



Democratic and Popular Republic of Algeria
Ministry of Higher Education and Scientific Research
University of Relizane
Faculty of Letters and Foreign Languages
Department of English



**Exploring the Communication Barriers of Autistic EFL Pupils and the Challenges
Faced by Teachers**

The Case Study: Third Year Pupils at Mahi Mohamed Middle School

**Thesis Submitted to the Department of English in Partial Fulfillment of the Requirements
for the Master's Degree in Language and Communication**

Submitted by:

Ms. MESSADIA Djohér

Supervised by:

Dr. BELMIHOUB Amel

Board of Examiners:

Chairman: Dr. BENADDA Abdelouahid

University of Relizane

Supervisor: Dr. BELMIHOUB Amel

University of Relizane

Examiner: Dr. CHIBANI Safia

University of Relizane

Academic Year 2024/2025

Dedication

I dedicate this work to the one who instilled in me a love of languages since my early childhood

Always wished me success and happiness

Recommended me to study while she was on deathbed

Passed away before my graduation

She always wanted me to be excellent...and I excelled

My grandmother/ Benameur Aicha

To the strongest women I am honored to carry her name, who gave me the best father in the world

My grandmother/ Benameur Djoher

To myself who deserves

To my passion which never left me

To the fear of my heart at every exam

To my dreams that were heard by books

Acknowledgements

I would like to express my profound gratitude to my supervisor Dr. BELMIHOUB Amel, whose steadfast belief in my capabilities and academic potential encouraged me to persevere even in my most challenging times. Her mentorship was a beacon of light in moments of doubts. Working with her has been a rewarding experience.

My sincere appreciation goes to honorable board examiners; Dr. BENADDA Abdelouahid, and Dr. CHIBANI Safia, for their time and effort in examining my scientific work, and providing enlightening feedback.

A special feeling of gratitude to my lovely sister “Meriem” who never showed tired in helping me with everything, no complaints, always supportive, I am lucky that Allah gave you to me, also my little princesses “Aila” and “Iliane” who showed me that love is the strongest foundation for success.

Special thanks to my parents who have been understanding, I truly grateful and blessed to have you in my life, my dear sisters: Aya and Rania, and brothers: Fethallah, Zakaria, Ali, Houari, and Mohamed.

To my supporter during my academic journey Dr. Abdallah Bouganous. It is an immense joy to have had the privilege of meeting and learning under your guidance. Gratitude is extended for your invaluable assistance and kindness.

My appreciation to all my teachers since I sought knowledge, I am just a fruit of their effort. I also express my affection to my grandfather “Abdelmadjid”, and all members of the MESSADIA family.

I have a great love to my sun and moon; Hadjira and Rania with whom I shared tears and laughter, and also my little cherry “Noura” I am really glad to have you and pleaser that I got beautiful souls that everyone wishes to have “our love is limitless & our support is endless”

Finally, I would like to appreciate all administrators, teachers, and autistic pupils in Mahi Mohamed Middle School I worked with, who contributed enormously, and made the completion of this research an enjoyable experience.

Abstract

Autistic pupils learning English as a Foreign Language (EFL) face distinct communication barriers, yet limited research explores teachers' challenges in addressing these needs. Investigating this phenomenon is critical to advancing inclusive education. This study examines the specific communication barriers encountered by autistic EFL pupils and the challenges teachers face in supporting their communication. Besides, their training needs. Employing a mixed-methods design, the research involved structured observation of ten (10) autistic EFL pupils and questionnaire administered to five (5) EFL teachers at Mahi Mohamed Middle School. Data were analyzed thematically and through descriptive statistics. Findings identified socio-psychological barriers, and semantic and language barriers as primary obstacles for autistic EFL pupils, and teachers cited communication difficulties as a predominant challenge, alongside their need for training. The study highlights the policy reforms to foster inclusive EFL instruction, collaborative strategies between educators and therapists, and the necessity for targeted teachers' professional development.

Keywords: Autistic pupils, EFL, teachers' challenges, communication barriers, inclusive education.

Resumen

Los alumnos autistas que aprenden inglés como lengua extranjera (EFL) enfrentan barreras de comunicación específicas; sin embargo, existen pocas investigaciones sobre los desafíos de los docentes para abordar estas necesidades. Estudiar este fenómeno es crucial para avanzar hacia una educación inclusiva. Esta investigación examina las barreras de comunicación que enfrentan los alumnos autistas en EFL, los retos de los profesores para apoyar su comunicación y sus necesidades de formación. Mediante un diseño de métodos mixtos, se realizaron observaciones estructuradas a diez (10) alumnos autistas de EFL y se aplicó un cuestionario a cinco (5) profesores de EFL en la escuela secundaria Mahi Mohamed. Los datos se analizaron temáticamente y mediante estadística descriptiva. Los resultados identificaron barreras socio-psicológicas y barreras semántico-lingüísticas como los principales obstáculos para los alumnos. Los docentes señalaron la comunicación como su mayor desafío, junto con la necesidad de capacitación. El estudio destaca la importancia de reformas políticas para promover la enseñanza de EFL, estrategias colaborativas entre educadores y terapeutas, y desarrollo profesional docente especializado.

Palabras clave: Alumnos autistas, EFL, desafíos docentes, barreras de comunicación, educación inclusiva.

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List of Abbreviations and Acronyms

AAC: Augmentative and Alternative Communication

ABA: Applied Behavior Analysis

ABC: Antecedent Behavior Consequence

AMTA: American Music Therapy Association

APA: American Psychiatric Association

ASD: Autism Spectrum Disorder

CDD: Childhood Disintegrative Disorder

CRPD: Convention of the Rights of Persons with Disabilities

CRPD Committee: Convention of the Rights of Persons with Disabilities Committee

DIR: Development, Individual Difference

DNA: Deoxyribonucleic acid

DSM: Diagnostic Statistical Manual of Mental Disorders

EFL: English as a Foreign Language

FDA: Food and Drug Administration

IQ: Intelligence Quotient

L1: First Language

L2: Second Language

NIEHS: National Institute of Environmental Health Sciences

NICHD: National Institute of Child Health and Human Development

NINCDS: National Institute of Neurological and Communicative Disorders and Stroke

NSAC: National Society for Autistic Children

OALD: Oxford Advanced Learner's Dictionary

OED: Oxford English Dictionary

PDD-NOS: Pervasive Developmental Disorder-Not Otherwise Specific

PECS: Picture Exchange Communication System

SSRI: Selective Serotonin Reuptake Inhibitors

TCAs: Tricyclic Antidepressants

TEACCH: Treatment and Education of Autistic and Related Communication Handicapped Children

UN: United Nations

WAAD: World Autism Awareness Day

WFMT: World Federation of Music Therapy

WHO: World Health Organization

General Introduction

General Introduction

Old and modern scholars have paid attention to language as it is an important means in the individual's life. Language reflects a person's personality, and inclinations. Thanks to it, there is a possibility to know the other. Communication reveals identity; a person's character shines less in his/her face than in his/her words because words are the most reliable, and least deceptive mirror of the soul, in other words, language is a self's mirror, and a tool of communication with others. When a person speaks, s/he conveys his/her feeling, thoughts, and emotions. The communication has taken a large in psychological, social, and biological studies; this multiplicity of fields is an evidence of its importance. A person cannot convey what s/he lives in his/her inner world except through language; the world of sensations and perceptions is a world without borders, only language can define these feelings and perceptions. Thus, the process of understanding and sharing between two people; one a sender, and the other is a receiver, when a positive interaction occurs between them is communication. However, the abilities that are used when providing, or receiving various information through various means are communication skills.

Scientifically, the human linguistic development journey begins while s/he is still a fetus in his/her mother's womb, specifically during the last ten weeks of pregnancy, and when s/he comes out into this world in which there are seven thousand one hundred eleven spoken languages, where crying is the first sign of his/her communication with the world around him/her. Since his/her inception, s/he passes through two stages that are the pre-linguistic stage, and the linguistic stage; each of them differs from the other, and differentiates individuals from each other; some of them are intact, and some are not who are known as people with special needs, among them Autism Spectrum Disorder (ASD) patients who have problems in language and communication. They show severe deficiencies in communication skills, that is why they differ from other categories. ASD is one of the most difficult disabilities for the disabled person, his/her family, and the institutions concerned with the rehabilitations, and education for this category. The problem of weakness in communicating with the environment is only a result of the many difficulties that an autistic child faces in linguistic communication with others, understanding of semantics, and language vocabulary in all its forms whether it is spoken or written.

As caring for children in any society guarantees their future, Algeria paid special attention to autistic pupils by adopting several mechanisms and measures to ensure education and training adapted to it across all provinces. In 2019, about eighty thousand confirmed cases of the autism, and more than four hundred and fifty thousand people were infected in 2021. Moreover, the number of specialized educational institutions for this category reached two hundred thirty-nine institutions in 2023. Algeria is the largest country in Africa, with an area of 2,381,741 square kilometers. The long cultural history, geographical location, and different dialects distinguish it from other countries and societies. The indigenous people, Phoenicians; Romans, Byzantines; Greeks, Arabs; Turks, Spaniards, and French have contributed to the history of Algeria. Therefore, there is linguistic richness. In Algeria, the official languages are Arabic and Tamazight; as specified in the 1963 Constitution. French is the first foreign language. In September 2022, English language accreditation was implemented starting from the primary school. Nowadays, the ability to communicate in foreign languages, especially English, which is the most widely spoken language in the world, is very important and beneficial. The number of native English speakers is approximately four hundred million, and over seven hundred fifty million worldwide who speak English as a foreign language. There are more than one billion speakers around the world, these numbers indicates the success of the English language as the favorite lingua franca in several fields such as business, international relations, and education, especially since it is the dominant language on the Internet as language is used in fifty-four percent of the content. Furthermore, fifty percent of the world's technical and scientific periodicals are in English which means it provides work opportunities and a better life.

The language and communication constitute the main problem for autistic pupils, majority of them are characterized by decreased communication with other by using inappropriate words, or memorized speech instead of speaking spontaneously. Therefore, the conversation with them is not interactive which may explain that they are uncooperative individuals, or that they intentionally deal in a rude manner. With increasing age, the problem worsens, and the likelihood of failure in proper social interaction also increases. Despite the efforts made to develop a movement of interest in communication in Algeria by preparing programs to acquire new linguistic knowledge, and help develop it. However, these programs include teaching the autistic pupils foreign languages, including English. In addition to the official language and other materials, at the same time they suffer from a decline in communication. The process of

developing communication for autistic pupils, especially in an educational environment, requires communicative skills that the pupil demonstrates through his/her interaction with the teacher. This has become a goal, and a basic requirement for most modern studies that deal with their aspect. What has strengthened the resolve on the topic is the scarcity of studies that address these types of field studies.

Any conducted research attempts to achieve a certain goal, this research is driven by a strong desire to investigate more, and probe communication barriers of an autistic pupil when s/he uses English, to determine the challenges of the teacher, and to highlight the importance of teacher's training to develop autistic pupil's communication in the English language session.

This research will try to answer the following questions concerning the communicative skills of EFL autistic pupils:

1. What are the communication obstacles that an autistic EFL pupils show in the classroom?
2. What is the main challenge do the teachers encounter when teaching autistic EFL pupils?
3. Do EFL teachers need training to work with autistic pupils?

Trying to find reliable answers to these questions, this study will be developed with three hypotheses in mind:

1. A socio-psychological barriers and semantic-language barriers are the communication barriers that autistic EFL pupils show in the classroom.
2. Communication would be the main challenge that EFL teachers encounter when teaching English to autistic pupils.
3. Yes, EFL teachers need training to work with autistic pupils.

This study is significant for the following reasons:

1. This research seeks to provide a better understanding of the autistic EFL experience which could help families, and practitioners who work in childcare centers to have an idea about the learning of autistic pupil; his/her

capacity; the helpful teaching method in developing his/her communication skills, and EFL teacher's obstacles.

2. It is useful to pathologists, neurologists, and psychologists when comparing normal pupil with autistic pupil.
3. This study gives high appreciation to the efforts of the Algerian government and EFL teachers to create an advanced educational system and society.

To validate the hypotheses mentioned above, the researcher attempted to explore the communication barriers of EFL autistic pupils among a sample of ten third year pupils from Mahi Mohamed Middle School in Yellel, and the challenges encountered by EFL teachers among a sample of five teachers. Two research instruments were employed involving observation for autistic pupils, and questionnaire with EFL teachers. The data collected were analyzed quantitatively and qualitatively.

This study will be structured into three chapters; the first chapter will provide insights and focus on theoretical aspect of communication and autism, the second chapter will detail the methodology used in this research, and the third chapter will present the research finding, and discusses the results in the light of the research problem.

Chapter One

Chapter One: An Overview of Communication Process and Their Relevance in Autism

1.1 Introduction

1.2 The Concept of Communication

1.2.1 Communication Types

1.2.2 Levels of Communication

1.2.3 Forms of Communication

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1.2.5 Stages of Communication

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1.4.1 Teachers Challenges with Autistic Pupil in EFL Classroom

1.4.2 Strategies for Enhancing Communication in Classroom

1.5 Conclusion

1.1 Introduction

Autism spectrum disorder has undergone significant changes over years, once considered a mere developmental delay. Today, it is a recognized neurodevelopmental disorder where researchers have struggled to find a specific cause for it without great success. Besides, the process of teaching the English language to individuals who are non-native speakers has become a cornerstone of modern education at the same time it is a challenging, especially to autistic pupils who have significant difficulty with communication. The current chapter, that is mainly introductory in form, is devoted to providing the reader with definitions and key concepts that are related, and relevant to the research study.

1.2 The Concept of Communication

Communication is an essential instrument in human life, as oxygen in biological life. It strengthens human relationships and community. Regardless of age, gender, occupation, social class, or responsibility, being able to communicate is a boon and capacity that some people are deprived of.

“Communication is a difficult science. It is not an exact science. It is learned and it is cultivated” (Jean-Luc Lagardère). The word communication is derived from a Latin word (Communicare); it means:

- Sharing: To transmit something and to make it common
- Transmission: The act of expressing thought or feeling through speech, writing, gesture, and mimicry in order to be understood
- Relationship: The act of establishing a relationship with someone

This is what Newman and Summer confirmed by saying “communication is an exchange of facts, ideas, opinions, or emotions by two or more persons” (as cited in Hamdani, 2024, lecture notes), and Allen Louis expands on this by describing it as “the sum all things one person does; when he wants to create understanding in the mind of another” (as cited in Hamdani, 2024, lectures notes) emphasizing its systematic and intentional nature. At its core, communication is a dynamic and interactive process involving telling, listening, and understanding, supported by feedback to ensure clarity and mutual comprehension.

Chester Barnard (1964) underscores the importance of clarity in communication, stating that “a communication that cannot be understood can have no authority.” this highlights the essential role of mutual understanding in effective communication. David Berlo further enriches this perspective by describing communication as a process; he supposes “If we accept the concept of process, we view events and relationship as dynamic, on-going, ever-changing, continuous. When we label something as a process, we also mean that it does not have a beginning, an end, a fixed sequence of events. It is not static, at rest. It is moving. The ingredients within a process interact; each affects all of the others.” (p.24), in this way, it is not merely a mechanical exchange of information but a vital interaction that is shaped by the people involved.

In the Oxford English Dictionary (OED), communication is defined as “the imparting or exchanging of information by speaking, writing, or using some other medium” (as cited in Lumen Learning, n.d., “What is Communication” section) This definition catches the basic mechanics of communication, it is the creation of shared meaning and connection that truly determines its purpose whether through words, gestures, or other mediums, communication is the bridge that links individuals and fosters relationships, making it a master aspect of human interaction.

