed to evaluate the effectiveness of therapeutic methods as teaching tools for enhancing learning and speaking skills. During these sessions, the teacher thoroughly revised all previously covered material using the established therapeutic methods. The researcher closely observed the session to see the progress or regression of the autistic children.

- **Teaching plan**

|                            |  |                         |
|----------------------------|--|-------------------------|
| <b>8<sup>th</sup> Week</b> | <b>1<sup>st</sup> session</b><br>Request (part 02) | Joint attachment / PECS |
|----------------------------|--|-------------------------|

## Data Analysis, Interpretation and Research Conclusions

|  |                               |                           |
|--|-------------------------------|---------------------------|
|  | <b>2<sup>nd</sup> session</b> | Joint attachment / PECS / |
|  | Revision                      | Music therapy             |

**Table 3.16.**Revision& Observation

The first lecture of the final week included a practical exercise in which each child had the opportunity to make requests while also correcting any mistakes. The last session focused on revision, utilising all therapeutic methods to review the material with the children. During this time, the researcher closely observed each child's progress. We treated this session as a post-observation phase to reflect on the learning and development achieved throughout the course.

- **Data Obtained from Teaching The Plan**

The outcome of the third round was remarkable, showing significant advancement in the children's skills compared to the initial two rounds, as detailed in the tables.

| <b>Adaptiveness</b> | <b>Participants</b> | <b>Percentage</b> |
|---------------------|---------------------|-------------------|
| <b>High</b>         | 11                  | 91,66%            |
| <b>Low</b>          | 01                  | 08,33%            |

**Table 3.17. The Participant's Adaptiveness**

In the third round, adaptiveness was not a significant issue as most autistic children had adapted well to the researcher and the new language being introduced in the classroom. The majority (91,66%) showed comfort and familiarity with using the new language. Except, the girl who was experiencing some psychological challenges, that why she was struggling to adapt to the situation throughout the sessions.

| <b>Motivation</b> | <b>Participants</b> | <b>Percentage</b> |
|-------------------|---------------------|-------------------|
| <b>High</b>       | 09                  | 75%               |
| <b>Low</b>        | 03                  | 25%               |

**Table 3.18. Participant's Motivation**

## Data Analysis, Interpretation and Research Conclusions

In this phase, motivation showed improvement, with 75% participants being motivated by the new activities in the classroom. However, 25% of the participants remained unmotivated. Nevertheless, this lack of motivation did not significantly influence their learning process, as they were still responsive and briefly engaged when having the opportunity to speak or interact with the researcher.

| Cognitive Memory | Participants | Percentage |
|------------------|--------------|------------|
| High             | 06           | 50%        |
| Low              | 06           | 50%        |

**Table 3.19. Participant's Cognitive Memory**

The cognitive memory of the autistic children in this phase did not improve comparing to the previous phase; 50% of the participants somehow were struggling to memorize English words and expressions, and still half of the participants did not suffer from memorizing issue.

| Language Use | Participants | Percentage |
|--------------|--------------|------------|
| High         | 09           | 75%        |
| Low          | 03           | 25%        |

**Table 3.20. Participant's Language Use**

The progress of the language use, in the third round, reached nine 75% of the participants; those participants were able to use the English language in a brief way to express their wants. The 25% remaining participants were not able to use the language effectively.

- **Reflection on the Data Obtained from The Teaching Plan**

In addition to the previous results, the teaching strategies employed also played a crucial role in this progress. Throughout the sessions, the researcher relied on methods such as Total Physical Response (TPR) to visually demonstrate concepts using body movements and gestures, aiding better understanding. Additionally, the Audio-Lingual Method played a substantial role in improving the speaking abilities of autistic children, since it focuses on both

## **Data Analysis, Interpretation and Research Conclusions**

listening and speaking in teaching a language. All this result was confirmed in the third round of implementing the plan, in which this session was structured to observe precisely the progress of the autistic children. Another result that the researcher reached is the usefulness of the music therapy on autistic children's pronunciation. Music therapy had a significant part in attracting the students' attention and memorizing and learning in an entertaining way however, the important result that the music therapy contributed in is enhancing the autistic children's pronunciation and articulation.

### **3.3. Data Discussion and Interpretation**

The gathered data illustrate the gradual progress of autistic children from different angles: their adaptiveness, motivation, cognitive memory, and English language use from the first to the last phase. Based on the analyzed data, it is evident that the therapeutic methods employed by the researcher had a significant impact in the classroom, fostering the acceptance of learning a foreign language among autistic children and improving their speaking skills. Each method contributed uniquely to enhancing the teaching-learning process. Despite autism's impact on certain aspects of language learning, such as pronunciation and production, it did not serve as a significant obstacle to learning a second language.

First, the joint attachment techniques notably have an impact on language learning. It increased adaptiveness and motivation rates among autistic children and effectively captured their attention toward the target language. Those results join a research work conducted by Naber et al., (2007) where They discovered that enhancing joint attention skills played a major role in fostering language and social development in autistic children, as these skills are essential for socio-emotional and cognitive growth.

Second, the use of the Picture Exchange Communication System (PECS) facilitated language memorization and use besides to their comprehension, leading to improved



## **Data Analysis, Interpretation and Research Conclusions**

interactions and enhancement of the language learning process by illustrating the items for the participants. In the current investigation, autistic children began incorporating English expressions more freely to convey their needs and engage in verbal interactions, although these utterances were often ungrammatical. These results are supported by findings of Zohoorian et al., (2021) in her study; she emphasizes the efficacy of the Picture Exchange Communication System (PECS) during the initial phases of language instruction, especially for teaching English vocabulary and basic conversational phrases. The results align also with Kaduk' findings (2017), who also highlights the efficiency of PECS in early communication stages, not only for second languages but also in the context of first language communication. PECS has demonstrated its ability to enhance communication skills and improve understanding of communication functions, as noted by Flippin et al. (2010). These insights underscore the value of incorporating PECS into language teaching methodologies mainly for individuals with communication challenges including autism spectrum disorder.