1.2.1 Communication Types

There are different types of communication which are categorized by UK Essays (2015):

1. Formal Communication: refers to the exchange of information –spoken or written– that follows established rules, structures, and protocols within a structured setting. It is common in professional, academic, and bureaucratic settings. The formal communication may be divided into three categories which are given as follows:
 - a) Downward communication: refers to the transmission of information from superior to subordinates. The most common downward communications are job instruction, official memos, and policy statement.
 - b) Upward communication: refers to the transmission of information from lower levels to higher ones. The content of such communication can include requests, complaints, appeals, and any other information directed from subordinates to

superiors. It is often made in response to downward communication; for example, when pupils answer a teacher's question.

- c) Horizontal communication: also called lateral communication, it refers to the flow of messages between individuals and groups on the same level of a professional setting. Resolve conflicts, members coordinate tasks are example of it.
- 2. Informal Communication: refers to the casual and informal form of communication wherein the information is exchanged spontaneously, naturally, and informally without taking into consideration official rules. The most common forms of informal communication include: the grapevine, rumors, and non-verbal communication.

1.2.2 Levels of Communication

Communication has three levels which should be distinguished that are:

- a) Intrapersonal communication: is fundamental skill that allows a person to manage his/her ideas, feeling and thoughts to understand his/her own self. It plays a pivotal role in shaping identity and self-awareness. Before understanding others and communicating effectively with them, it is obligatory to be aware of inner feelings and thoughts, Juarez (2003, as cited in Hamdani, 2024, lecture notes) states: “when we pronounce the word communication we immediately think of an opening towards others, towards the outside of ourselves; But there is also a communication inward, intrapersonal, within the walls of our own self, which constructs us, as well as the one which directs us towards other people.”
- b) Interpersonal communication: is the communication that occurs between two or more person through verbal or non-verbal methods. It is the glue that connects individuals. It often includes face-to-face exchange of information, in form of voice, facial expressions, body language and gestures.
- c) Social communication: is the extension of communication to communities.

1.2.3 Forms of Communication

Communication has two forms:

- a) Verbal communication: is the use of spoken or written language when passing information from one person to another. People use only thirty-five percent (35%) of words in conversation which means that verbal communication is quite poor compared to the non-verbal communication, adapting it ensures everyone is understood.
- b) Non-verbal communication: refers to all forms of communication that do not rely on words to convey information, such as gestures, touch, and facial expressions. It is invisible, but powerful. Understanding it, helps bridge gaps.

1.2.4 Components of Communication Process

There are six elements that must be present in communication process:

- a) Source/sender/ first interlocutor: is the initiator of communication who translates and transmits his/her interactions into word and produces message.
- b) Recipient/ receiver/ second interlocutor: is the complementary agent of the process, whose task is to capture the message in the form of a signal and to understand the information.
- c) Message: is the conveyed message. It is the key content being communicated.
- d) Channel/ Medium: is a means or method used for conveying the message, it is categorized into:
 - Verbal channel: spoken and written language.
 - Non-verbal channel: body language, visual aids.
- e) Feedback: is the information that returns from the receiver to the sender in the course of communication, such as smiling and yawning.
- f) Environment/ context: is the background in which the communication takes place. It is the “silent partner” in communication.

1.2.5 Stages of Communication

The process of communication consists of the following stages:

- a) The sender formulates and encodes the message.
- b) The sender chooses the appropriate channel and sends the message to the recipient.

- c) The recipient receives and decodes the message.
- d) The recipient provides feedback through a chosen channel.

1.2.6 Purposes of Communication

David Berlo, in his book “The Process of Communication: An Introduction to Theory and Practice” (1960) outlines the purposes of communication which are:

- a) To persuade: communication is often used to influence or change the attitudes, beliefs, or behaviors of others. The purpose here is to convince the receiver to accept a certain point of view or to apply action.
- b) To inform: is to convey information from one person or group to another.
- c) To entertain: communication can be used to provide enjoyment, amusement, or emotional engagement. It is used for entertainment purpose, such as storytelling, art and media content.
- d) To educate: communication facilitates learning and the transfer of knowledge, skills, or values. It is used to teach or guide others in performing tasks or understanding concepts in instructional setting, such as classroom.
- e) To build relationship: communication helps establish, and strengthen relationship between people. It fosters social engagement and connection.

1.2.7 Principles of communication

Millet (n.d.) identified nine essential principles of effective communication in various context whether personal, academic, or professional, these are:

- a) Correctness: the message should be accurate and free from errors in spelling, grammar, pronunciation and use of language.
- b) Clarity: the communicated message should be clear and easy to understand; there should not be ambiguity, jargon, or complex language that might embarrasses the receiver.
- c) Consistency: the message should be consistent in its context to avoid confusion and mistrust.
- d) Coherence: the message should be logically consistent where ideas are connected and flow smoothly.

- e) **Concreteness:** the message should be specific, definite, and supported by facts, figures, or examples. It is better to avoid abstract and vague language.
- f) **Conciseness:** the message should be concise with the avoidance of unnecessary details or length explanations that could change the main point.
- g) **Courtesy:** the message should be polite, respectful, and considerate the receiver's feeling. It builds a positive relationship, and reduces conflict by using objective tone that suits the audience and the context.
- h) **Completeness:** the message should be complete and adequate, providing all the necessary information neither over nor little which the receiver is able to understand and respond.
- i) **Timeliness:** the message should be sent at the right time neither late nor too early.

1.2.8 Barriers to Effective Communication

Communication process is not always successful; several things can obstruct this process at any stage, which are:

- a) **Physical barriers:** are environmental and external factors that hinder the sending and receiving of message. For example, noise, poor light, or distance between communicators.
- b) **Semantic and language barriers:** the word “semantic” means the study of meaning in language, many words have multiple meaning, such as the word “table” which means furniture and chart. Semantic barriers are related to language; a) Misunderstanding caused by the meaning of words symbols, or signs b) using jargon, slang, or technical terms c)poor grammar or sentence structure d)unfamiliarity with the language being used e) ambiguous or unclear wording f) speech production.
- c) **Organizational barriers:** information is lost and distorted as it transmit from the top management to lower levels or vice versa due to misinterpretation, lack of understanding and self-interest by every person through whom the information passes.
- d) **Cultural barriers:** differences in cultural backgrounds, values, or norms lead to misunderstandings. For instance: in United States, people prefer to be called by their first name. However, in the Britain, people are addressed by their last name. Non-verbal communication differences (gestures, eye contact) conflict cultural values or traditions and stereotypes or assumptions about other cultures. For example, Canadians value direct

eye contact during conversation, for them it is a sign of respect. However, Asian people often refrain from making eye contact, and may look down during conversation, as maintaining eye contact can be perceived as respectful.

- e) Socio-psychological barriers: Individuals possess a range of personal emotions, aspirations, fears, hopes, preferences, aversions, attitudes, perspectives, and beliefs. These elements create an emotional lens through which we perceive the world, affecting our reactions to the messages we encounter and our responses to new experiences. Additionally, factors such as the timing, location, and context of a specific communication play a significant role in shaping our comprehension and reactions. Challenges in understanding, interpreting, and responding to communication stem, in part, from our socially acquired traits and, in part, from our individual characteristics.
- f) Physiological barriers: are limitations caused by a person's health condition or disability which can affect either the first interlocutor or the second one. For example:
 - Speaking can be failed due to stammering, slurred utterance because of defective vocal organs.
 - Listening can be negatively affected as a result of defective hearing.
 - Writing can be affected due to hand injury, numbness, etc.
 - Reading can be ineffective due to poor eyesight.

1.3 Stages of Communication Development in Autistic Children

Until now, the main cause of speech problems in autistic individuals remains unidentified and unclear. However, some scientists suggest a set of factors that occur during and after birth that may negatively affect the nervous system. Thus, the child finds it difficult to understand and interact with the world.

From infancy through early childhood, a child shows a set of signs which indicate that his/her communicative language is a sound language, which is a language that is asserted through facial expressions, sounds, and movement. Although it does not rise to the level of spoken language, it expresses the existence of communicative language that enables parents to understand what a child wants to convey. In contrast, these early non-verbal communications are almost nonexistent for an autistic child. This language is considered incomprehensible and meaningless; s/he finds it difficult to express the things around him/her and does not have the personal ability to

communicate. There is a clear deficiency in the autistic child's inability to convey his/her feelings and emotions, as the physical and psychological disorders prevent him/her from doing so. As a result, autistic child frequently relies on some alternative methods for communicating what s/he wants from others; a child can do something on his/her own, but s/he does not want to do it on his/her own and signals to others to do it for him/her, or guiding someone's hand to an object (instead of pointing).

Unlike a typically developing child, an autistic child often acquires gestures slowly from the environment where s/he lives. If smiling is something important for a normal child, it appears from the third month to express happiness. However, the autistic child does not show this smile until the first or third year, and it means nothing to him/her. Even though autism spectrum disorder diffcilitates speech development, his/her communication performance can be improved through educational and pedagogical care.

1.3.1 Autism Definition and History

When reporting about autism and autistic individuals, it is advisable to select and use the appropriate terminology that promotes respect. Autistic people, like everyone else, have families, talents, opinions, and faults. They are not a separate class, and should be represented as a part of the community. April 2nd is designated as World Autism Awareness Day (WAAD) by the United Nations (UN) for promoting the rights and well-being of individuals with autism, and fostering a society where they are accepted for who they are.

Members of the autism community – autistic individuals, their family and friends and broader support networks – often disagree over how to describe autism, as the many discussions in print and on online forums attest (Brown, 2001a, 2011b; Durbin-Westby, 2009; Snow, 2006), autism is not necessarily a natural category- it is a label of people that was created by technocrats to group together a cohort of people with similar behavioural presentations (Hacking, 2001, Silberman, 2015), i.e., autism is neither a fixed, well-defined biological entity such as animals and plants; for example, all cats have fur, hunt, and meow, but people with ASD have a variety of similar behaviours, such as difficulty communicating and repetitive movements, which may result from very different reasons, and not all the cases are necessarily essentially identical nor an absolute scientific discovery; such as law of gravity, that will always remain the same, it is

rather a socio-medical concept, resulting from human decisions that change over time by doctors and psychologists to provide aids.

The definition of autism from the Oxford Advanced Learner's Dictionary (OALD) is “a condition affecting brain development that can be severe and mild. People with autism can find it difficult to communicate and form relationships, and may show repeated or limited patterns of thought and behaviour”, that means autism is not mental illness, but a difference in the way the brain develops, some individuals with autism may live independently while others need constant support and full care; they have difficulty expressing themselves and in understanding others, they prefer a fixed daily routine; wearing the same outfit every day, and they have very strong interest in specific things, this is also confirmed in the Cambridge Dictionary in which autism is “a brain condition that affects the development of social and communication skills in ways that can be severe or slight, and that can make someone's behaviour and interests different from people without the condition”. It is lifelong mental disability that affects how a person thinks and interacts with others. ASD has no specific medicaments.

Any understanding of autism should not be approached from a position of 'deficit', but rather from a position of 'difference'. Autistic people are not neuro-typical people with something missing or something extra added on. They are different. If we are serious about equality and inclusion within any area, then we must first of all understand that difference (Breakey, 2006, p.123).

Instead of looking at people with autism as “lacking” something, such as communication and social skills, it is essential to understand that their brains work uniquely. This difference may make some things difficult for them, but at the same time, it gives them special abilities, such as intense focus on a particular subject. The key is to accept this difference and treat ASD as part of human diversity in order to create a society that values all people for their unique characteristics, which is based on equality and integration in any field. True integration cannot be achieved without understanding this difference, it begins when autism is no longer viewed as a defect or a flaw, just as differences in languages and cultures are treated with respect. Thus, autism should be treated with the same logic; an autistic person is not broken to be fixed, but different and needs understanding and acceptance. This understanding is the basis for building a true society for all.

Autism Spectrum Disorder (ASD) which is the medical name of autism, it is “a complex developmental condition involving persistent challenges with social communication, restricted interests and repetitive behavior”, stated by American Psychiatric Association (APA). In other words, autism is a congenital condition (beginning at birth) that affects brain development and the way the information is processed, leading to difficulties in communication, social interaction, and behaviour.

Autism Spectrum Disorders are neurodevelopmental disorders, meaning they are caused by abnormalities in the way the brain develops and work

Autism spectrum disorders become apparent during the first 5 years of a person's life. They begin in childhood and tend to persist into adolescence and adulthood. Globally, 1 in 160 children has an autism spectrum disorders, and they are more commonly diagnosed in boys than girls (World Health Organization, 2019)

Parents often notice the first signs between ages of two and three years, and it does not disappear with age. Statistics show that autism is very common. In other countries, the numbers vary slightly due to diagnostic methods; every person with ASD has unique abilities. For example, s/he does not speak, but communicates through pictures, or s/he memorizes all the names of dinosaurs despite his/her young age.

Historically, the use of the term “autism” began more than a hundred years ago, which is composed of two parts that are “aut” and “ism”; both come from Greek words where the former “autos” means “self”, and the latter implies a condition. It was first used in the early twentieth Century by Swiss psychiatrist Eugen Bleuler to describe schizophrenia that is not similar to autism, and his patient had withdrawn into his own world. The Austrian-American psychiatrist Leo Kanner was the first to provide a scientific description of autism as a disorder that occurs in childhood, he listed the main characteristics of Classical Autism, among them: impairments in social interaction, communication difficulties, and the presence of repetitive behaviours. At the same time that Kanner described autism, the Austrian doctor Hans Asperger conducted scientific research in which he described a set of pathological symptoms that were similar to symptoms described by Kanner. Since that time, the term “Asperger Syndrome” has emerged to refer to autistic children. In 1980, autism was classified as a severe emotional disability due to many theories about it, its causes, and its connection to mental illness. It was classified in 1981 as a

health disability. The classification was based on recommendation made by several organizations such as: National Society for Autistic Children (NSAC), and the National Institution of Neurological and Communication Disorders and Stroke (NINCDS). In the summer of 1994, autism was considered in the Diagnosis Statistical Manual of Mental Disorders as one the types of developmental failure disorders, which in addition to autism include childhood schizophrenia and Asperger syndrome.

1.3.2 Causes of Autism

For decades, autism has been a mystery, and until now, no one knows what the exact causes are. The Medieval belief that mental disorders were the result of demonic possession has been discarded. Currently, it is understood that autism is likely the result of a genetic anomaly that can affect individuals across all segments of society. However, it is recognized that autism is more prevalent in boys; it is important to note that it does not discriminate based on race, religion, or socioeconomic background.

Many specialists contend that ASD primarily arises from multiple factors, with both genetic and environmental influences contributing to the development of the brain (Johnson, Myers, & American Academy of Pediatrics Council on Children with Disabilities, 2007; Lai, Lombardo, & Baron-Cohen, 2014). Simon Baron-Cohen and Patrick Bolton (1993: 10) point out that:

Thirty years ago autism was thought to result from poor parenting. This view turned out to be factually wrong. Parents of children with autism are as loving and caring and competent as any other parents. Tragically, however, this early view caused untold upset: parents not only had to cope with their child's autism, but also with the guilt of believing they were the cause. Modern medical evidence suggests clear biological causes for autism, and this has meant that parents no longer need to blame themselves. The suggested biological causes include genetic factors, viral infection, and birth or pregnancy complication, any of which may cause the subtle brain damage assumed to produce autism. These biological causes are not found in every child with autism, which suggests that other biological factors are still to be discovered.