Furthermore, the researcher's reliance on methods such as Total Physical Response (TPR) and the Audio-Lingual Method contributed significantly to enhancing speaking skills by visually demonstrating concepts and focusing on listening and speaking in language teaching. Respectively, this progress was observed and confirmed during the third round of implementing the teaching plan, which was structured to precisely monitor the progress of the autistic children. Additionally, music therapy emerged as a useful tool in improving pronunciation and articulation among autistic children. It played a significant role in attracting students' attention, making learning more entertaining, and contributing to enhanced language learning outcomes. These results align with previous research on the efficacy of music therapy for enhancing communication skills in children with Autism Spectrum Disorder (ASD). According to Provenzano et al (2020) music therapy serves as a crucial intervention for children with ASD because it contributes to the improvement of various communication aspects. This method encompasses improving prelinguistic communication abilities, encouraging early vocalizations, fostering joint attention, and facilitating social

## **Data Analysis, Interpretation and Research Conclusions**

interactions. Given the shared traits between music and language, children with autism can utilize music as a form of communication. Music therapy stimulates different areas of the brain that are usually less active in children with ASD. The study also notes that while fifty percent of autistic children may never develop spoken language skills, those who undergo music therapy sessions often demonstrate better communication outcomes compared to those who do not engage in such interventions (Vries et al., 2015). Therefore, music therapy emerges as a highly impactful strategy for enhancing communication skills in children with ASD, especially when introduced early in their development (Provenzano et al., 2020).

Overall, the combination of these therapeutic methods and teaching strategies proved beneficial in overcoming barriers to language learning and fostering meaningful progress among autistic children in acquiring English as a foreign language and in enhancing their communicative skill.

### **3.4. Limitations of the Study**

In research work, researcher utilizes a wide range of materials and resources to conduct their studies effectively. They require various sources of information, including primary and secondary data sources. To conduct research in a specific area, researchers must develop a keen interest in the relevant subject matter and utilize all available resources for the research (Chris, 2019). However, throughout the research process, researchers are likely to face several challenges, from data collection to the final presentation of findings. These challenges often represent the limitations of the study in research work.

## **Data Analysis, Interpretation and Research Conclusions**

Although this study aims to teach autistic children English as a foreign language and focus on enhancing their speaking skills, it still has some limitations to highlight. The first restriction of the research is related to sampling; it has a limited sample, the only sample of this study was the autistic children belonging to behaviour's classroom in the supported center of Ain Temouchent. Besides, the number of participants was too limited because there were parents who did not permit their children to participate in this study for unknown reasons.

The second limitation is related to the time. Two months were insufficient to teach the autistic children a foreign language and implement structured plan to address specific a goal, which is promoting their speaking skills in a new language, especially when the autistic children are not young and this was the case of our participants; in fact, early age may have important clinical implications.

The final limitation of this study stems from the researcher's inability to provide exclusive access to the participants during certain sessions. This was because the classroom teachers were simultaneously conducting their program for the autistic children, while the researcher was teaching them English.

### **3.5. Research Implications**

The study explored various aspects of the teaching-learning process for autistic children, offering insights into their characteristics, behaviour, and reactions to the implemented plan. This study can have both practical and theoretical implications. The practical implications stem from teaching autistic children effectively, while the theoretical implications are linked to adopting specific theories or structured plans designed by the researcher. The current study has the potential to contribute positively to the educational, therapeutic, and societal support systems aimed at enhancing autistic children's communicative skills.

## **Data Analysis, Interpretation and Research Conclusions**

This research opens the door for many studies regarding the teaching and learning process of autistic children especially in Algeria where this topic is still somehow neglected. Drawing from the outcomes of the study and the usefulness of the implemented plan, the present investigation can influence educational practices by highlighting effective strategies and methods for teaching language skills to autistic children. Educators and special education teachers can incorporate these findings into their teaching approaches, leading to improved outcomes for autistic students in language learning. Researchers also can adopt the therapeutic method used in this study and add other variables that would cover broader perspectives or address other objectives.

The study can contribute to the development of tailored therapeutic interventions focused on language development and communication skills for autistic individuals. Therapists and clinicians may use these insights to design targeted interventions that address specific challenges faced by autistic children in language learning. Furthermore, the findings can inform parent and caregiver training programs aimed at supporting language development in autistic children to promote language acquisition and communication skills at home, creating a supportive environment for language learning.

### **3.6. Suggestions and Recommendations**

The research findings indicate that the efforts undertaken in this study make a substantial impact on the teaching learning experiences of autistic children through the incorporation of various teaching and therapeutic methods. Based on these findings, here are some suggestions and recommendations for further exploration and research.

## **Data Analysis, Interpretation and Research Conclusions**

- Teachers must conduct a longitudinal study to track the language development and communicative skills of autistic children over a long period. This would provide insights into the sustainability and long-term effectiveness of therapeutic interventions on language acquisition.
- Researchers need to compare the effectiveness of different therapeutic methods or teaching approaches in enhancing language learning among autistic children. This could involve comparing traditional methods with newer technologies or innovative therapeutic strategies.
- They also need to conduct a cross-cultural study to examine how cultural factors influence language learning experiences and outcomes for autistic children. Compare language acquisition patterns and therapeutic needs across different cultural contexts.
- The exploration of the effectiveness of technology-based interventions, such as using mobile apps, virtual reality, or AI-assisted platforms may also be beneficial in facilitating language learning and communication skills for autistic individuals.
- Education policies should prioritize the psychological aspects of autistic children to enhance the teaching process across all academic settings, leading to better overall progress.

These research suggestions and recommendations can contribute to advancing knowledge, improving interventions, and enhancing support systems for autistic children in their language learning journey.

## **Data Analysis, Interpretation and Research Conclusions**

### **3.7. Conclusion**

This chapter explored the analysis of data and the resulting findings derived from the study. Rigorous scrutiny was applied to the instruments utilized in this research to guarantee a clear presentation of the gathered data, with the assistance of percentages and graphs where applicable. The findings vividly depict the utility and efficacy of the researcher's structured plan aimed at teaching autistic children English as a foreign language while addressing their communicative skills. It is evident that all the therapeutic methods employed in the research significantly contributed to unveiling the results. Moreover, the data analysis process was meticulous, ensuring that the outcomes accurately reflected the impact of the teaching strategies and therapeutic interventions on the participants' language learning progress.

# **General Conclusion**

## General Conclusion

The motive for this research was to discuss the obstacles faced by autistic children in acquiring English as a foreign language. Additionally, it aimed to evaluate the effectiveness of therapeutic methods in bolstering their overall language learning abilities and specifically enhancing their speaking skills. Each therapeutic strategy adopted by this study served to address an issue in the learning process of autistic children. In which, the researcher suggested the joint attachment therapy was beneficial to attract the autistic children's attention so that they can focus on learning the language, the picture exchange communication system was proposed to promote meaningful communication and interaction as a main objective, it used also as an illustrations since it is based on pictures. The final suggested method is music therapy which also aims to reach two objectives; the first one is to serve as tool of entertaining, attracting the children's attention and memorizing English vocabulary. The second aim behind using music therapy is to enhance the children's verbal production.

To test the autistic children capacity in learning the foreign language and the impact of the therapeutic methods on their learning process, three research questions were established. The first research question focuses on the challenges and the difficulties that autistic children may face in learning the second language. The second question is structured to reveal the effectiveness of the therapeutic methods used in this study on the autistic children learning process, while the last one aims to examine the overall impact of teaching English as a therapeutic intervention on the autistic children's communication skills and how these therapeutic strategies have enhanced their speaking abilities.

To find answers to the questions, the researcher conducted an experimental study, investigating the case of autistic children in learning English as therapeutic method. The research took place in the support center of Ain Temouchent where the researcher implemented her plan on twelve autistic children participants during two months. The process of teaching the autistic children was carefully structured and divided into three phases. The researcher relied



## General Conclusion

on the mixed method approach to gather and analyze the data, involving an experiment and observation where the researcher was a participant observer so that she can implement her plan. To analyze the gathered data the researcher adopted the Miles Huberman (1984) model in which the collected data was first reduced in order to focus only on the relevant and essential data, these data was secondly displayed in form of graphs and tables to be carefully analyzed aiming to reach the final step which is conclusion drawing and verification.

The first hypothesis, which indicates that autistic children might face difficulties in aspects such as expressive language skills and social communication when learning a second language, is confirmed because the participants faced some challenges such as, depending on the first language in communicating besides to problems in pronunciation, motivation and lack of joint attachment. The remaining two hypotheses autistic pupils who receive English language teaching as therapy may demonstrate a significant improvement in speaking skills, such as verbal fluency and articulation, and the selected therapeutic strategies help the autistic children to enhance their communicative skills and develop the 2<sup>nd</sup> language also are accepted. The study reveals that despite the challenges posed by autism in language learning, especially in areas like pronunciation and production, the therapeutic methods utilized in this research significantly influenced the learning outcomes of autistic children. These methods were instrumental in fostering acceptance of a foreign language and enhancing speaking skills among these children. Each method had a unique contribution to the overall teaching-learning process. Joint attachment techniques were particularly effective in language learning, leading to increased adaptiveness and motivation rates among the autistic children. These techniques successfully captured their attention and interest in the target language. The Picture Exchange Communication System (PECS) played a vital role in aiding language memorization and utilization. It contributed to improved interactions and facilitated the language learning process by enhancing communication skills. Furthermore, music therapy emerged as a valuable tool in

## **General Conclusion**

improving pronunciation and articulation among autistic children. It not only attracted students' attention but also made the learning process more engaging and enjoyable, resulting in enhanced language learning outcomes.

Overall, the combined use of these therapeutic methods proved beneficial in addressing the unique challenges faced by autistic children in learning the English language, highlighting the importance of tailored and innovative teaching approaches in special education settings.

## Bibliography

- Al- Adwan Z. Ali1, M. Al-Naimat, Z. (2019). Autism Spectrum Disorder (ASD); Symptoms, Causes, Diagnosis, Intervention, and Counseling Needs of the Families in Jordan. Canadian Center of Science and Education.
- Alberta.(2003).*Teaching Students with Autism Spectrum Disorders*.  
<https://files.eric.ed.gov/fulltext/ED491496.pdf>
- Anthony J. Onwuegbuzie,. (2007). *Mixed Research as a Tool for Developing Quantitative Instruments*. <https://journals.sagepub.com/doi/abs/10.1177/1558689809355805>
- Aprilian. R. (2020). Introducing English as a Foreign Language for Autism Children, Why Not? *The Indonesian Conference on Disability Studies and Inclusive Education, 1*, 17–26.  
<https://vicon.uin-suka.ac.id/index.php/icodie/article/view/6>
- Ashirwadani, J. (2014). Methods of Data Analysis. *Www.academia.edu*.  
[https://www.academia.edu/8135057/Methods\\_of\\_Data\\_Analysis](https://www.academia.edu/8135057/Methods_of_Data_Analysis)
- Baird, G. Charman, T. Cox, A. S Baron-Cohen, S. Swettenham, J. Wheelwright, S. Drew, A. (2001). Screening and surveillance for autism and pervasive developmental disorders. *Arch Dis Child* 2001; 84:468–475.
- Baron-Cohen, S. (1993). From attention-goal psychology to belief-desire psychology: The development of a theory of mind and its dysfunction. In S. Baron Cohen, H. Tager-Flusberg, & D. Cohen (Eds.), *Understanding other minds: Perspectives from autism* (pp. 59–82). Oxford: Oxford University Press.
- Bates, E., Benigni, L., Bretherton, I., Camaioni, L., & Volterra, V. (1979). *The emergence of symbols: Cognition and communication in infancy*. New York: Academic Press.
- Belkadi, A. (2006). *Language impairments in autism: evidence against mindblindness*. SOAS Working Papers in Linguistics, 14 (3).