Many researches support the idea that the major factor contributing to autism is genes, which are segments of deoxyribonucleic acid (DNA) that carry the instruction manual that makes the body works, also influence the ways the brains form which affect how to think and interact

with the world, are often passed down through generation. Thus, it is hereditary, any genetic defect impacts negatively normal life of individuals; genetic factors are estimated to contribute forty to eighty percent of ASD risk. A majority (around 80%) of autism cases can be linked to inherited genetic mutations that are slight changes in genes, any genetic disorder; such as: Rett Syndrome; rare neurological disorder caused by genetic mutations that disrupt brain development, primarily affecting girls, and Fragile X Syndrome; inherited genetic disorder that causes behavioural issues leads to physical and mental disorder. Increasing evidence suggests that ASD may be associated with inborn errors of metabolism, which are internal chemical reactions where food turns into energy. Hennerly Williams (2022:1) states that “Other genes may influence how the brain develops, how brain cells communicate, or even how severe a symptom is. While some genetic changes appear to be inherited, others happen on their own.” A 2018 study at UC Davis MIND Institute found that children with ASD have reduced immune system regulation; any genetic mutation affects the development and function of certain immune system components. In addition to neurotropic viruses that can invade the brain among them Rubella which cause neurologic deficits in a developing fetus, especially “when contracted during first trimester of pregnancy” (Cox, 2024:2), also birth asphyxia; occurs when a baby does not receive enough oxygen during the birthing process which can damage his/her brain, these are considered as environmental factors that may play a crucial role in developing autism. The experts utilize the term “environmental” to denote factors that are not related to changes in a gene’s DNA. For instance, air pollution; according to a meta-analysis from Harvard T.H. Chan School of Public Health, exposure to fine particulate air pollution (PM_{2.5}) that can enter the circulatory system and even the brain is associated with increased risks of ASD in children, especially during the third trimester or early childhood period. According to National Institute of Environmental Health Sciences (NIEHS), older parental age is one of risk factors for ASD, “advanced maternal and parental ages are independently associated with ASD risk” (Croen et al, 2007); for women over thirty five, the risk of ASD diagnosis is increased by forty one percent (Wu et al, 2016), a large 2014 study based on Swedish medical records hinted that the odds of autism among children born to fathers older than forty five are about seventy five percent higher than for children born to fathers in their early 20s. A 2010 analysis of Swedish data found that men over fifty-five are four times as likely to have a child with autism as men less than thirty. Dehesh et al. (2024) declare: “Increased risk of autism in children is significantly associated with greater

parents' ages." A meta-analysis from 2016 indicates that an increase of ten years in maternal and paternal age was associated with an eighteen percent and a twenty-one percent higher risk of autism.

No single cause has been identified, it is clear that autism likely arises from an intricate interaction between genetic and environmental influences, making it a highly individualized condition.

1.3.3 Types of Autism

In 2024, Dr. Christina Stewart published a scientific article on Autism-Open Access journal; she identified five types of autism, which are:

1. Classic Autism: also called "Autism Disorder" and "Kanner's Syndrome". Individuals diagnosed with Classic Autism often exhibit considerable challenges in social interaction and communication abilities, as well as demonstrate restricted, repetitive behaviours, and interests. They may find it difficult to interpret social cues, sustain eye contact, and participate in reciprocal conversations. Rachna Ahuja and Darvinder Kaur. (2014) consider that people with classic autism are expected to engage in a restricted range of activities, and the main indicator of it is speech deferment, they may have an intellectual disability.
2. Asperger Syndrome: is a common disorder in males, people with Asperger syndrome typically have an average or above average intelligence quotient. In this context, they do not suffer from mental retardation, but their intelligence quotient may be normal (between ninety and one hundred nine) or high (above one hundred ten and sometimes in the genius category). For instance, a person with Asperger's may be excellent at math or programming despite his/her social difficulties, s/he may have a strong memory or a high capacity for logical analysis while suffering from difficulty in informal communication as jokes, or s/he may seem eccentric because of his/her narrow interest. Intelligence does not eliminate the need to support social skills because this syndrome combines normal or excellent IQ with difficulty in social interaction, interests, and behaviours. Many famous innovators and scientists are considered to have had Asperger's, including Albert

Einstein, Charles Darwin, and Elon Musk who announced that he has Asperger's syndrome in 2021.

3. Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS): also known as “Sub-threshold Autism” because a person with autism has mild or no signs, which are not sufficient for a full diagnosis. For instance, s/he may have a communication deficit, but can interact with others. According to APA (1994), symptoms of this type are restricted social interaction, poor verbal and non-verbal communication, and severe and/or stereotypical behaviours.
4. Childhood Disintegrative Disorder (CDD): is an exceptional condition and an infrequent disorder that Thomas Heller described in 1908; an Australian educator, where the intellectual, social, and language functioning suddenly deteriorate from previous normal behaviour. In CDD, a child loses acquired skills after they have developed naturally over several years. However, in Classic Autism, the symptoms appear from the beginning, i.e., without a normal development period. Kara Rogers (n.d.) states: “Symptoms of the disorder often appear between age three and four, although in some cases symptoms not be present until age nine or 10”. Its causes are not entirely clear, but it may be linked to brain abnormalities or epileptic seizures.
5. Rett Syndrome: as mentioned before, it is a rare disorder which mainly affects females (National Institute of Health, 2019: 1), it is rarely diagnosed in males. Distinctive hand movement, problems with walking such as walking on the toes, or a wide-based gait, seizures, and trouble performing motor functions, including speaking and controlling eye movements (apraxia) are characteristics that appear after typical early growth and development (National Institute of Neurological Disorders and Stroke, 2024).

1.3.4 Symptoms of Autism

Through some symptoms, the condition is diagnosed by specialists; they can be observed during infancy and can differ from person to person. Recognizing these symptoms early can help in providing tailored support and interventions to improve quality of life. According to Autism Speaks Organization (n.d.), there are certain signs that indicate to potential risk of ASD, not all people with ASD have all behaviours, but most have several of the behaviours listed below:

Table 1.1: Symptoms of Autism

Date	Symptoms
06 months	➤ Few or no big smiles or other warm, joyful and engaging expressions ➤ Limited or no eye contact
09 months	➤ Little or no back-and-forth sharing of sounds, smiles or other facial expressions
12 months	➤ Little or no bobbing ➤ Little or no back-and-forth gestures such as pointing, showing, reaching or waving ➤ Little or no response to name
16 months	➤ Very few or no words
24 months	➤ Very few or no meaningful, two-word phrases (not including imitating or repeating)
At any age	➤ Loss of previously acquired speech, babbling or social skills ➤ Avoidance of eye contact ➤ Persistent preference for solitude ➤ Difficulty understanding other people's feeling ➤ Delayed language development ➤ Persistent repetition of words or phrases (echolalia) ➤ Resistance to minor changes in routine or surroundings ➤ Restricted interests ➤ Repetitive behaviors (flapping, rocking, spinning, etc.) ➤ Unusual and intense reactions to sounds, smells, tastes, textures, lights and/or colors

1.3.4.1 Characteristics of Autistic Person

From several movies and series related to autism, for example Rain Man, Extraordinary Attorney WOO, and Miracle Doctor where the protagonist who embodies the role of autistic person displays some of the characteristics that were mentioned in the book “Students With Autism Spectrum Disorders: Effective Instructional Practices” by Juane Haflin and Donna Fiorino Alaimo and in autobiography book “THINKING IN PICTURES” by Temple Grandi,

These characteristics most commonly associated to individuals with ASD can be grouped into three areas in which deficits should be demonstrated, they are: communication, socialization, and interests and activities.

1- Communication

The aspects of communication deficiencies include:

- Absent or delayed spoken language
- Failure to use alternative means of communication such as gestures, hand movements, and facial expressions
- Immediate and delayed echolalia
 - Immediate echolalia: when an autistic person immediately and directly repeats the speech of another person.
 - Delayed echolalia: when an autistic person repeats another's speech after sometime.
- Reversal of pronouns and pronoun confusion
- Difficulty understand unspoken language by others
- Failure to understand abstract words
- Avoiding eye contact
- Failure to respond when called
- Difficulty in regulating tone of voice
- Preference for direct and clear communication

2-Socialization

From birth, most children display signs of wanting to engage with others. Therefore, they learn, practice and improve social skills. Autistic individuals find social interaction difficult, so they are characterized by:

- Lack of awareness of the existence or feeling of others
- Lack of interest of social interactions
- Appearing not listen when listen to
- The desire to share their favorite topics with others

- Developing few social relationships

2- Interests and Activities

- Specific and unusual interests
- Paying attention to details
- Attachment and preoccupation with favorite activities
- Insist on routine
- Stereotyped and repetitive movements (stereotypic behaviour and self-stimulating behaviour)
- Unusual responses to sensory stimuli

1.3.5 Levels of Autism

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (DSM-5) sets three levels; level 1 (“requiring support”), level 2 (“requiring substantial support”), and level 3 (“requiring very substantial support”) that classify ASD based on the severity of traits and the degree of support needed.

Table 1.2: Severity Specifiers for ASD

Severity Level for ASD	Social Communication	Restricted Interests & Repetitive Behaviors
Level 3 ‘Requiring very substantial support’	Severe deficits in verbal and nonverbal social communication skills cause severe impairments in functioning; very limited initiation of social interactions and minimal response to social overtures from others.	Preoccupations, fixated rituals and/or repetitive behaviors markedly interfere with functioning in all spheres. Marked distress when rituals or routines are interrupted; very difficult to redirect from fixated interest or returns to it quickly.
Level 2 ‘Requiring substantial	Marked deficits in verbal and nonverbal social communication skills; social impairments apparent even with	RRBs and/or preoccupations or fixated interests appear frequently enough to be obvious to the casual observer and interfere with functioning in a variety of contexts. Distress or frustration is

support’	supports in place; limited initiation of social interactions and reduced or abnormal response to social overtures from others.	apparent when RRB’s are interrupted; difficult to redirect from fixated interest.
Level 1 ‘Requiring support’	Without supports in place, deficits in social communication cause noticeable impairments. Has difficulty initiating social interactions and demonstrates clear examples of atypical or unsuccessful responses to social overtures of others. May appear to have decreased interest in social interactions.	Rituals and repetitive behaviors (RRB’s) cause significant interference with functioning in one or more contexts. Resists attempts by others to interrupt RRB’s or to be redirected from fixated interest.

1.3.6 Autism Treatments

It can be difficult to reach a diagnosis given the wide variety of ASD symptoms; there is no specific medical test to determine the presence of this disorder. Until now, there is no final cure for autism because it is a neurodevelopmental disorder that lasts throughout life. However, symptoms can be managed and abilities improved through treatment tailored to each individual based on his/her specific needs. The goal of treatment is to promote independence and participation in society in general. In 1958, Dr. Freeman mentioned in his book “The Complete Guide to Autism Treatments. A Parent’s Handbook: Make Sure Your Child Gets What Works!” over thirty major and minor treatments available divided into six different categories, as an illustration for a start, Applied Behaviour Analysis (ABA) is one of the behavioural therapies. Cooper, Heron, and Heward (1987) define ABA as:

The science in which procedures derived from the principles of behavior are significantly applied to improve socially significant behavior to a meaningful degree and to demonstrate experimentally that the procedures employed were responsible for the improvement in behavior. (p.14)

ABA is a scientific approach that uses the principles of behavioural science to modify behaviours with data proving that the improvement is a result of the applied intervention and not a coincidence. Crucially, it relies on empirical evidence. ABA focuses on behaviours that have a real impact on an individual's life, such as communication, social skills, and reducing harmful behaviour, hence it is a transparent and evaluable approach. It is a cornerstone of autism treatment and education programs, its goal remains to promote independence through thoughtful steps to enable the autistic person to live efficiently. This therapy is used to increase language and communication skills and critical thinking skills, and to decrease problems of behaviours. ABA therapy includes many different principles and techniques:

1. ABC (Antecedent- Behaviour- Consequence) is a helpful technique in identifying the manifestation of a particular behaviour and comprehending its impacts (Eckert et al, 2005); what happens before behaviour occurs, is anything a person does, and what happens after the behaviour. A common approach within this framework is to substitute the natural behaviour with an alternative behaviour (Johnston, 2006). For instance, when the father refuses to buy a toy for the child in the store (the setting event), the child may start screaming and crying (the behaviour) which prompts the father to give in and buy the toy to calm him/her down (the result). In this case, the child unconsciously learns that screaming is an effective way to get what s/he wants. Through this analysis, the behavioural cycle can be modified as warning a child in advance not to buy toys today (edit the setting event); informing him/her to ask for what s/he wants in a polite way (the alternative behaviour), and deprivation of reward when screaming (edit the result). This model works effectively with children in general and those with autism in particular because it builds more effective communication patterns. Behavioural replacement is not the same as suppression of feelings, but rather teaching new ways to express them effectively and acceptably.
2. Positive reinforcement serves to enhance desirable behaviours while diminishing undesirable ones by offering rewards or incentives that encourage repetitive. For example, when a person's particular action of behaviour is followed by a reward, the person is more likely to repeat the action of behaviour. After a while, even when the reward is removed, the person will possibly repeat it, due to the fact that s/he begins to associate that specific behaviour with the reward even when it is not present (Morris et al.

2005). For instance, when the mother begins to teach her child the skill of arranging his/her toys after finishing playing, each time she rewards him/her with a colored sticker to put on his/her achievement board. At first, the child arranges his/her toys just to get the sticker. However, after a period of regular reward, the arrangement becomes an established habit for him/her even after the mother gradually stops giving the stickers because the child has internally linked the behaviour of ordering with the feeling of satisfaction that s/he previously obtained through reward, which makes the behaviour continue without external motivation.

3. Negative reinforcement is a method that utilizes strategies, such as time-outs or restricting access to activities that an individual usually enjoys (Iwats, 1987). When the person fails to act desirably, something favorable is removed from the person's environment. This way, the individual is encouraged to accelerate his/her learning and attain the desired outcomes in order to regain the reward (Duvaux, 2023). For example, an elementary school pupil who loves to play ball during recess, but s/he deliberately interrupts the teacher's explanation without permission. When the teacher applies the method of removing positive reinforcement whenever s/he interrupts the explanation, five (05) minutes will be deducted from his/her playing time, and s/he will lose the entire time if the behavior is repeated three times. After a while, the interruptions decrease, as s/he learns that respecting turns preserves his/her favorite playtime. Removing reinforcers teaches responsibility because the autistic individual associates his/her behaviour with the loss of what s/he loves, which motivates him/her to improve.
4. Fading is a method of gradually reducing assistance and cues until a pupil can perform tasks independently. It enables an autistic person to learn skills in a way that works for them. This technique is generally utilized for individuals with acute mood or impulse control disorders (Oliver et al. 1998). To illustrate, when teaching a child the skill of washing hands in a center specialized for children with autism, the teacher provides complete assistance to him/her, stands behind him/her, and directs his/her hands step by step under faucet while repeating clear verbal instructions, such as turn the faucet on, apply soap, and rub your hands together. After a week, the teacher reduces physical support, and only points to tools with verbal guidance. Then, gradually stop verbal guidance, and keep only encouraging facial expressions. Finally, the child can perform

the task on his/her own. It is based on systematically withdrawing aid while maintaining the success of the mission.

5. Generalization is defined as the process by which behaviour that has been learned in one context is transferred to other contexts (What is generalization in ABA therapy?, 2022). For instance, the child is taught to say “Can you help me?” when s/he needs assistance with a task in a controlled, quiet setting like therapy room, with the therapist as the person s/he asks. S/he then practices the same skill at home with different family members in different situations. Over time, the child can ask for help, not only in the therapy room with the therapist but also in real-life situations in any environment where s/he needs assistance.
6. Analysis of action relies on feedback from individuals with ASD and their parents, utilizing this method to assess the effectiveness of therapies and evaluations (Parsonson, 2012), and then at each step of the therapy, it reviews the improvement. As an example, an autistic person undergoing treatment to improve communication skills, the analysis of action first sets goals as to say “water” when s/he is thirsty. Treatment begins with the use of visual aids, or verbal aids, as the mother says the sentence to him/her, and s/he says it after that. Each week, the mother is asked to note:
 - How many times s/he asks for water on his/her own?
 - Did s/he use words or keep yelling?
 - Did s/he try to communicate in another way?