## Bibliography

- Berry, L. N., & Goin-Kochel, R. P. (2020). Health-related issues in youth with autism spectrum disorder. *Children's Health Care*, 49(4), 355–360.  
<https://doi.org/10.1080/02739615.2020.1804387>
- Bleuler, E. (1950). *Dementia praecox or the group of Schizophrenias*. International Universities Press
- Bock, A. M., Gallaway, K. C., and Hund, A. M. (2015). Specifying links between executive functioning and theory of mind during middle childhood: cognitive flexibility predicts social understanding. *J. Cogn. Develop.* 16, 509–521 doi: 10.1080/15248372.2014.888350
- Bondy, A. S., & Frost, L. A. (2001). A picture's worth: *PECS and other visual communication strategies in autism*. Bethesda, MD: Woodbine House
- Bourdieu P (1991) *Language and Symbolic Power*. (G. Raymond, & M. Adamson, trans.). Cambridge: Polity Press. (Original work published in 1982).
- Buchanan, S., Mary, B.-D., & Weiss, J. (2010). *APPLIED BEHAVIOUR ANALYSIS & AUTISM: AN INTRODUCTION LONDON PUBLISHED WITH PERMISSION*.  
[https://felskids.org/wp-content/uploads/2022/04/Applied-Behavior-Analysis\\_An-Introduction-ebook.pdf](https://felskids.org/wp-content/uploads/2022/04/Applied-Behavior-Analysis_An-Introduction-ebook.pdf)
- Buchanan, S. M., & Weiss, M. J. (2010). *Applied behavior analysis and autism*: An introduction. Robbinsville, NJ: Autism New Jersey.
- Bruner, J. (1983). *Child's talk*. New York, NY: Norton.
- Byers, J., & Volkenburg, V. (2021). *Graduate Theses, Dissertations, and Problem Reports 2021 A Case Study Investigating Therapy Methods Used by Speech A Case Study Investigating Therapy Methods Used by Speech Language Pathologists Working with Children with Autism Language Pathologists Working with Children with Autism*

## Bibliography

- Spectrum Disorders Spectrum Disorders.*  
<https://researchrepository.wvu.edu/cgi/viewcontent.cgi?article=9137&context=etd>
- Carroll, J. (1963). "Research on Teaching Foreign Languages". In N. Gage (ed.), Handbook of Research on Language Teaching. (Chicago: RandMcNally). Pp. 1060-1100.
- Castillo, C. S. V., & Sanchez, D. F. M. (2016). *Strategies to teach English as a Foreign language to autistic children at a basic level at Saint Mary school.*
- Cenoz J, Gorter D (2019) Multilingualism, translanguaging, and minority languages in SLA. *The Modern Language Journal* 103(Suppl. 1): 130–135.
- Chernus, N., Sivkov, A., Savina, T., Sivkov, S., Zolotovitskaya, A. (2022). The Eclectic Approach to Learning English. *Eurasian Journal of Applied Linguistics*, 8(2), 24-32.  
Doi:<http://dx.doi.org/10.32601/ejal.911538>
- Christina, W., & Laura, S. (2000). *Joint attention training for children with autism using behavior modification procedures.* Blackwell Publishing.  
[https://www.researchgate.net/publication/6973472\\_The\\_Collateral\\_Effects\\_of\\_Joint\\_Attention\\_Training\\_on\\_Social\\_Initiations\\_Positive\\_Affect\\_Imitation\\_and\\_Spontaneous\\_Speech\\_for\\_Young\\_Children\\_with\\_Autism](https://www.researchgate.net/publication/6973472_The_Collateral_Effects_of_Joint_Attention_Training_on_Social_Initiations_Positive_Affect_Imitation_and_Spontaneous_Speech_for_Young_Children_with_Autism)
- Cole, P., Duncan, L. G., and Blaye, A. (2014). Cognitive flexibility predicts early reading skills. *Front. Psychol.* 5:565. doi: 10.3389/fpsyg.2014.00565
- Crane, H. (2016). Music therapy and the treatment of children diagnosed with autism spectrum disorder. *Lucerna*, 10, 110-120).
- Creswell, J.W. (2015). *A Concise Introduction to Mixed Methods Research.* Thousand Oaks, CA: Sage.
- Danielle, G. P. (2020, March 12). *Music Therapy for Communication in Children with Autism Spectrum Disorder*. DigitalCommons@SHU, 2020.  
<https://digitalcommons.sacredheart.edu/acadfest/2020/all/7/>

## Bibliography

- De Gruyter, M. Rocci, A. & De Saussure, L. (2016). Verbal communication. Handbooks of communication sciences.
- Den Houting, J., Adams, D., Roberts, J., & Keen, D. (2019). An exploration of autism-specific and non-autism-specific measures of anxiety symptomatology in school-aged autistic children. *Clinical Psychologist*, 23(3), 237–248. <https://doi.org/10.1111/cp.12174>
- Elder, J. H., Seung, H., & Siddiqui, S. (2006). Intervention outcomes of a bilingual child with autism. *Journal of Medical Speech-Language Pathology*, 14(1), 53–63.
- Eylen, L. V., Boets, B., Steyaert, J., Evers, K., wagemans, J., & Noens, I. (2011, February 20). *Cognitive flexibility in autism spectrum disorder: Explaining the inconsistencies?* Research in Autism Spectrum Disorders. : <http://ees.elsevier.com/RASD/default.asp>
- Fan, F., Lawrence, J. zhang, & Pramod, K. S. (2022, August 16). *Translanguaging in Language Teaching and Learning: Current Practices and Future Directions*. <https://doi.org/10.1177/00336882221114478>. Volume 53, Issue 2.
- Fiktorius, T. (2013). *Language Development and Classroom Instruction for Children with Autism*.
- Flippin, M., Reszka, S., & Watson, L. R. (2010). *Effectiveness of the picture exchange communication system (PECS) on communication and speech for children with autism spectrum disorders: A meta-analysis*. *American Journal of Speech-Language Pathology*, 19(2), 178–195. [https://doi.org/https://doi.org/10.1044/1058-0360\(2010/09-0022\)](https://doi.org/https://doi.org/10.1044/1058-0360(2010/09-0022))
- Fishman, J. A. (1966). *Language loyalty in the United States: The maintenance and perpetuation of non-English mother tongues by American ethnic and religious groups*. The Hague: Mouton.
- Freeman, & Larsen. (2000). *Techniques and principles in language Learning*. New York: Oxford University Press.