Based on the mother’s observations, if s/he improves, the aid is reduced, and if s/he does not improve, the method is changed. The duration of ABA therapy can range from several months to several years, depending on the needs of the particular person. Sessions are scheduled (home, school, clinic) from twenty (20) to forty (40) hours every week. Picture Exchange Communication System (PECS); a method for communicating with pictures, is considered an example of ABA therapy. Then, Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) are a crucial non-behavioural therapy. This therapy was created in 1966 by Eric Schopler of the University of North California in the United States. TEACCH is a system of organizing the physical environment, developing appropriate activities, and helping individuals of all ages understand what is expected of them and how to function more independently (Van Bourgondien & Schopler, 1996). In other words, TEACCH

enables autistic individuals to perform as purposefully and independently as possible by organizing the individuals' setting and materials. Some studies demonstrate a greater effectiveness of the ABA program (Eikeseth, 2009); however other studies highlight a greater effectiveness of the TEACCH intervention (Probst, Jung, Micheel & Glen, 2010). Schopler underlined the necessity of using visual resources in learning, which can positively influence work performance and motivation of autistic individuals because of their strength in visual rather than auditory learning. Often, when confronted with auditory information, individuals with ASD do not fully understand the demands expected of them (Bondy & Frost, 1994). These auditory stimuli are perceived by individuals with autism as ambiguous and may cause feelings of stress and anxiety, leading to a chain of behavioural outbursts (Cesaroni & Garger, 1991). Common responses may involve repetitive physical or verbal behaviours, exhibiting self-harming actions, withdrawing from surroundings, or displaying physical aggression towards others (Ball, 1999). A study conducted by Panerai et al. (1998) found a substantial reduction of behavioural problems, including aggressiveness and self-injurious behaviours in children, after applying the TEACCH program for eighteen months based on the child's skills, interests, and needs. TEACCH has four components:

1. Physical organization: is the arrangement and management of physical spaces, including the placement and storage of objects, the filing of paperwork into different labeled folders, and the return of items where they belong after use to create an orderly and functional environment.
2. Schedule: a part-must of classroom structure, it refers to daily or weekly schemes which assist students to know what activity is coming next and what to expect, and to reduce stress and anxiety.
3. Individual work system: visual information to inform what is anticipated from them in specific work sessions.
4. Visual system: refers to visual information to illustrate the purpose of learning a task (Sandbank et al., 2020; Zeng et al., 2021).

Next, Floor-Time is an important child-led/parent-facilitated therapy. It is known as the Developmental, Individual Difference, Relationship-model (DIR), designed by Stanley Greenspan in 1989. DIR/Floor-time is a relationship-based approach; it is noteworthy that

social emotional development can only develop around the relationship between parents and children, social abilities, meaningful and spontaneous use of communication. Divya et al. (2023) define it as “a combined model of human development, which includes an interface with the environment, parents, and the child’s emotional and/or developmental capabilities”. Floor time is a play therapy that helps children shape emotional relationship and communication skills (Divya et al., 2023), and also to overcome their symptoms effectively, not change them. To put it differently, the floor-time model of therapy is a comprehensive approach that focuses on the emotional and social development of children, especially those with ASD, through interactive play that takes into account each child’s abilities. This model is based on the principle of circular interaction between the child and his/her environment, where the therapist or parents begin by noticing the child’s natural interest and joining them, then presenting a simple and fun challenge that encourages him/her to expand the range of his/her interactions. For example, if the child is interested in rolling the ball, the therapist may start by simply imitating the environment, and then gradually move to throwing the ball towards him/her while encouraging eye or verbal contact. This method is flexible, allowing activities to be adapted to the child’s emotional and developmental response at each stage, with a focus on building relationships more than just teaching skills. Floor-time enhances self-confidence and the ability to communicate naturally. It also actively involves parents in the treatment process in order to create a supportive environment that aligns with the child’s unique needs and accelerates their social and emotional development. It masters both emotional and cognitive abilities at each of the four stages of functional and emotional development, which are: attention, engagement and intimacy, two-way communication, and complex communication. It is an alternative to ABA and is sometimes used in combination with ABA therapies. Floor time service is provided by child psychologists, special education teachers, or speech therapists, takes place in a calm environment, either a home or professional setting, from two to five hours a day. It aims to improve children’s functional emotional well-being through their relationship with their primary caregiver. Furthermore, diet belongs to biomedical therapies. The latest findings by scientists, doctors, and chemists include the use of a gluten-and casein-free diet; gluten and casein are main proteins present in milk and (in coagulated form) in cheese when they are incompletely digested due to an imbalance in the intestines and stomach, they can produce peptides with opioid properties

that may affect brain function and contribute to the onset of autism. Currently, there is no scientific evidence that dairy consumption leads to autism, but there are reports from parents who noticed changes in autism symptoms after removing dairy products from diet. Last but not least, music is under miscellaneous therapies. Music therapy is defined as “the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional” (American Music Therapy Association, 2005). Professor Benenzon (2002) describes music therapy as a type of psychotherapy that uses sound, music, and body-sound-music instruments to foster a connection between the music therapist and the patient. This relationship aims to enhance the patient's quality of life, facilitating recovery and reintegration into society (p.25). That means this therapy is based on music's unique ability to transcend verbal barriers and reach deep emotions, which is why it is suitable for individuals with communication difficulties. For instance, the therapist may use a drum instrument to help the child express his/her anger nonverbally, or the therapist composes a simple song to teach colors to an autistic person. Some studies report that structured musical interaction can improve joint attention, regulate sensory response, and reduce stereotypical behaviours, and according to the World Federation of Music Therapy (2011), music therapy is used to upgrade the life quality of individuals with ASD and to enhance their physical, social, communicative, emotional, and intellectual well-being, in addition to their spiritual health. This therapy does not focus on teaching music itself, but rather on using it as an emotional and social mediator. Finally, medication is an intuitive aspect of any phenomenon. The use of medications is often aimed at treating symptoms such as anxiety, mood instability, impulsivity, hyperactivity, sleep problems, and even aggression, which can be described as emotional and behavioural challenges. There are no specific medications to treat autism. NICHD does not endorse or support the use of any medications not approved by the U.S. Food and Drug Administration (FDA) for treating symptoms of autism or other conditions that is why families should work closely with a healthcare provider to supervise the medication's effects. Autism medications are divided into several main categories:

1. Selective Serotonin Reuptake Inhibitors (SSRI): are FDA-approved medications that inhibit or limit the reuptake of serotonin; a natural chemical produce by the intestines and brain that helps to send messages between nerves cells and affects mood,

emotion, and digestion, to reduce the frequency and intensity of repetitive behaviours, decrease anxiety, irritability, tantrums, and aggressive behaviour, and improve eye contact.

2. Tricyclic Antidepressants (TCAs): are classes of medications that help managing the symptoms of clinical depression (major depressive disorder). They are sometimes more effective than SSRIs for treating certain people and certain symptoms, and treating repetitive behaviour.
3. Anti-Psychotics: are not recommended for the treatment of core symptoms of autism (Howes et al. 2018), they might help autistic people between five and sixteen years old manage anxiety and repetitive and hyperactive behaviour because they affect their brains.
4. Stimulants: research has found that stimulant medication is less effective for patients with autism; they do not change the core characteristics of autism. However, they can improve a teen's autism symptoms by eighty percent when administered in the correct dosages; they can increase focus and decrease hyperactivity in people with autism.
5. Anxiolytics: Although it is one of the common symptoms in ASD, no systematic reviews exist on the efficacy of anti-anxiety medication for people with ASD. These types of drugs relieve anxiety and panic disorders.
6. Anticonvulsants: are pharmacological interventions used to reduce seizures (Włodarczyk et al., 2012; Wassennar et al., 2013). Almost one-third of people with autism have seizures or seizure disorders, such as epilepsy.

1.4 Autism in Algerian English Language Teaching Education

Learning of foreign language refers to learning a non-native language, typically in a formal classroom setting where the language is not commonly used in the community. English, as a global lingua franca, plays a crucial role in connecting people worldwide, whereas it is a first language for some African countries, including Ghana and Namibia, and it is a second or a foreign language to others, such as Algeria and Egypt.

In Algeria, like in many other countries, the inclusion of pupils with autism into the education system is still evolving. Article 65 of the Algerian Constitution stipulates that education is compulsory and free, which is guaranteed by Article 24 of the Convention on the

Rights of Persons with Disabilities (CRPD), which recognizes school as the appropriate space for instilling values and taking care of the upbringing and education of pupils.

The inclusion can be defined as the practice of including students with disabilities alongside other students in a regular classroom (Gilhool, 1989). According to a 2018 report by the Committee on the Rights of Persons with Disabilities (CRPD Committee), a total of 37,000 pupils with disabilities have been incorporated into the education system, with 32,000 of them attending mainstream schools either partially or totally. Partial inclusion refers to fragmentary participation of autistic pupils in a regular classroom for part of the school day, but also spends part of their day in a separate and specialized setting, while total inclusion refers to full participation of autistic pupils in a regular classroom for the entire day. This inclusion leads to improved social skills and enhanced peer interaction, it depends on several factors:

- Degree of disability
- Overcrowding of departments
- Availability of qualifications and facilities for study life
- Behaviour and treatment of teachers towards pupils with ASD

Since its independence (1962), Algeria has worked to build an effective educational system, which fosters the teaching and learning of English in schools and universities for enabling pupils and students to learn and comprehend the written and spoken form of the English language. Dr. Madani Habib's 2018 research indicates that educationists in Algeria's English Language Teaching sector have utilized various methodologies throughout the years, including the Structuralism Approach, the Communicative Approach, and the Competency-based Approach. Consequently, English has become the second foreign language with its increasing use prevalent among younger generations. On the contrary, "It's critical to acknowledge that autistic children do not have difficulty due to cognitive ability. Instead, their struggles stem from social-emotional and/or sensorimotor origins" (Allison Gonyon, 2023). Additionally, many teachers of English are not fully qualified, and the lack of audiovisual materials remains a barrier to the promotion of English in Algeria (Kouicem, 2019).

1.4.1 Teachers Challenges with Autistic Pupil in EFL Classroom

EFL teachers often face several challenges when implementing inclusive practices:

1. Communication: communicating with an autistic pupil can be like trying to run an application on a different operating system because what works for others may not work for him/her. Some autistic pupils may be non-verbal or have limited verbal communication, making it difficult for teachers to understand their thoughts, feelings, and needs clearly. Some teachers struggle to transmit knowledge, especially abstract concepts and idioms as “Break a leg” which means “Good luck”. Teachers must use direct, explicit language, and provide clear instructions to enhance learning efficiency.
2. Paying/shifting attention: several autistic pupils may become very focused on a specific topic or task, especially if it suits their interest; it is hard to redirect their attention to another topic or task. However, others may ignore attention on task because of a lack of interest, which leads to incomplete work disengagement. Accordingly, disrupt the flow of a lesson.
3. Classroom behaviour management: for teachers, it can be strenuous to manage simultaneously pupils’ behaviours and other job tasks as staying on track with the curriculum. Pupils with autism may experience meltdowns; a complete loss of control over behaviour due to sensory overload stimuli (loud noise), also unexpected transitions can cause anxiety, where switching tasks is an example of. It cannot be easy to control the aggressive or non-compliant behaviour of some autistic pupils, which is a result of a lack of interest, frustration, or extreme stress.

1.4.2 Strategies for Enhancing Communication in Classroom

Enhancing communication in the classroom is important for creating an engaging, inclusive, and effective learning environment based on pupils’ needs and strengths. In February 2025, Steven Zauderer outlines four strategies to improve communication between teachers and students:

A. Creating supportive environment

Creating a supportive environment for autistic pupils is essential for encouraging communication, as it helps them feel safe, understood, and capable of expressing themselves. A calm and structured setting is crucial, as it minimizes sensory overload that significantly reduces anxiety. This can be achieved by maintaining consistent routines, using visual schedules, and preparing the pupil for any changes in advance. Visual cues,

such as picture cards or communication boards, are particularly effective because many autistic pupils, as mentioned before, are visual learners and may find it easier to process information presented visually rather than verbally. In addition to minimizing distractions, as loud noises or bright lights, helps a pupil focus and feel more comfortable in their surroundings. Being patient and using positive reinforcement to communicate with a pupil with autism contribute greatly to building his/her self-confidence. A positive and accepting atmosphere is equally important for reinforcing trust and encouraging pupils to communicate openly and effectively without fear of judgment.

B. Visual supports and communication aids

Visual supports and communication aids are invaluable tools for improving communication in autistic pupils because they provide clear, concrete, and reachable ways to convey information. Since autistic pupils are visual learners, they retain visual information more effectively than spoken language. Tools such as visual schedules, PECS, and visual choice boards offer structured ways to communicate, reduce confusion, and foster independence. These tools can build confidence, decrease behavioural challenges, and boost meaningful interactions, making them a cornerstone of communication development for autistic pupils.

C. Augmentative and Alternative Communication (AAC)

Augmentative and Alternative Communication (AAC) systems are powerful tools that teachers can use to support communication in classroom. For autistic pupils who face challenges with verbal communication, it offers them alternative ways to express themselves, interact with their peers, and participate during the session. AAC refers to a wide range of methods that someone communicates besides talking, including sign language, body language, and high-tech solutions such as speech-generating devices, which can give nonverbal pupils a voice, permitting them to engage and contribute to discussion. By incorporating AAC into teaching practices, teachers can create a more inclusive and accessible learning environment. AAC empowers teachers to meet the various needs of their pupils, ensuring that every pupil has the opportunity to communicate and succeed.

D. Social stories and social script

Social stories and social scripts are highly effective tools that teachers can use to bolster pupils with autism to develop and improve communication within the classroom. Social stories are personalized narratives that describe specific social situations, breaking down complex interactions into unclouded and understandable steps that aid pupils with ASD to comprehend social expectations, as taking turns, sharing, or responding. On the other hand, social scripts include specific phrases or prompts that pupils can use in real-life social interactions; initiating a conversation or asking for direction. Teachers can blend these tools into daily classroom activities to help autistic pupils navigate social situations with greater confidence and ease. For instance, social stories is when the teacher reads the story with the pupil before playtime or during a quiet moment, they can discuss the story; ask questions as, “What can you do if your friend wants to play with your toy?”, and reinforce the message through repetition, the social script is when the teacher practices the script with the child in a role-play scenario, here he pretends to be a peer, and the pupil practices saying: “Can I play too?” the educator provides positive feedback and hearten the pupil to use script during real playtime.

1.6 Conclusion

This theoretical chapter demonstrated an extensive understanding of concepts and intricacies of communication and autism spectrum disorder, specifically within the realm of teaching English as a Foreign Language (EFL). It also lays the groundwork for the practical applications that will be explored in the subsequent chapters of this study.

Chapter Two

Chapter Two: Research Design and Methodology

2.1 Introduction

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2.1 Introduction

This chapter attempts to describe the methodology employed by the researcher emphasizing the research design, approach, the participants, and data collection instruments.

Doubtlessly, the effectiveness of the right methodology depends first on the objectives of the current study. That is why it is essential to select the various tools through which data is collected correctly. Moreover, it is recommended to define the proper sample population for enhancing both the validity and usefulness of the study. To realize the most holistic, valid, and nuanced understanding of the research problem and the population being studied, it is fundamental to use qualitative and quantitative research.

Since there are multiple data collection methods, achieving reliable data and conducting objective analyses necessitates the use of a combination of techniques. The primary tool for gathering data from EFL pupils with ASD involves organized and predefined list, while the secondary tool for collecting data from EFL teachers consists of a set of written questions.

2.2 Research Methodology

The term “research methodology” consists of two words that are research and methodology; according to Clifford Woody (1917: 172) “research comprises defining and redefining problems, formulating hypothesis or suggested solutions, collecting, organizing and evaluating data, making deductions and reaching conclusions and at last careful testing the conclusions to determine whether they fit the formulated hypothesis.” For Howell (2013), methodology constitutes the theoretical framework that underpins the selected methods, shaping the research perspectives and guiding its approach. Research methodology is “a way to systematically solve the research problem by logically adoption various steps” (Patel & Patel, 2018: 48). This is what is confirmed by C.R. Kothari in his book “Research Methodology Methods and Techniques”. This academic engagement refers to the organized approach employed in the execution of research activities (Goundar, 2012) to gain knowledge and change facts.

2.2.1 Research Approach

The investigator conducted her study using a mixed-methods design, integrating both qualitative and quantitative approaches. Relying solely on a single methodological approach can limit the study's strengths, whereas combining methods enables a more comprehensive investigation of complex research questions that cannot be fully addressed by one method alone. Consequently, employing a mixed-methods approach enhances the validity and reliability of the findings while providing greater flexibility in the research process.

Tashakkori and Teddlie (1998) define mixed-methods as the integration of “qualitative and quantitative approaches in the methodology of a study”. The importance of methodological triangulation has been widely acknowledged across disciplines, as it enables researcher to synthesize diverse data sources, thereby providing a more comprehensive understanding of the research subject. Furthermore, combining closed-ended quantitative data with open-ended qualitative data enhances the depth and breadth of analysis, offering richer insights into complex research problems. Johnson et al point out:

Mixed-methods research is the type of research in which a research or a team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the purposes of breadth and depth of understanding and corroboration (2007)

It is a research that involves the systematic collection and analysis of data by the investigator who synthesizes the results and formulates conclusion through the use of both qualitative and quantitative methods within a single study or a broader research program, its use is essential for collecting evidence and assessing the outcomes; since no single resource can fully provides a sufficient data regarding a specific phenomena for ensuring the accuracy, validity and reliability of results.

Both qualitative and quantitative research are used as two complementary elements by the researcher and given equal priority as the goal of this study is to explore the blocks of communication and EFL teaching challenges, the investigator determined that a mixed-methods approach (Qualitative & Quantitative) would be more appropriate since it avails the nature of the study. In such research, the data may be compiled qualitatively, but it is extremely analyzed

quantitatively, using frequencies, percentages, averages, or other statistical analyses to determine relationships (Nassaji, 2015)

2.2.2 Research Variables

In any research project, the term “variable” is often utilized. Defining and identifying the variables while designing qualitative or even quantitative research study is pertinent. For researcher, gaining a clear understanding of variables is important to design an effective study, interpret data accurately, and contribute meaningfully to the field. In any study, variables always capture more attention and interest because they represent elements that can change. There are various types of variables; the two main kinds within any study are independent variable and dependent variable (Kowalczyk & Al Bistami, 2023). The independent variable is the cause variable responsible for the change of the situation which is changed by researcher. However, the dependent variable is the result of the influence of the independent variable; it is changes by independent variable. As for this study, the researcher identified the variables as follows:

- The independent variable: communication barriers of autistic EFL pupils
- The dependent variable: challenges faced by EFL teachers

2.2.3 Research Design

In any research project, the research design serves as a critical framework for data collection, ensuring that the gathered evidence effectively addresses the study’s research questions. It is the overall strategy adopted by the researcher, encompassing all aspects that need to be examined. Consequently, the researcher typically follows a general scheme for data collection and the procedures employed in data analysis. In this regard, Bernard Philips defines it as “a blue print for the collection, measurement and analysis of data”. According to Parahoo (1997, p.142), it is “a plan that describes how, when, and where data are to be collected and analyzed”. Several definitions confirm that any research design is closely related to research. McMillan and Schumacher (1997, p.31) explain it as the procedures for conducting the study, including when, from whom, and under what conditions data were obtained. Its purpose is to provide the most valid, accurate answers as possible to research questions.

Research design and research approach are two fundamental components of the research process. Although they are different, they are closely related; the former refers to the framework for conducting the study, it provides the study's style and road map in terms of sample, data collection instruments and analysis procedures, the later refers to the overall strategy or perspective that guides the study, it determines the type of data to be collected, and methods of analysis.

This study employs an exploratory-descriptive research design, selected for its alignment with the investigatory nature of the research objectives. This approach facilitates both the discovery of new insights and the systematic description of observed phenomena, making it particularly suitable for examining the complex interplay of variables in the current study. The purpose of exploratory research is to gain a deeper understanding and insight into communication barriers and EFL teaching challenges in the context of autism. On the other hand, descriptive research aims to characterize the phenomena and population.

a) Quantitative research

According to Gray and Grove (2021), quantitative research is “formal, objective, systematic study process implemented to obtain numerical data to answer a research question” p (31). Moreover, Aliaga and Gunderson (2000) have given a very concise definition of quantitative research as a type of research that is “explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics)”. The objective is to gather numerical data to establish relationships between variables, test hypotheses, and generalize findings. A typical example is a questionnaire.

a) Qualitative research

Patton (2001:39) defines it as a naturalistic approach that seeks to understand the complex phenomena in real-world environments. According to Denzin and Lincoln (2005), “qualitative research implies an emphasis on the qualities of entities and on process and meanings that are not experimentally examined or measured...in terms of quantity” (p. 10). This is what Strauss and Corbin confirm by pointing out “it is any kind of research that produces findings not arrived at by means of statistical procedures or other means of qualification” (1990, p.17), which means qualitative inquiry values depth over breadth, context over control, and

meaning over measurement. Qualitative research seeks to establish knowledge and comprehension of multiple assumptions that have evolved in a study. It aims to uncover hidden meanings, understand human behaviour, and explore complex phenomena. In this type of research, the researcher primarily poses open-ended questions, which are subsequently analyzed textually, indicating that data is conveyed through words, with observation as its typical method.

2.3 Sample population

Selecting participants is one of the most crucial elements of a study (Fraenkel et al., 2012). The population is the entire group that a researcher wants to study, but the sample is the specific group of individuals that a researcher will collect data from (McCombes, 2019). Polit and Hungler (1999:37) describe the population as a collective or entirety of all objects, subjects, or members that fit a set of criteria. However, a sample is a subset of a population selected to participate in a study, it constitutes a segment of the whole group chosen for the research endeavor (Polit & Hungler, 1996, p. 227).

In any research, it is advisable to select specific portions from the whole population to facilitate the precise and straightforward collection, analysis, and interpretation of data. Most researchers lack neither the time nor the money to collect data from a large population, and the quality of the data obtained from a sample may surpass that of data collected from the whole population.

For this researcher, the sample was recruited from Mahi Mohamed Middle School. It consists of fifteen (15) participants (10 autistic EFL pupils and 5 EFL teachers); all autistic pupils were males in the third grade, their ages range from thirteen (13) to fourteen (14) years old, and they were all identified as being autistic. On the other hand, two (2) of the EFL female teachers and three (3) male teachers were chosen. This selection was not random.

2.4 Data Collection Instruments and Procedures

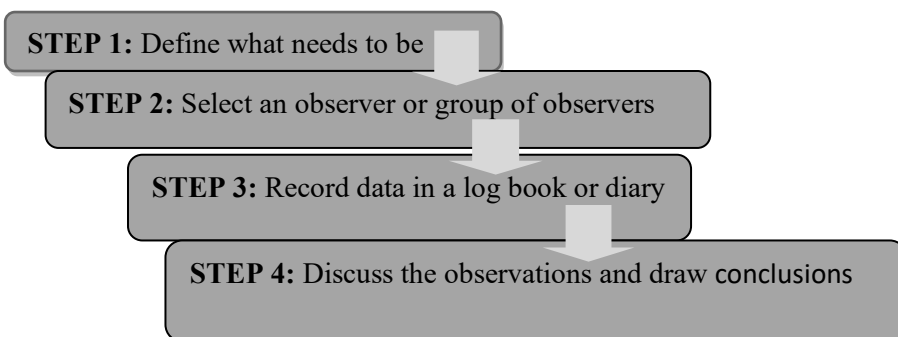
Data collection is the process of systematically gathering and measuring information about certain variables or subjects. It is an essential step in research as it provides the raw material needed for insights and conclusions. It involves tools that vary based on the type of data and research objectives.

2.4.1 Research Tool

After choosing the research theme, planning the research, and organizing its steps, the researcher should determine which research instrument is suitable to gather data for the study. The selection of any instrument depends on the type of research, the data being collected, and the methodology being used. The basic tools of gathering data were observation, and questionnaire. These tools helped the researcher in gather data, validate results, and ensure the accuracy and quality of her work, though the study employed a triangulation method.

2.4.1.1 Autistic EFL Pupils' Observation

The first research tool used in this work was observation, which is the oldest technique for collecting scientific data. Observation method is described as “a method to observe and describe the behaviour of a subject, and it involves the basic technique of simply watching the phenomena until some hunch or insight is gained” (Kumar, 2023, p.1). By using it, highly reliable and precise data can be achieved. To achieve the research objectives and answer research questions, the observer must clearly define the goals, select the essential elements that s/he truly wants to monitor, and set a clear and sufficient amount of time for the process. All these procedures should be related to the research topic. To effectively observe behaviour and communication barriers of autistic pupils in the EFL classroom, the investigator used a structured method that integrates elements of pupil-specific observation and classroom communication analysis. This method helps the researcher accurately understand what is going on around her, provides a significant comprehension of external aspects, and triangulates the research (Suparsih, 2018). The structured observation is a more systematic method which has standard steps as described in the diagram below (INTRAC, 2017):



Structured observation is a type of non-participant observation, in that it involves direct observation of a setting without interaction with participants (McKechnie & Reiss, 2008).

2.4.1.2 Setting

Structured observation was conducted at only one middle school to obtain data on the characteristics and communication barriers of autistic EFL pupils. The observation began on February sixteenth and lasted for a full month with a third-year class at Mahi Mohamed Middle School in Yellel. In a fully inclusive classroom, the observer sat at the front to gather detailed observations.

2.4.1.3 Structure

During each session, the observer attempted to observe several elements related to communication obstacles of pupils with autism; she filled out each pupil's checklist and also recorded her observations in the form of notes. The observer's presence may have been unknown to autistic pupils during the process because she saw, remarked, and recorded without being verbally involved in context, and they were not aware that they were being observed. During observation, the checklist was used to organize and pilot this process. It contains the characteristics of the autistic pupil's communication barriers.

2.4.1.4 Aim of Structured Observation

In this research, structured observation aims to collect data related to the communication of pupils with autism in an EFL classroom, which is not readily gathered by other methods. This study aims to provide valuable insights into what characterizes an autistic pupil and the factors that impede his communication during EFL sessions.

2.4.1.2 Teachers' Questionnaire

The second research tool used in this study is the common research instrument, which is a questionnaire. This tool is a set of written questions designed to collect data from respondents. It may contain open-ended questions, closed-ended questions, or both. It can be used for different purposes, but it is generally used to gather statistical data (Taherdoost, 2021, p.14). "The questionnaire provides all the input in the form of relevant data to all statistical methods used in

a research study.”(Chawla et al., 2018, p.185). It is widely used in academic studies due to its efficacy in gathering standardized responses.

2.4.1.1 Administration of the Questionnaire

The questionnaire is an effective way to obtain detailed, valuable information from different individuals easily. In this research, a questionnaire was designed for the EFL teachers who teach pupils with ASD. A questionnaire is a research tool used to collect data from respondents, typically in the form of written or online responses to a series of pre-determined questions. It is a common instrument for collecting qualitative and quantitative data in research; its primary aim is to obtain reliable and valid data that answers the research questions (Roopa & Rani, 2012, p.273). To collect information, this research relied on an in-house questionnaire, which is a flexible tool that allows respondents to provide more meaningful feedback in a comfortable environment, and a paper-and-pencil method, which is a highly structured and time-saving method.

2.4.1.2 Description of Questionnaire

The questionnaire contains eleven (11) items classified into three main sections, the questions range from open-ended questions, multiple-choice answers and yes/no questions, and closed-ended ones in which the research objectives and research questions were addressed.

Section One: Background Information

It contains three questions which are related to experience and training. The emphasis is on teacher's background in EFL teaching duration, experience with autistic pupils, and any training received to work with them. The first question asked in form of multiple choice answers. The other two questions used yes/no answer to simplify the response and make easier for the respondent to answer quickly and accuracy.

Second Two: EFL Teaching Challenges in Autism Context

The closed-ended questions are the first and the second questions which give the respondent choices to select the appropriate answer directly without take much time in thinking; the former is about the degree of challenges when teaching English to pupils with ASD, and the

latter is about the challenges faced in the EFL classroom. The third question is an open-ended question that gives the respondent the choice to express his/her opinions and ideas in their own words. The last question in this section is about the effect of communication barriers on their teaching; it is also an open-ended question.

Section Three: EFL Teaching Strategies in Autism Context

This section contains four (4) questions; the first one is open-ended question that is about the style and technique used by EFL teacher to support and improve teaching English to autistic pupils, and the last two questions are multiple choice answer; the fifth question focuses on the strategy and tool that enhance communication of EFL pupils with ASD, but in the sixth question, the teacher is supposed to select whether the chosen resource is very effective; somewhat effective, or not effective in supporting pupils with ASD. Teachers are required to provide recommendations in the last question.

2.4.1.3 Aim of the Questionnaire

The primary aim of this questionnaire is to explore the experience, challenges, and strategies of EFL educators who teach pupils with ASD in mainstream school settings. The questionnaire is designed to capture the subtle perspectives of EFL teachers, to provide a deeper understanding of the complexities of teaching English to autistic pupils in the inclusive classroom. The questionnaire's goal is typically to collect data in a standardized manner, which can be used to inform and enrich future studies and enhance teaching practices.

Ultimately, these insights aim to bridge the gap between the theoretical inclusivity and classroom reality, ensuring equitable access to language learning for neurodivergent pupils.

2.5 Conclusion

This chapter included the methodological part of the dissertation. It represented the methodology followed and the steps taken by the researcher to acquire data. It presented a detailed description of this research. This research utilized a mixed-methods approach to explore autistic pupils' communication barriers and EFL teachers' challenges at Mahi Mohamed Middle School by using observation of pupils with autism and a questionnaire for EFL teachers to

collect qualitative and quantitative data. Moreover, the analyses of the obtained data are covered in the next chapter.

Chapter Three

Chapter Three: Data Analysis and Recommendations/ A Psychological and Educational Perspectives

3.1 Introduction

3.2 Data Analysis

3.2.1 Observation Analysis

3.2.2 Questionnaire Analysis

3.3 Discussion of the Collected Data

3.3.1 Interpretation of Autistic Pupils' Observation

3.3.2 Interpretation of Teachers' Questionnaire

3.4 Discussion of the Main Results

3.4.1 The Effect of Socio-Psychological Perspectives on Autistic Pupils' Communication

3.4.2 The Effect of Educational Environment on Autistic Pupils' Communication

3.4.3 The Effect of Teachers' Psychology on Inclusive Classroom Communication

3.5 Recommendation and Suggestions

3.6 Limitations of the Study

3.7 Ethical Considerations

3.8 Conclusion

3.1 Introduction

This chapter systematically examines the collected data to identify key patterns in communication barriers experienced by autistic EFL pupils and the corresponding challenges faced by their teachers. Building on the theoretical foundations outlined earlier, the findings emerge from a rigorous examination of classroom observation of autistic pupils in an EFL classroom and a questionnaire from educators. The analytical framework combines qualitative and quantitative approaches to provide a nuanced understanding of the educational challenges. This triangulation enhances the validity of results, which collectively contribute to the emerging field of neurodiversity aware language education, in addition to offering both concrete solutions and a theoretical framework to ensure that autistic EFL pupils and teachers can navigate EFL learning more effectively. Limitations are discussed to contextualize the outcomes and to uphold academic integrity. This last chapter concludes with a frank discussion of ethical considerations that ensures science advances responsibly.