## Bibliography

- Gao, L. (2011). Eclecticism or principled eclecticism. *Creative Education*, 2(04), 363-369. doi: <https://doi.org/10.4236/ce.2011.240>
- Ganz, J.B., & Simpson, R.L. (2004). *Effects on communicative requesting and speech development of the picture exchange communication system in children with characteristics of autism*. *Journal of Autism and Developmental Disorders*, 34, 395–409.
- García O, Li W (2014) *Translanguaging: Language, Bilingualism and Education*. Basingstoke: Palgrave Macmillan.
- Garg Seth, G. & Srivastava. M. (2022). *Autism spectrum disorder in Children: Types, Causes, Treatment and Prevention*.
- Gedutis, A. Biagetti, M. and Ma, L. (2022). *The Challenges for Research Evaluation Ethics in the Social Sciences*. In Engels, C.E., Kulczycki, E. *Handbook on Research Assessment in the Social Studies*. Edward Elgar.
- Geurts, H. M., Corbett, B., & Solomon, M. (2009). The paradox of cognitive flexibility in autism. *Trends in Cognitive Sciences*, 13, 74–82.
- Ghani, M. Z., & Hanim, N. H. (2014). The effectiveness of total physical response (TPR) approach in helping slow young learners with low achievement acquire english as a second language. *International Journal of Research in Social Sciences*.4(6), 156-169.
- Gioia, G. A., Isquith, P. K., Kenworthy, L., & Barton, R. M. (2002). Profiles of everyday executive function in acquired and development disorders. *Child Neuropsychology*, 8, 121–137.
- Goel, R., Hong, J. S., Findling, R. L., & Ji, N. Y. (2018). An update on pharmacotherapy of autism spectrum disorder in children and adolescents. *In International Review of*

## Bibliography

- Psychiatry* (Vol. 30, Issue 1, pp. 78–95). Taylor and Francis Ltd.  
<https://doi.org/10.1080/09540261.2018.1458706>
- Goldfield, B. (1990). Pointing, naming, and talk about objects: Referential behaviour in children and mothers. *First Language*, 10, 231–242.
- Goldin, R. L., & Matson, J. L. (2016). Premature birth as a risk factor for autism spectrum disorder. *Developmental Neurorehabilitation*, 19(3), 203–206.  
<https://doi.org/10.3109/17518423.2015.1044132>
- Grover, V.K. (2015). Research approach: An overview. *International Multidisciplinary Research Journal*. 4(8): 1-8.
- Hasan, A. A. (2020). Assessment of family knowledge toward their children with autism spectrum disorder at Al-Hilla City, Iraq. *Indian Journal of Forensic Medicine & Toxicology*, 14(3), 1801.
- Happé, F., Booth, R., Charlton, R., & Hughes, C. (2006). Executive function deficits in autism spectrum disorders and attention-deficit/hyperactivity disorder: Examining profiles across domains and ages. *Brain and Cognition*, 61, 25–39.
- Happé, F., & Vital, P. (2009). What aspects of autism predispose to talent?. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*, 364(1522), 1369–1375. <https://doi.org/10.1098/rstb.2008.0332>
- Haradhan, K. M. 2017. Research Methodology. MPRA Paper No. 83457. Retrieved from:  
<https://mpra.ub.uni-muenchen.de/83457/>
- Harvey, C. J. (1988). Asher, James. *Learning Another Language through Actions: The Complete Teacher's Guidebook*. Expanded 3rd edition. Los Gatos, CA: Sky Oaks



## Bibliography

- Productions, Inc., 1986 Asher, James. Learning Another Language through Actions: The Complete Teacher's Guidebook. Expanded 3rd edition. Los Gatos, CA: Sky Oaks Productions, Inc., 1986. Pp. XV, 224. *Canadian Modern Language Review*, 44(3), 553–554. <https://doi.org/10.3138/cmlr.44.3.553>.
- Hill, E. L. (2004). Evaluating the theory of executive dysfunction in autism. *Developmental Review*, 24, 189–233.
- <https://ubrawijaya.academia.edu/yanardhiadarutama>. (2020). *Communication Problems in Children with Autism Spectrum Disorder*. PsycEXTRA Dataset. [https://www.academia.edu/14415670/Communication\\_Problems\\_in\\_Children\\_with\\_Autism](https://www.academia.edu/14415670/Communication_Problems_in_Children_with_Autism)
- Hurtig, R., Ensrud, S., Tomblin, J.B. (1982). The communicative functions of question production in autistic children. *Journal of Autism and Developmental Disorders*, 12, 57–69.
- Iscan, A. (2017), “*The use of eclectic method in teaching Turkish to foreign students*”, *Journal of Education and Practice*, Vol. 8 No. 7, pp. 149-153, available at: <https://eric.ed.gov/?id=EJ1137580>.
- Janzen, T. B., & Thaut, M.H. (2018). Rethinking the role of music in the neurodevelopment of autism spectrum disorder. *Music & Science*, 1, 1-10. <https://doi.org/10.1177/2059204318769639>
- Jenkins J (2007) *English as a Lingua Franca: Attitude and Identity*. Oxford: Oxford University Press.
- Johnston, D., Egermann, H., & Gavin, K. (2018). Innovative computer technology in music-based interventions for individuals with autism moving beyond traditional interactive music therapy techniques. *Cogent Psychology*, 5, 1-18. <https://doi.org/10.1080/23311908.2018.1554773>
- Kaduk, L. (2017). The Effectiveness of the Picture Exchange Communication System for