3.2 Data Analysis

The data collected were analyzed as follow:

3.2.1 Observation Analysis

This part aims to assess the data gathered through observation of autistic EFL pupils

Category 01

The observation period revealed a pronounced disparity between teachers' efforts to elicit verbal participation and the pupils' minimal responsiveness. Despite educators employing clear vocal projection, visual aids, such as pictures, and direct questioning at proximity, the pupils remained predominantly silent. When addressed individually, pupils exhibited no verbal or gestural responses, nor did they initiate eye contact with teachers or peers, pattern persisting even during attempts to convey abstract concepts visually.

Notable exceptions included subtle, non-typical reactions from specific pupils; pupils A and J displayed closed-lip smiles with downward gaze while pupils B and E engaged in repetitive pressure gestures; thumb and ring finger pressing with faint, lips curved upward but

eyes uninvolved. Most strikingly, pupil H demonstrated dissociation between verbal and written expression. Although they were entirely non-vocal and unresponsive to questions, they correctly solved grammar tasks when required to write on the whiteboard.

Category 02

One of the most striking traits of the autistic pupils was their high level of engagement in the EFL sessions. They were active and verbal. What set them apart was their apparent indifference to whether their answers were correct; their primary focus was on expression rather than perfection. Their confidence in language use was further demonstrated by their tendency to correct classmates' written errors, suggesting a strong grasp of grammatical rules and attention to detail. They all maintained eye contact with their teachers.

Despite their high participation, they exhibited some distinctive linguistic behaviour. They repeated certain phrases from the teachers, such as “follow”, “good job”, and “shut”, possibly using them as verbal anchors for comprehension or engagement. They also followed instructions meticulously and used polite, formulaic requests, such as “May I clean the board?” and “Could you close the window, please?” indicating a preference for structured, predictable language.

Interestingly, they initially struggled with abstract vocabulary, such as “famous” and “scientist” until the teacher provided visual supports; while they excelled in rule-based language use, they benefited from concrete references for meaning-making. Overall, their learning style combined strong verbal output with a reliance on repetition, rules, and visual scaffolding.

The autistic pupil demonstrated a distinctive pattern of bilingual engagement in EFL instruction. While actively verbal and participatory, his linguistic output was characterized by frequent code-switching to his first language, particularly during peer correction tasks, for instance, he said “Khas l s”. This behaviour manifested in demonstrated ability to identify errors despite not consistently producing second language forms, and displayed greater linguistic fluency in L1 during spontaneous speech.

Category 03

During observation, two autistic pupils exhibited distinct behavioural patterns during instructional time, characterized by limited engagement with lesson content and a preference for self-directed activities as disregarding teachers. Both pupils primarily communicated only to request items or express needs, rather than participating in reciprocal education. When not making direct requests, they frequently perseverated on specific, restricted topics of personal interest, regardless of classroom content or lesson objectives. Notably, the pupils with ASD showed minimal responsiveness to visual supports, instructional pictures, instead engaging in alternative behaviours, such as persistent drawing of unrelated content and repetitive manipulation of book pages through flipping or rubbing.

During the classroom session, the pupil became intensely focused on purchasing a new pen despite being provided with multiple writing instruments. When his request was denied with the explanation that buying a pen during class was “illegal”, he exhibited escalating distress behaviours. First, he verbally insisted on his demand, and then physically overturned his table while screaming. The behaviour sequence culminated with him moving to the classroom wall, where he pressed his forehead firmly against the surface in what appeared to be self-punishment. Throughout this episode, the provision of alternative pens from both peers and administrators failed to de-escalate the situation, highlighting the pupil’s inflexibility regarding his original goal.

Pupil demonstrated markedly different, but equally notable behaviours during instruction. While lessons were being explained, he frequently tilted his head backward and moved it rhythmically from side to side. When directly instructed to participate, he responded by humming loudly and randomly throwing his pens across the classroom. Notably, he maintained eye contact during these throwing episodes, suggesting intentionality behind the actions. The autistic pupil consistently kept his ruler either gripped tightly in his hand or placed in his mouth throughout the observation period. These behaviours persisted despite the use of visual supports designed to engage autistic learners.

3.2.1 Questionnaire Analysis

This part aims at analyzing the data gathered through questionnaire administered to EFL teachers

Background Information:

A- How many years of teaching experience do you have?

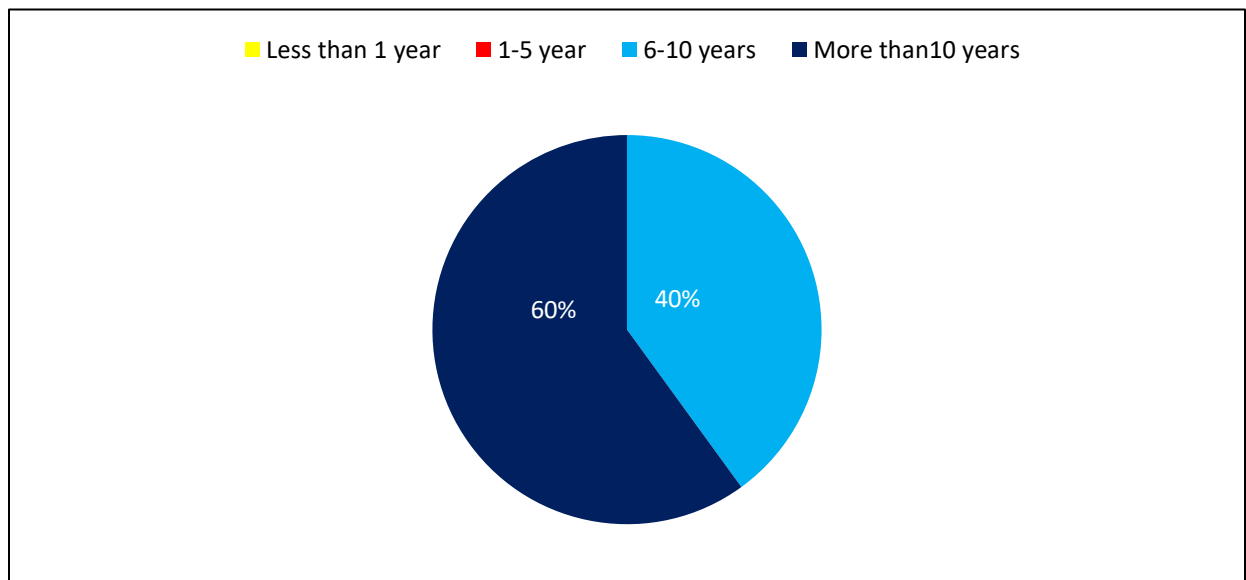


Fig 3.1: Teachers' Years of Teaching Experiencing

The pie chart shows the percentage of two different responses of teaching experience of EFL teachers; sixty percent (60%) have teaching experience more than ten (10) years. However, Forty percent (40%) have between six (6) and ten (10) years of experience.

B- Do you teach only pupils with autism?

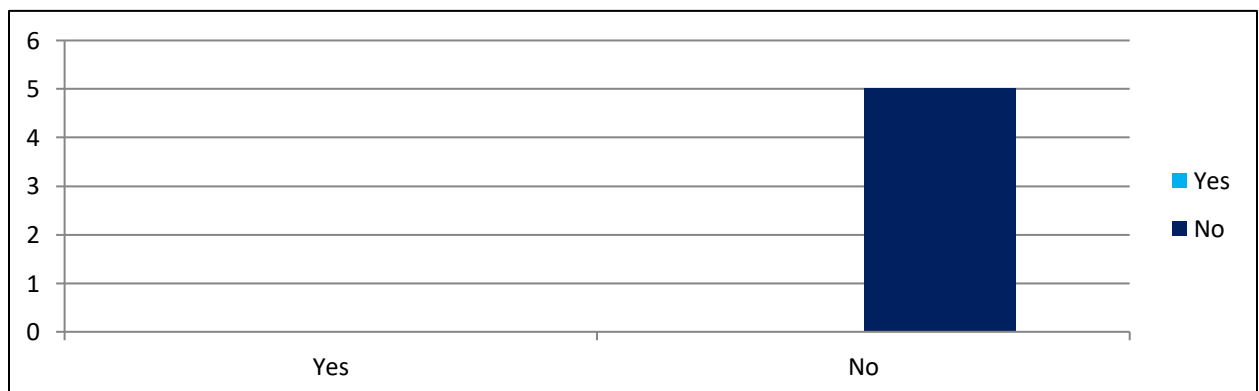


Fig 3.2: Teaching Only Pupils with Autism

The bar chart represents the number of EFL educators who teach just pupils with autism. All the informants, the five (5) EFL educators, do not teach only autistic pupils.

C- Have you received training on teaching autistic pupils in an EFL context?

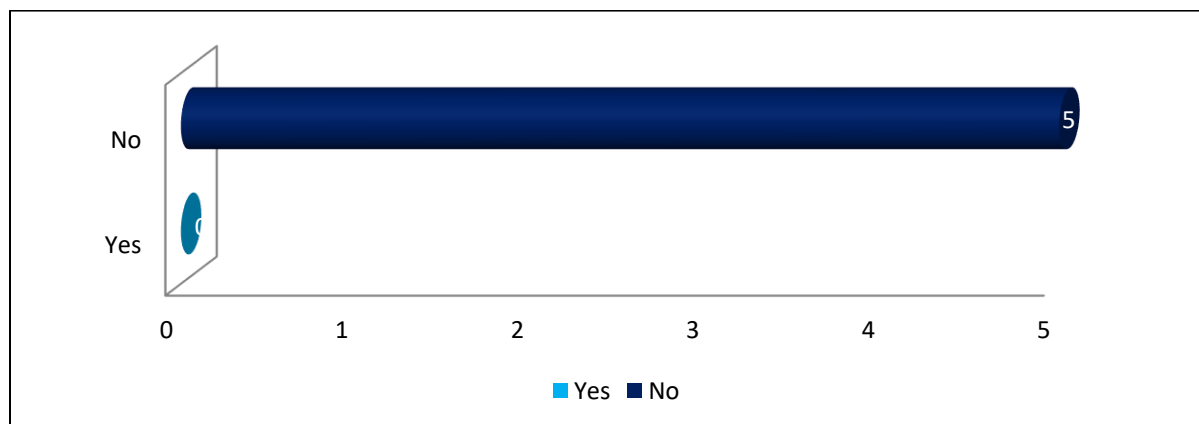


Fig 3.3: Training among EFL Teachers for Teaching Autistic Pupils

The horizontal bar chart illustrates the number of EFL educator's training in autism-specific pedagogy; all the five (5) respondents did not receive training on teaching English to autistic pupils.

Section One: EFL Teaching Challenges in Autism Context

Question 01: On a scale of 1-5, how challenging does you find teaching autistic pupils in an EFL context?

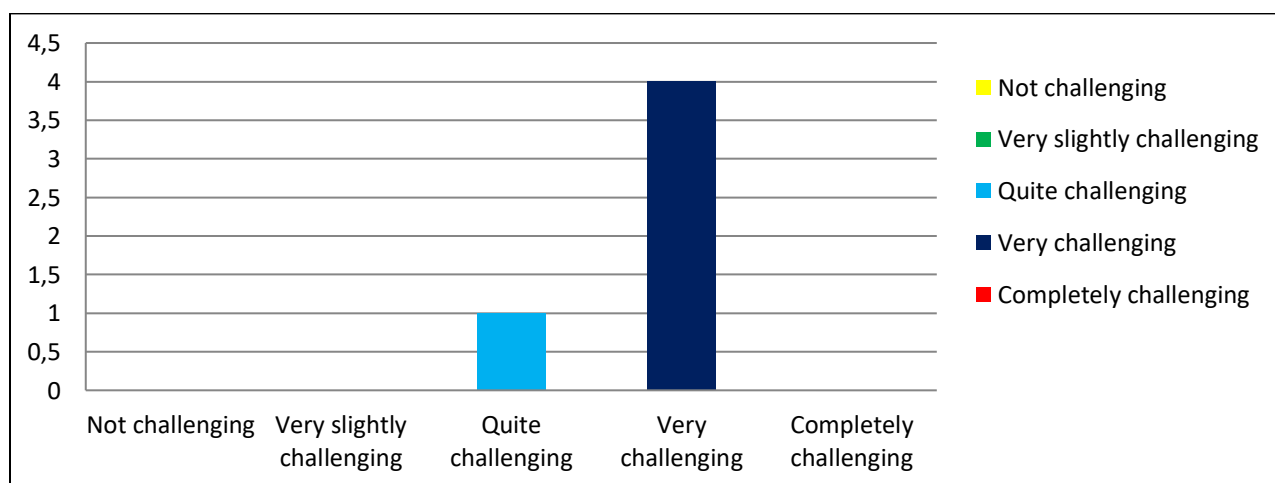


Fig 3.4: EFL Teachers' challenging Level in Teaching Autistic Pupils

As shown in figure, which is about level of challenging in teaching pupil with autism according to EFL educators, the results show that teaching autistic pupil is very challenging for four (4) informants, but for one (1) informant, it is quite challenging.

Question 02: What challenges do you face when teaching autistic pupils in an EFL classroom?

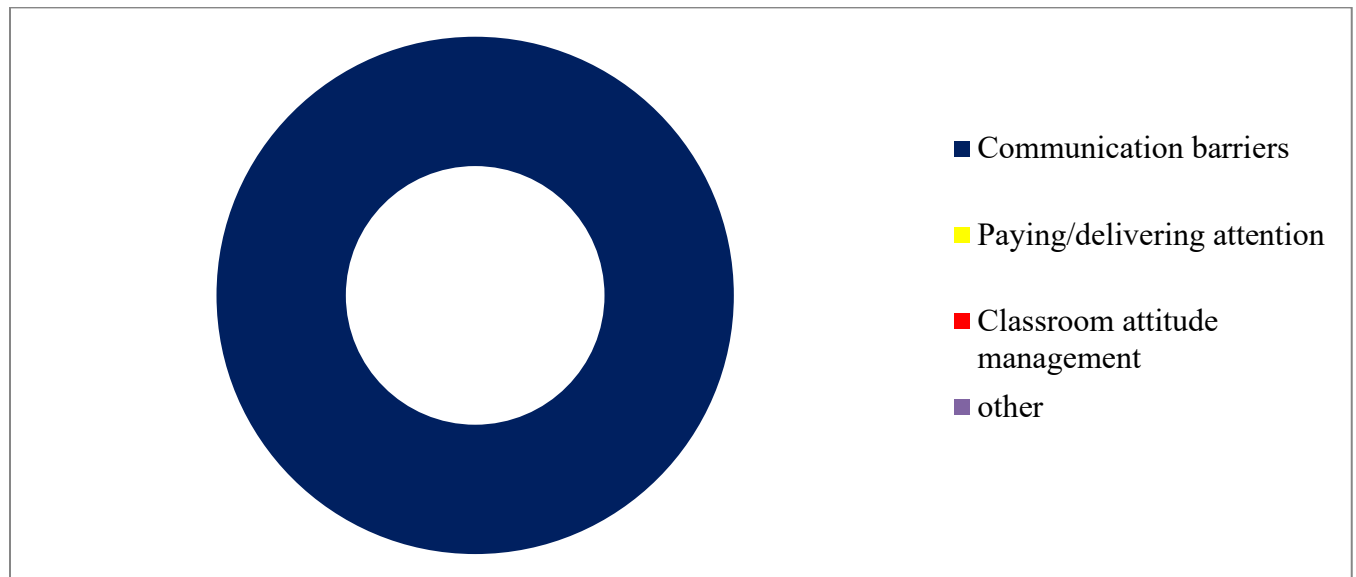


Fig 3.5: Challenges that Faced EFL Educators with Autistic Pupils in Classroom

The doughnut pie chart represents the percentages of the different kind of challenges that EFL educators encountered when teaching pupil with ASD; they simply selected the options presented to them, communication barriers is the only challenge faced by informants with a percentage of one hundred percent (100%), whereas paying/delivering attention and classroom attitude management were not selected by the participants.