## Bibliography

- Children Who Have Autism. *Culminating Projects in Special Education*.  
[http://repository.stcloudstate.edu/sped\\_etds/40](http://repository.stcloudstate.edu/sped_etds/40)
- Kanner, L. (1949). The “Refrigerator Mother” Hypothesis of Autism.  
<http://www.autism-watch.org/causes/rm.shtml>
- Kostyuk, N., et al. (2010). Areas of language impairment in autism. USA: Libertas Academica Ltd.
- Kothari, C. R. (1990). *Research Methodology Methods and Techniques*.
- Lusi, N., Nury, S., & Anita, T. (2008). *TEFL Methodology: Teaching English as Foreign Language Methodology*.
- Kuparinen, T. (2017). Perceptions of EFL learning and teaching by autistic students, their teachers and their school assistants [Master’s Thesis]. University of Jyväskylä. <https://jyx.jyu.fi/bitstream/handle/123456789/55292/1/URN%3ANBN%3Afi%3Aju-201709073681.pdf>
- Kravits, T.R., Kamps, D.M., Kemmerer, K., & Potucek, J. (2002). *Increasing communication skills for an elementary-aged student with autism using the picture exchange communication system*. Journal of Autism and Developmental Disorders, 32, 225–230.
- Mackinlay, R, Charman, T., & Karmiloff-Smith, A. (2006). High functioning children with autism spectrum disorder: A novel test of multitasking. Brain and Cognition, 61, 14–24.
- Mart, C. T. (2013, December). *The Audio-Lingual Method: An Easy way to Achieving Speech*. International Journal of Academic Research in Business and Social Sciences  
. [https://www.researchgate.net/publication/269813000\\_The\\_Audio-Lingual\\_Method\\_An\\_Easy\\_way\\_of\\_Achieving\\_Speech](https://www.researchgate.net/publication/269813000_The_Audio-Lingual_Method_An_Easy_way_of_Achieving_Speech). DOI: 10.6007.
- May S (ed.) (2014) *The Multilingual Turn: Implications for SLA, TESOL, and Bilingual*

## Bibliography

- Education*. Abingdon: Routledge.
- Mehrabian, A. (1971). *Silent Messages*. Wadsworth Publishing Company, Inc. Belmont, California.
- Middleton, F. (2019, July 3). *Reliability vs Validity in Research | Differences, Types and Examples*. Scribbr. <https://www.scribbr.com/methodology/reliability-vs-validity/#:~:text=Validity%20refers%20to%20how%20accurately>
- Miles, M. B., & Huberman, A. M. (1984). *Qualitative data analysis*. London: Sage.
- Mody, M., & Belliveau, J. W. (2013, July 25). *Speech and Language Impairments in Autism: Insights from Behavior and Neuroimaging*. PubMed Central; N Am J Med Sci (Boston). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3862077/>
- Mohamed, N. (2013). *Komitmenibubapamenerusipibgdalammembantupencapaianakademikpelajar*. UniversitiTun Hussein Onn Malaysia. <https://core.ac.uk/download/20350044.pdf>
- Moller, R. (2024). *Types Of Therapy For Autism*. Wwww.abtaba.com. <https://www.abtaba.com/blog/therapy-for-autism#:~:text=Therapy%20for%20individuals%20with%20autism>
- Murphy MM, Abbeduto L. Gender differences in repetitive language in Fragile X syndrome. *Journal of Intellectual Disability Research*. 2007;51:387–400. [PubMed] [Google Scholar]
- Mwanza, D. S. (2017). The eclectic approach to language teaching: Its conceptualization and misconceptions. *International Journal of Humanities Social Sciences and Education*, 4(2), 53-67. doi: <http://dx.doi.org/10.20431/2349-0381.0402006>
- Naber, F. B. A., Swinkels, S. H. N., Buitelaar, J. K., Dietz, C., van Daalen, E., Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., & van Engeland, H. (2007). Joint Attention and Attachment in Toddlers with Autism. *Journal of Abnormal Child Psychology*,

## Bibliography

35(6), 899–911. <https://doi.org/10.1007/s10802-007-9142-3>

National Autistic Society. (2005). *Public Autism Resource and Information Service*.

<http://www.info.autism.org.uk>.

National Institute of Mental Health (2018). *Autism Spectrum Disorder*. Retrieved from

<https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd/index.shtml>

NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDERS. (2012). *Communication Problems in Children with Autism Spectrum Disorder*.

Ninio, A., & Snow, C. (1996). *Pragmatic development: Essays in developmental science*. Boulder, CO: Westview Press.

Larsen-Freeman, D. (2000). *Techniques and Principles in Language Teaching*. Oxford: Oxford University Press.

Lim, H. A. (2007). The Effect of “Developmental Speech-Language Training through Music” on Speech Production in Children with Autism Spectrum Disorders [University of Miami]. <https://scholarship.miami.edu/esploro/outputs/doctoral/The-Effect-of-Developmental-Speech-Language-Training/99103144736100297>

Li W (2018) Translanguaging as a practical theory of language. *Applied Linguistics* 39(1): 9–30.

Lusi, N., Nury, S., & Anita, T. (2008). *TEFL Methodology: Teaching English as Foreign Language Methodology*.

Lyons, J. (1981): *Language and Linguistics*: Cambridge University Press.

Oyekan, A. (n.d.). DATA ANALYSIS.docx. *Www.academia.edu*. Retrieved April 19, 2024, from [https://www.academia.edu/36007639/DATA\\_ANALYSIS\\_docx](https://www.academia.edu/36007639/DATA_ANALYSIS_docx)

## Bibliography

- Pal, N., Halder, S., & Guha, A. (2016). Study on communication barriers in the classroom: a teacher's perspective. *Online Journal of Communication and Media Technologies*, 6(1), 103-118. doi: <https://doi.org/10.29333/ojcm/2541>
- Prizant, B.M., & Duchan, J.F. (1981). The function of immediate echolalia in autistic children. *Journal of Speech and Hearing Disorders*, 46, 241–249.
- Prizant, B.M., & Rydell, P. (1984). An analysis of the function of delayed echolalia in autistic children. *Journal of Speech and Hearing Research*, 27, 183–193.
- Provenzano, D., Little, B., & Stannard, A. (2020). *Music Therapy for Communication in Children with Autism Spectrum Disorder Provenzano: Music Therapy for Communication in Children with Autism Spectrum*. <https://digitalcommons.sacredheart.edu/cgi/viewcontent.cgi?article=1558&context=ac>  
adfest
- Purpura, D. J., Schmitt, S. A., and Ganley, C. M. (2017). Foundations of mathematics and literacy: the role of executive functioning components. *J. Exp. Child Psychol.* 153, 15–34. doi: 10.1016/j.jecp.2016.08.010
- Prizant, B. M., Schuler, A. L., Wetherby, A. M., & Rydell, P. (1997). Enhancing language and communication development: Language approaches. In D. Cohen & F. Volkmar (Eds.), *Handbook of autism and pervasive developmental disorders* (pp.572-605). New York: John Wiley & Sons, Inc.
- Pry, R., Petersen, A.F. Baghdadli, A. (2009). Developmental changes of expressive language and interactive competences in children with autism. *Research in Autism Spectrum Disorders*, 3.
- Reppond, J. S. (2015). *English language learners on the autism spectrum: Identifying gaps in learning*.  
Hamline

## Bibliography

University. [http://digitalcommons.hamline.edu/cgi/viewcontent.cgi?article=1241&context=hse\\_all](http://digitalcommons.hamline.edu/cgi/viewcontent.cgi?article=1241&context=hse_all)

Ria Adisti , A. (2019, December 4). *INTRODUCING ENGLISH AS A FOREIGN LANGUAGE FOR AUTISM CHILDREN, WHY NOT?*

Rice, C. E., Rosanoff, M., Dawson, G., Durkin, M. S., Croen, L. A., Singer, A., & Yeargin-Allsopp, M. (2012). Evaluating changes in the prevalence of the autism spectrum disorders (ASDs). *Public Health Reviews*, *34*(2), 17. <https://doi.org/10.1007/BF03391685>

Richards, J. & Rodgers, T. (2001). *Approaches and Methods in Language Teaching*. Cambridge: Cambridge University Press.

Roberts JMA. 2014. Echolalia and language development in children with autism. In *Communication in Autism*, ed. J Arciuli, J Brock, pp. 55–73. Amsterdam: Benjamins

Rokhayati, A. (2017). Promoting Total Physical Response (TPR) For Young Learners in English Class. *The 2nd TEYLIN International Conference Proceedings* (pp. 75 80).

Rollins, P.R., & Snow, C.E. (in press). Shared attention and grammatical skills in typical children and children with autism. *Journal of Child Language*.

Rose H, Galloway N (2019) *Global Englishes for Language Teaching*. Cambridge: Cambridge University Press.

Rosen, T. E., Mazefsky, C. A., Vasa, R. A., & Lerner, M. D. (2018). Co-occurring psychiatric conditions in autism spectrum disorder. *In International Review of Psychiatry* (Vol. 30, Issue 1, pp. 40–61). Taylor and Francis Ltd. <https://doi.org/10.1080/09540261.2018.1450229>

Russo, N., Flanagan, T., Iarocci, G., Berringer, D., Zelazo, P. D., & Burack, J. A. (2007). Deconstructing executive deficits among persons with autism: Implications for

## Bibliography

- cognitive neuroscience. *Brain and Cognition*, 65, 77–86.10, 20509.  
<https://doi.org/10.1038/s41598-020-76292-y>
- Saussure, F. (1966). *Course in General Linguistics*. McGraw-Hill Book Company. New York, Toronto, London.
- Sara, V., & Ofleia, G. (2017). *Translanguaging*. [https://academicworks.cuny.edu/gc\\_pubs/402](https://academicworks.cuny.edu/gc_pubs/402).  
DOI: 10.1093/acrefore/9780190264093.013.181.
- S. Bell, in *International Encyclopedia of Human Geography*, 2009
- Seidlhofer B (2011) *Understanding English as a Lingua Franca*. Oxford: Oxford University Press.
- Selltiz, Claire; Jahoda, Marie, Deutsch, Morton, and Cook, Stuart W., *Research Methods in Social Relations*, rev. ed. New York: Holt, Rinehart and Winston, Inc., 1959.
- Scholtens, M. C. (2019). Using music to encourage joint attention for students with autism spectrum disorder: Attention as a reciprocal relationship. *Music Educators Journal*, 105(4), 45-51. doi:10.1177/0027432119846954
- Schuler, A. L. (1995). Thinking in autism: Differences in learning and development. In K. Quill (Ed.), *Teaching children with autism: Methods to enhance communication and socialization* (pp. 11-32). Albany, NY: Delmar.
- Sharma, S. R., Gonda, X., & Tarazi, F. I. (2018). Autism Spectrum Disorder: Classification, diagnosis, and therapy. *Pharmacology & Therapeutics*, 190, 91-104.  
<https://doi.org/10.1016/j.pharmthera.2018.05.007>
- Sicile-Kira, C. (2014). *Autism spectrum disorder: The complete guide to understanding autism*. Penguin Group.
- Sigman, M., & Capps, L. (1997). *Children with autism: A developmental perspective*. Cambridge, MA; London: Harvard University Press.

## Bibliography

- Slimani, S. (2016). *Teaching English as Foreign Language in Algeria* .
- South, M., Ozonoff, S., & McMahon, W. M. (2007). The relationship between executive functioning, central coherence, and repetitive behaviors in the highfunctioning autism spectrum. *Autism*, 11, 437–451.
- Suleman, Q., & Hussain, I. (2016). *Effects of Eclectic Learning Approach on Students' Academic Achievement and Retention in English at Elementary Level*. *Journal of Education and Practice*, 7(16), 32-37. Retrieved from <https://core.ac.uk/download/pdf/234639017.pdf>
- Stout, N. (2016). Conversation, responsibility, and autism spectrum disorder. *Philosophical Psychology*, 29(7), 1015–1028. <https://doi.org/10.1080/09515089.2016.1207240>
- Szymkowiak, C. (2013). *Using effective strategies for the elementary English language learner with autism spectrum disorder: A curriculum project*. State University of New York.
- Tager, F. H. (2015). *Defining language impairments in a subgroup of children with autism*
- Tager-Flusberg, H. (1997). Perspectives on language and communication in autism. In D. Cohen & F. Volkmar (Eds.), *Handbook of autism and pervasive developmental disorders* (pp.894-900). New York: John Wiley & Sons, Inc.
- Tager-Flusberg H, Rogers S, Cooper J, Landa R, Lord C, et al. Defining spoken language benchmarks and selecting measures of expressive language development for young children with autism spectrum disorders. *Journal of Speech, Language, and Hearing Research*. 2009;52:643–652. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)]
- Tager-Flusberg H, Paul R, Lord C. Language and communication in autism. In: Volkmar FR, Paul R, Klin A, Cohen D, editors. *Handbook of autism and pervasive developmental disorders*. Hoboken, NJ: John Wiley & Sons, Inc; 2005. pp. 335–364. [[Google](#)



## Bibliography

[Scholar](#)spectrum disorder .