Question 03: Can you describe a specific situation when you realized you were facing a challenge with an autistic pupil?

- Struggling to Adapt the Same Teaching Method for Pupil with Autism:

For the majority of respondents, when they struggled in adapting their same teaching method for autistic pupil, they knew they were facing a challenge. Below are some extracts taken from respondents' answers "My best teaching method was not enough", "The challenge when I felt they are lacking but I can't use the same methods applied to others and expect the same results".

- Personalizing Communication for Autistic Pupil:

A single informant finds that when personalizing communication for pupil with autism is the challenging moment, which described as follow “I found myself talked to him in specific manner individually”.

- Receiving Impolite Words:

The other informant revealed that when receiving abrupt words, s/he faced a challenge with an autistic pupil. To illustrate the case, the following quote is provided “He told me suddenly and loudly “SHUT UP””.

Question 04: How do communication barriers impact your teaching?

- Self Frustration:

The majority of respondents, self-disappointment has a negative impact on teaching autistic pupils. One of the participants mentioned, as a sample answer in this vein:”I feel I’m ineffective when my methods fail”, other mentioned “I blamed myself a lot”.

- Comprehension Assessment:

Other informants believe that communication barriers affect negatively their ability to evaluate autistic pupil’s comprehension. One of them said:”when I asked him tell me your thoughts on this story He stays silent”.

Section Two: EFL Teaching Strategies in Autism Context

Question 05: What style and technique do you utilize to support your EFL teaching to pupils with autism?

-Positive Reinforcement:

Several informants utilize positive reinforcement in supporting learning environment. They claimed:”give them candy when they answer”, “Smile”, “High five and applause to support him to participate”.

-Using Games:

Few respondents employ games to support their teaching to pupil with ASD. One of them pointed:”the teaching and learning journey is fun if we integrate games.”

Question 06: which strategy or tool do you utilize to enhance communication of EFL autistic pupils?

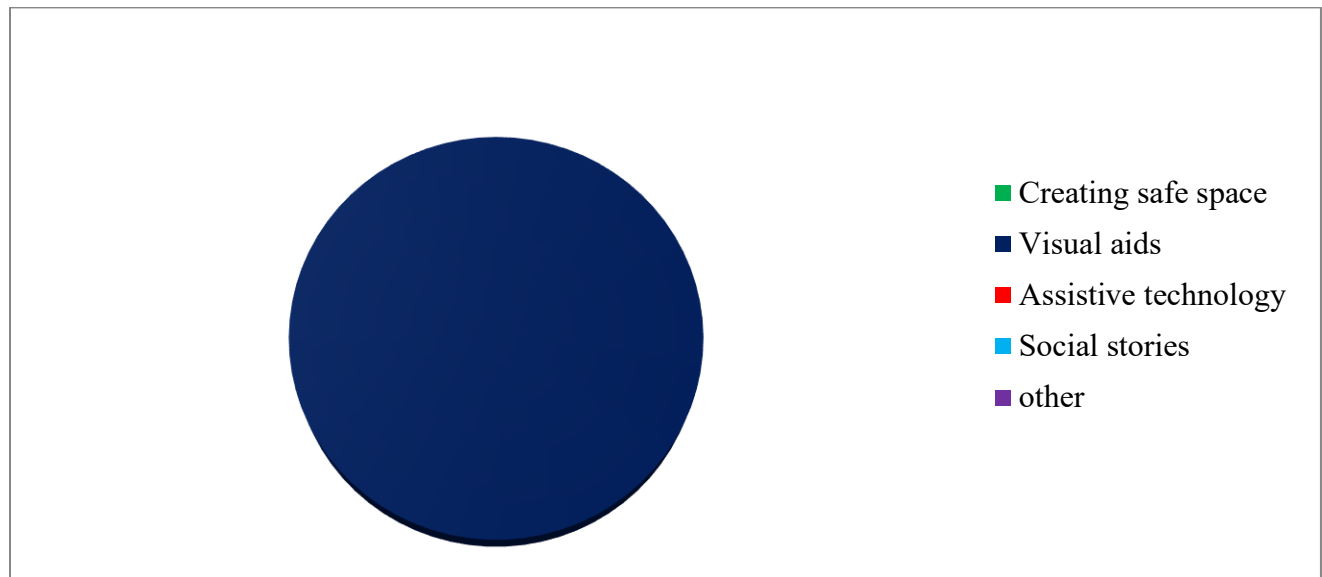


Fig 3.6: Strategy or Tool used by Teacher to Enhance Communication of Autistic EFL Pupils

The 3-D pie chart shows the percentages of the strategy or tool that is used by EFL educators to boost communication of pupils with autism; they just chose the answers given to them, one hundred percent (100%) of the informants utilize visual aids, and none apply social stories for fostering communication of pupil with ASD in EFL classroom, or utilize safe space creation as a strategy to do so.

Question 07: How effective is this resource in supporting autistic pupils?

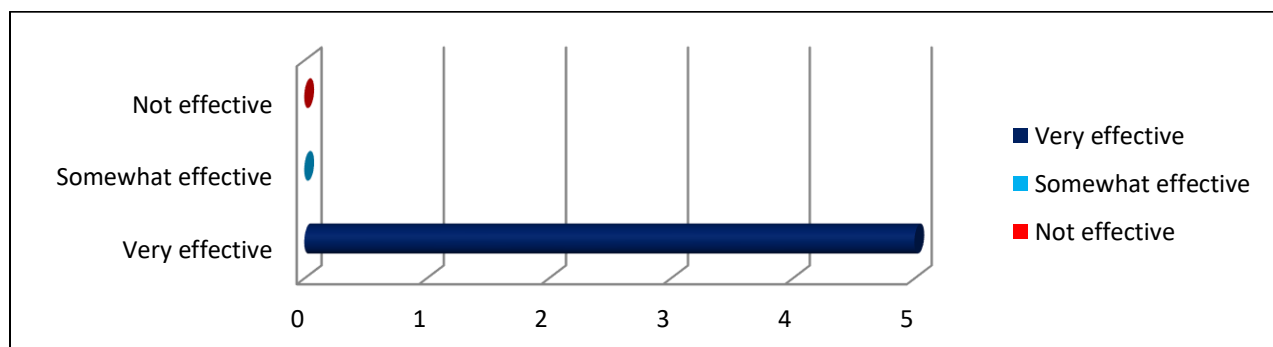


Fig 3.7: Effectiveness of Teachers' Resource in Supporting Autistic pupils

The horizontal bar chart clarifies the degrees of effectiveness of resource used by EFL educators to support pupils with autism; all the respondents, the five respondents, report that their resource is very effective.

Question 08: What recommendations would you give to other EFL teachers working with autistic pupil?

- Training:

All respondents advise other EFL educators on training. One of them expressed: “take training even in private institutions because in teaching world, you’ll find all human categories. The classroom is small society, be ready!”

- Patience:

Some informants counsel to be patient with autistic pupil. EFL teachers consider: “patience is the key! Accept their silence”, “Give autistic students time to process information”.

-Politeness:

Only one informant who recommends being polite. The following is excerpt taken from the response of the participant: “Pupils with autism needs someone who treats them well”.

3.3 Discussion of the Collected Data

In this part, the research prefers to examine the matter through both autistic pupils’ observation, and teachers’ questionnaire. It specifically focuses on analyzing and discussing the gathered data.

3.3.1 Interpretation of Autistic Pupils’ Observation

Through careful examination of the data, the researcher observes that socio-psychological barriers hinder autistic EFL pupils’ classroom communication and participation. The pronounced disparity between teachers’ efforts to elicit responses, and pupils’ minimal engagement stems from fundamental mismatches between neurotypical teaching approaches and autistic cognitive and social processing styles. While teachers employed conventional strategies like clear vocal projection, visual aids, and direct questioning, most pupils remained silent and avoided eye contact, demonstrating that standard communicative expectations create psychological barriers rather than facilitating learning. The few observable responses, closed-lip smiles, pressure

gestures, or rhythmic movements, represent alternative engagement methods that often go unrecognized in traditional pedagogy. Particularly complete dissociation between verbal non-responsiveness and written competence, highlighting how assessment methods that privilege oral participation can misrepresent autistic pupils' actual abilities. More concerning were instances of behavioural escalation when pupils encountered inflexible rules or sensory overwhelm, such as the table-overturning incident following a denied request, which illustrates how rigid classroom structures can provoke extreme distress. Similarly, behaviours like pen-throwing or persistent stimming, while potentially disruptive, often serve crucial self-regulatory functions in managing classroom demands. These observations collectively demonstrate that current EFL teaching paradigms create socio-psychological barriers by privileging neurotypical communication modes, misinterpreting autistic engagement styles, and enforcing behavioural norms that may trigger distress rather than facilitate learning. Effective instruction requires moving beyond compliance-based models to create communication-friendly environments that validate diverse participation styles, offer alternative response methods, and accommodate the sensory and regulatory needs of pupils with ASD. This shift would reduce psychological barriers while more accurately assessing and supporting language development in autistic EFL pupils.

Besides, autistic EFL pupils exhibit a unique combination of communication strengths and challenges, especially in semantic and language aspects. One of the most notable semantic barriers is their difficulty with abstract vocabulary, which becomes more accessible only when supported by visual aids. This suggests that concrete, visually reinforced learning strategies are essential for meaning-making. In addition, their tendency to repeat phrases, rely on formulaic, and polite requests highlights a preference for structured, predictable language, possibly as a way to navigate the fluidity of social communication. These patterns indicate challenges in flexible semantic processing, where meaning is often dependent on context or implied cues. On the linguistic side, pupils with autism in EFL classrooms demonstrate a strong grasp of grammatical rules, evidenced by their ability to correct peers' written errors, yet they may struggle with spontaneous L2 production, as seen in frequent code-switching to their first language during tasks. This suggests that while their analytical language skills are robust, pragmatic and fluency-related barriers may arise in real-time communication. Their learning style, marked by high engagement, rule-based precision, and reliance on repetition, underscores the importance of structured, visually supported instruction. Rather than viewing these traits as deficits, educators

can leverage them by incorporating clear routines, visual scaffolding, and opportunities for rule-driven language practice, while allowing flexibility for bilingual strategies, for example, code-switching. Finally, understanding these patterns can help create more inclusive EFL environments that accommodate autistic pupils' distinctive cognitive and linguistic profiles.

Overall, autistic EFL pupils face significant communication barriers that are socio-psychological barriers and semantic-language barriers, which are a result of a mismatch between neurotypical teaching methods and their linguistic processing styles. In EFL classrooms, Traditional teaching approaches often lead autistic pupils to be disengaged and rely on alternative communication methods. Even more alarming, rigid classroom structures and sensory overload can trigger extreme behavioural responses, highlighting how traditional environments create psychological barriers rather than facilitate learning. These pupils exhibit distinctive traits while excelling in rule-based aspects; they have difficulty with abstract vocabulary, spontaneous verbal production, and pragmatic use of language, often relying on formulaic phrases or switching between languages.

3.3.2 Interpretation of Teachers' Questionnaire

Background Information

The initial background data of teachers provides crucial context for interpreting the subsequent findings about their classroom challenges and successful strategies. The fact that sixty percent (60%) of teachers had over ten (10) years of teaching experience, yet none had received autism-specific EFL training although they do not teach exclusively pupils with ASD, suggesting a highly experienced group works in a mixed-ability classroom where autistic pupils are minority. However, experience does not necessarily equate to training in specialized areas, such as teaching autistic EFL pupils, this also could imply limited focused exposure to autism-specific strategies because all teachers work in classrooms where pupils with autism are not the sole focus. i.e., they teach mixed groups of autistic and non-autistic pupils; they likely have not had many opportunities, among them deeply practice, and refine teaching methods tailored specifically for autistic pupils since their attention is divided across diverse needs, highlighting a critical gap in professional development because teaching pupils with ASD often requires tailored approaches, and EFL adds another layer of complexity, as language use challenges may

intersect with autism-related need; the pupils might struggle both with autism-related challenges and the EFL use challenges. Therefore, autistic pupils in EFL classes may not get the support they need.

Section One: EFL Teaching Challenges in Autism Context

Based on the questionnaire responses, it becomes evident that a significant majority of participant (four teachers out of five) perceived teaching EFL to pupils with autism as very challenging, which suggests that challenges are not isolated but rather a common experience among educators in this setting, and aligns with documented barriers in autism-inclusive language education, particularly when specialized training is lacking. This consistency of this response underscores the urgency of equipping EFL teachers with adaptive strategies tailored to neurodiverse pupils.

The unanimous reporting of communication challenges among all participating teachers, one hundred percent (100%), presents a striking finding that demands urgent attention. This 100% consensus suggests these difficulties represent not isolated incidents but rather systematic failures in current EFL approaches for pupils with ASD. The pervasive nature of these challenges across even experienced educators implies that traditional language teaching methodologies require fundamental adaptation to meet neurodiverse communication needs. The data strongly suggests that addressing these communication barriers should be the foremost priority in developing effective EFL programs for autistic pupils. This will require both immediate classroom-level interventions and long-term changes in teacher education programs.

In the third question, most respondents declared that when they applied the same methods used for neurotypical pupils, they realized the challenge, as pupils with autism may process language differently, struggle with abstract instructions, or need alternative modes of engagement. This insight highlights the importance of moving beyond one-size-fits-all teaching methods and adopting flexible, inclusive practices that accommodate diverse learning methods. Future steps could involve piloting small-scale interventions, such as introducing visual or music lesson plans or collaborative workshops with special education experts, to test practical solutions in real classroom settings.

The results of the last question in this section show that communication barriers impact teachers' teaching psychologically. Plurality of informants experience frustration, which highlights a critical dimension of inclusive education challenges. This phenomenon suggests that when educators lack effective strategies to bridge communication gaps, they frequently internalize these difficulties as personal shortcomings rather than systemic training deficits. Such frustration likely stems from repeated instances where standard teaching approaches fail to connect with neurodiverse pupils, despite teachers' efforts, leading to diminished self-efficacy and emotional exhaustion. Recognizing this psychological impact is essential for developing sustainable and effective inclusive EFL practices that support teacher well-being.

Overall, the section's findings reveal significant challenges faced by EFL teachers when instructing autistic pupils, highlighting systematic gaps in current pedagogical approaches. Teaching EFL to autistic pupils is very challenging, with identifying communication barriers as a primary obstacle, especially when conventional EFL methods, designed for neurotypical pupils, frequently fail to meet the needs of neurodiverse pupils, leading to frustration among educators.