Taheri, B., Porter, C., & König, C. (2015). *Quantitative Data Gathering Techniques*.

[https://www.goodfellowpublishers.com/free\\_files/xChapter%209%20Quantitative%20Data%20Gathering%20Techniques-5fb9e13fd629c6948b68f08be858325e.pdf](https://www.goodfellowpublishers.com/free_files/xChapter%209%20Quantitative%20Data%20Gathering%20Techniques-5fb9e13fd629c6948b68f08be858325e.pdf)

Tardif, G. & Gepner, B. (2003). *L'autisme*. Nathan/VUEF.

Teddy, F. (2013). *Language Development and Classroom Instruction for Children with Autism*.

Tomasello, M. (1995). Joint attention as social cognition. In C. Moore & P.J. Dunham (Eds.),

Tomasello, M., Kruger, A.C., & Ratner, H.H. (1993). Cultural learning. *Behavioral and Brain Sciences*, 16, 495–552.

*Joint attention: Its origins and role in development*. Hillsdale, NJ: Erlbaum.

Tsai, CH., Chen, K.L., Li, H.J., Chen, K.H., Hsu, C.W., Lu, C.H., Hsieh, K.Y. & Huang, C.Y.

(2020). The symptoms of autism including social communication deficits and repetitive and restricted behaviors are associated with different emotional and behavioral problems. *Sci Rep*

U.S. Department of Health and Human Services. (2010). *Communication problems in children with autism*. NIDCD Information Clearinghouse.

Vanover, T. (2016). *Does my Child have a Developmental Disorder? A Step by Step Guide for Parents on early Intervention*. Rowan & Littlefield, Lanham-Boulder. New York, London

Van-Santen, J. P., Sproat, R. W., & Hill, A. P. (2013). Quantifying repetitive speech in autism spectrum disorders and language impairment. *Autism research : official journal of the International Society for Autism Research*, 6(5), 372–383.

<https://doi.org/10.1002/aur.1301>

## Bibliography

- Vellard, R. (1984). *Psychoses et Autisme de l'Enfant*. Masson. Paris, New York, Barcelone, Milan, Mexico, Sao Paulo.
- Verghese, C.P. (1989). *Teaching English as a second Language*. Printed at Sterling Publishers Pvt. Ltd.,
- Vries, D. D., Beck, T., Stacey, B., Winslow, K., & Meines, K. (2015). Music as a therapeutic intervention with autism: A systematic review of the literature. *Therapeutic Recreation Journal*, 49(3), 220-237.
- Weidemann, A. (2001). The old and the new: reconsidering eclecticism in language teaching. *Per linguam*, 17(1), 1-13. doi: <https://doi.org/10.5785/17-1-131>
- Yerys, B. E., Wallace, G. L., Harrison, B., Celano, M. J., Giedd, J. N., & Kenworthy, L. E. (2009). Set-shifting in children with autism spectrum disorders. *Autism*, 13, 523– 538.
- Yvan, D. Bernadette, R. & Schonen, S. (2014). *A la Découverte de L'Autisme des Neurosciences à la Vie en Société*. Dunod, 5 rue Laromiguière, 75005 Paris.
- Zimmerman, W. (2008). *Autism: Current Theories and Evidence, Stroke Recovery with Cellular Therapies*. Savitz, I. Rosenbaum, D.
- Zohoorian, Z., Zeraatpishe, M., & Matin sadr, N. (2021). Effectiveness of the Picture Exchange Communication System in Teaching English Vocabulary in Children with Autism Spectrum Disorders: A single-subject study. *Cogent Education*, 8(1), 1892995. <https://doi.org/10.1080/2331186x.2021.1892995>
- Zubair, A. M. (2022). *Experimental Research Design- types & process*.

## **Bibliography**

## الملخص

يركز هذا البحث على تدريس اللغة الإنجليزية للأطفال المصابين بالتوحد بطريقة علاجية تهدف إلى تعزيز مهارات التواصل والتحدث لديهم. استخدم الباحث عدة أساليب علاجية منها الانتباه المشترك ونظام التواصل بتبادل الصور (PECS) والعلاج بالموسيقى لمعرفة أثرها في تعزيز عملية التعلم وقدرات التحدث لدى الأطفال المصابين بالتوحد.

## الكلمات المفتاحية:

تدريس اللغة الانجليزية بطريقة علاجية, أطفال مصابين بالتوحد, أساليب علاجية, قدرات التحدث.

## Summary

This research focuses on teaching English to autistic children in therapeutic manner aimed at enhancing their communicative and speaking skills. The researcher employs several therapeutic methods, including joint attention, the picture exchange communication system (PECS) and music therapy, to investigate their impact in enhancing the learning process and speaking abilities of autistic children.

## Key words:

Autistic children, teaching English in therapeutic manner, therapeutic methods, speaking skills

## Résumé

Cette recherche se concentre sur l'enseignement de l'anglais aux enfants autistes de manière thérapeutique visant à améliorer leurs compétences communicatives et orales. Le chercheur utilise plusieurs méthodes thérapeutiques, notamment l'attention conjointe, le système de communication par échange d'images (PECS) et la musicothérapie, pour étudier leur impact sur l'amélioration du processus d'apprentissage et des capacités d'expression orale des enfants autistes.

**Mots clé :**

Enfants autistes, l'enseignement de l'anglais de manière thérapeutique, méthodes thérapeutiques, capacités d'expression