Section Two: EFL Teaching Strategies in Autism Context

Several informants reported that they utilized positive reinforcement as a technique to support EFL instruction for autistic pupils, which means they utilized the ABA therapy technique in classrooms, which is used to increase communication skills. This approach aligns with evidence-based practices in special education, as positive reinforcement, through praises, rewards, or other incentives, helps motivate pupils with ASD, encourages desired behaviours, and reduces anxiety in the language-learning process. Since autistic pupils often face challenges in communication, structured and predictable reinforcement can make EFL lessons more accessible and engaging.

On the other hand, the findings of the sixth question underscore widely adopted visual aids by informants, which are techniques of ABA therapy and TEACCH therapy. However, it is used as a strategy in teaching. This adoption demonstrates recognition of visual supports as an essential, evidence-based method for addressing the unique learning needs of pupils with autism. By systematically incorporating tools, such as pictures cards, graphic organizers, and visual schedules into instruction, teachers create accessible pathways for language learning while accommodating the visual-processing strengths common among autistic pupils. The use of this

strategy underscores the need for specialized teacher training in both autism support and EFL methodologies. This finding positions visual aids as more than supplemental tools, but rather as central components of a comprehensive communication-enhancement strategy for autistic language pupils.

Furthermore, this resource is very effective for all the informants, one hundred percent (100%), in supporting autistic pupils. This percentage highlights the successful application of a specific educational technique or strategy in addressing the unique learning needs of pupils with autism. This effectiveness likely stems from how well the resource aligns with evidence-based practices for autism education, such as visual support, that caters to common autism characteristics, such as communication challenges. The resource's high effectiveness suggests it has demonstrated measurable benefits in areas, for instance, improving communication skills, increasing engagement, or promoting independence in learning. However, the resource's success probably depends on proper individualization to each autistic pupil, consistent application by trained teachers, and integration with other support strategies.

In the last question, the whole respondents recommended training, which indicates that multiple teachers have identified a need for professional development in teaching autistic pupils. This collective recommendation suggests there may be significant gaps in current practices or knowledge that could be addressed through structured training programs. Their recommendation implies that targeted training could improve outcomes by equipping staff with evidence-based strategies, such as effective use of visual aids or specialized instructional methods.

Generally, the findings of this section reveal that EFL teachers effectively support autistic pupils using positive reinforcement that is an ABA technique, and visual aids which are related to ABA therapy and TEACCH therapy. These evidence-based strategies improve communication, engagement, and learning by catering to autistic pupils' needs. All teachers reported the success of these approaches, but emphasized the urgent need for specialized training to enhance autism-inclusive EFL instruction. This highlights a gap in teacher preparedness and calls for professional development in structured, individualized teaching methods.

3.4 Discussion of the Main Results

By utilizing observation for autistic EFL pupils, and questionnaire for teachers, the researcher has obtained a variety of distinct data related to the theme.

3.4.1 The Effect of Socio-Psychological Perspectives on Autistic Pupils' Communication

Although autism is recognized in Algeria, cultural understanding and adequate support systems are still in their early stages that is why part of Algerian society confuses autism with mental disabilities or psychological illnesses that leads to a misunderstanding of the nature of the disorder. Algerian culture is labeled autism as “sickness” or “craziness” and even used as an insult. Some individuals may find amusement in their actions, while others might react with anger or irritation when a person with autism exhibits behaviour that is considered atypical. Autistic person is abnormal person to them. There is still a tendency in some Algerian provinces to interpret autism symptoms through traditional, religious, or cultural lenses, such as considering them “possession” or “envy”. Due to misconceptions, some families may delay seeking a medical diagnosis, missing the opportunity for early intervention that is critical to improving outcomes, in addition to resorting to unscientific treatments, such as exorcism or folk remedies, instead of scientifically proven educational and behavioural programs. Family role and family dynamics play an important role as social factors that influence a pupil's development. The mother is often the primary caregiver, playing a pivotal role in providing emotional and educational support, especially in early intervention, also the father is a crucial factor in the family's emotional and financial support, and his direct involvement in care promotes positive outcomes for the pupil. Having a cohesive and supportive family improves the development of pupil's communication. Sometimes, parents, especially mothers are accused of neglect or poor parenting which increases the psychological burden on them, so they need extended family support (grandparents, uncles) that can provide a safe environment for him to communicate. Community awareness and effective support systems are critical factors in improving the lives of individuals with autism and their families, including media campaigns; using television, social media, and religious platforms to raise awareness, school education; incorporating information about autism curricula to promote peer acceptance in schools, and success stories; highlighting successful models of autistic individuals to change stereotypes.

The world influence individual development. According to Lev Vygotsky, who is Russian psychologist and educator, learning is social process and cultural phenomenon in which development takes place through interaction with individual who are more knowledgeable and skilled. He believed that parents, educators, peers, caregivers, and society in general influence an individual's cognitive development, he also supposes that everything is learned on two levels through interaction with others is the first one, and the second one is the mental structure of the individual. For example, a child initially learns to pay attention, or solve problems with guidance from a teacher or parent, and over time, these skills become independent cognitive abilities. This dual appearance of functions, which means the skill appears twice outside and inside a child, highlights the critical role of social and cultural interactions in shaping a child's intellectual growth. Essentially, learning begins as a collaborative process, where knowledge and skills are co-constructed through dialogue and shared experiences, before the child gradually adopts them as their own.

Socio-psychological factors profoundly share autistic pupils' communication development by influencing their social learning environments, interactions, and self-concept. According to Vygotsky's framework, these children often acquire communication skills through carefully scaffolded social experiences, where teachers or peers initially model and guide interactions before the child internalizes these abilities. For instance, a pupil might learn conversational turn-taking first through structured games with a therapist before applying the skill independently. The cultural tools available in their environment, especially visual supports, such as picture cards or social stories, significantly enhance progress by aligning with autistic pupils' cognitive strengths. However, this development can be hindered by negative societal perceptions that lower expectations or by inflexible teaching methods that prioritize neurotypical communication norms. Conversely, inclusive classrooms that value neurodiversity, and employ multimodal strategies create optimal conditions for growth. Moreover, peer relationships play a dual role, while unstructured social demands may overwhelm, intentionally mediated interactions with trained classmates can provide powerful learning opportunities. Ultimately, an autistic child's communication development depends less on inherent deficits, and more on how effectively their social environment adapts to their unique learning profile, offering appropriate supports, positive models, and patient reinforcement of emerging skills. This socio-psychological

perspective underscores why interventions must address both individual needs, and the broader social context surrounding the pupil.

3.4.2 The Effect of Educational Environment on Autistic Pupils' Communication

The classroom environment greatly affects an autistic pupil's ability to communicate and interact that can make the school environment challenging if it is not designed in a supportive way. It should be organized; reduce auditory and visual clutter that means provide quiet classes and use soft lighting, and use clearly marked seats, predictable; minimize sudden changes; inform the pupil in advance of any changes or use a visual schedule for daily activities, and flexible; provide appropriate communication alternatives, such as electronic devices and PECS. Classroom environment can be supportive by providing breaks between classes to avoid sensory fatigue, and collaborate with speech therapists to improve verbal and nonverbal communication. If these adjustments are implemented, communication will be smoother, and the pupil will feel more comfortable and confident in school. In Saudi Arabia, there are autism-friendly classrooms which are educational environments designed to meet the specific needs of pupils with ASD. These classrooms utilize diverse teaching methods, the specialized learning stages, and provide a calm and flexible sensory environment. An autistic pupil needs an environment that understands him/her, not an environment that forces him/her to adapt in a painful way. School facilities when carefully design can reduce anxiety and stress, improve educational engagement, and facilitate interaction. Good school facility design is not a luxury, but a necessary to ensure the right of autistic pupils to an inclusive and effective education.

According to teachers, teaching autistic pupils in an EFL classroom presents unique communication challenge that requires specific strategies. Teachers often struggle when traditional verbal instructions fail to connect, as many autistic pupils process information differently. The key lies in adapting one's approach. First, using clear visual support, such as pictures cards or written instructions can bridge this gap better than spoken words alone. Next, creating a predictable classroom structure with consistent routines helps reduce anxiety, while allowing alternative response methods, for instance, pointing, typing, or using communication applications accommodates diverse expressive abilities. Finally, sensory considerations are equally vital; simple adjustments like reducing fluorescent lighting noise or offering noise-canceling headphones can dramatically improve focus. Perhaps most importantly, teachers should practice patience, recognizing that delayed responses do not indicate disengagement, but

rather different processing timelines. Professional development in autism-specific strategies, collaboration with special education staff and maintaining open communication with parents all contribute to building an inclusive learning environment where autistic EFL pupils can thrive. Small, consistent adaptations in teaching methods often yield significant breakthroughs in pupil engagement and learning outcomes.

3.4.3 The Effect of Teachers' Psychology on Inclusive Classroom Communication

Teachers' psychological attitudes and beliefs fundamentally shape the success of inclusive communication in classrooms, particularly for neurodiverse pupils. When educators embrace a growth mindset and view differences as natural variations rather than deficits, they create psychologically safe environments where all communication styles, whether verbal, gestural, or technology-assisted, are valued equally. Teachers with strong emotional self-awareness regulate their own frustrations when progress is slow, preventing unconscious biases from effecting their interactions. Those trained in neurodiversity paradigms naturally implement multimodal scaffolds, such as visual aids, sensory tools, and AAC devices because they cognitively frame communication as a spectrum rather than a hierarchy. Conversely, teachers harboring fixed mindsets about autism may lower expectations, over-rely on compliance-based drills, or unconsciously prioritized speech over more effective alternative communication methods. Furthermore, a teacher's theory of mind, their ability to perspective-take, determines whether they recognize anxiety-driven behaviours, such as silence or scripting, as communication attempts needing patient interpretation rather than problems needing correction. Crucially, teachers who cultivate cultural humility continuously question their assumptions, adapting methods to each pupil's needs rather than forcing neurotypical norms. This psychological flexibility fosters classrooms where autistic pupils feel their communication is respected, reducing anxiety and unlocking potential. Professional development must therefore address not just pedagogical skills, but the underlying attitudes, and cognitive frameworks teachers bring to inclusive practice, as these mental models invisibly dictate whether inclusion policies succeed in daily interactions.

Teachers experiencing stress and empathy fatigue can significantly impact their communication with pupils with autism in classroom, often leading to reduce patience, misinterpretation of behaviours, and less effective support. When educators are emotionally

drained, they may struggle to maintain the consistent, structured, and compassionate approach that autistic pupils rely on for learning and social interaction. Stress can cause teachers to become less attuned to nonverbal cues, sensory sensitivities, or the need for clear, literal instructions, key elements in supporting autistic pupils. Additionally, empathy fatigue may result in quicker frustration or withdrawal, making it harder to build trust, and report with pupils who thrive on predictability and understanding. Over time, this breakdown in communication can hinder academic progress, exacerbate behavioural challenges, and leave autistic pupils feeling misunderstood or unsupported. To mitigate these effects, schools must prioritize teacher well-being through mental health resources, training on autism-specific strategies, and workload management to ensure educators can sustain the empathy and energy required for effective communication.

By implementing these strategies, schools can move beyond mere integration to true inclusion, where every pupil feels valued and empowered to succeed. Several countries around the world have witnessed remarkable success in implementing inclusive education that aims to integrate pupils with special needs into mainstream schools while providing them with necessary support. The most prominent of these countries are: Canada, first, it is considered a pioneer in the field of inclusive education, integrating pupils with ASD into regular classrooms with the provision of Individual Education Plans (IEPs). Second, Finland is one of the best countries in implementing inclusive education. Its educational system encourages full inclusion with specialized teachers and psychosocial support. Third, Italy is one of the first countries to abolish special need schools in 1977 and adopt full inclusion. Pupils with ASD have intensive support from teaching assistants and curriculum modifications. Fourth, Portugal has made significant progress in recent years through legislation guaranteeing the right to inclusion, providing assistive technologies and training opportunities for teachers. Finally, New Zealand has strong policies to support diverse pupils. Flexible teaching methods are used that take into account individual differences. How cultural perceptions of autism impact EFL teaching strategies?

3.5 Recommendations and Suggestions:

After conducting a comprehensive study on the education experiences of EFL pupils with autism and teachers, this part seeks to provide a set of general suggestions and recommendations aimed at enhancing the learning and teaching experience for all stakeholders:

- Establish routine psychological consultations for pupil with autism at the start of each trimester to ensure continuous support, track development, and tackle any emotional or behavioural issues that may emerge.
- Provide comprehensive pre-service and in-service training on inclusive education; equip EFL teachers and other educational professionals with the knowledge, skills, and attitudes necessary to effectively teach diverse learners.
- Focus on pupil strengths and abilities, such as attention to detail. Shift away from a deficit-based model; recognize the unique talents, and potential of every pupil with autism. Build on their strengths to support their learning and development.
- Foster collaboration among educators and support staff; encourage teamwork and communication between general education teachers, specific education teachers, paraprofessionals, therapists, and other support personnel.
- Provide ongoing professional development; offer opportunities for educators to learn about the latest research and best practices in inclusive education.
- Develop inclusive assessment practices; utilize a variety of assessment methods that accurately reflect the learning of all pupils, including those with Autism Spectrum Disorder. Focus on progress monitoring and providing meaningful feedback.
- Foster open-communication; involve autistic pupil in decision- making processes, and provide him/her with the support and information they need.
- Train school leaders on inclusive practices to foster a welcoming environment.
- Teach classmates about autism, age-appropriate explanation, to foster empathy and inclusion.
- Equip educators with strategies for differentiated, assistive technologies, and trauma-informed teaching.
- Offer tailored interventions and support services for pupil who requires additional assistance, ensuring that these are integrated within the regular classroom setting as much as possible.
- Build strong partnership with families; recognize parents and caregivers as valuable partners in their children's education.
- Solicit feedback from pupils, teachers, and families to refine policies.

- Collect and analyze data on pupil outcomes; track the progress of all autistic pupils, including those with autism, and from diverse backgrounds to identify areas for improvement, and ensure equitable outcomes.
- Encourage cooperative learning where autistic pupil can attribute meaningfully.
- Use inclusive curriculum materials, such as audiobooks, and captioned videos.
- Ensure the autistic pupil is not just “present”, but actively engaged and learning.
- Utilize praise and rewards, such as stickers, and tokens for desired behaviours.
- Implement school-wide initiations that celebrate diversity, challenge prejudice, and foster a sense of belonging for all pupils, regardless of their background, abilities, or learning style.
- Integrate autistic pupil into different school activities, including singing, and performing arts to enhance social interaction, and develop skills.

3.6 Limitations of the Study

Research limitations refer to the practical or theoretical constraints that may affect the outcomes of a study (Vieira, 2023), highlighting the study limitations can be beneficial for both the researcher, and the reader, they keep a research real, useful, and open to improvement.

As any research, it is worth mentioned that the researcher faced some obstacles. First, finding a sample was very challenging step. Difficulty in finding a sample to work with them exhausted the researcher psychologically; she met several directors of associations, private school, and private kindergarten to ask the possibility to attend some sessions with autistic pupils, but her demand was rejected without any clear reason. Next, limited availability of reliable sources was an obstacle. Some topics have scarce published studies, making it hard to find supporting evidence at the same time, search engines may prioritize popular rather than accurate sources, leading investigator to misleading information that is why the researcher conducted a training course on autism spectrum disorder. Finally, limited time was a barrier. The limited 40-minutes teaching sessions were a problem in ability to observed, and analyzed autistic pupils' behaviour effectively because teachers requires time to create a calm atmosphere before the lesson commence, which further diminished the time allotted for observation.

By clearly stating limitations in any research, a researcher transforms potential weaknesses into opportunities for advances in a specific field. Transparency does not meet academic standards, but makes researcher's conclusions more trustworthy and useful for other researchers.

3.7 Ethical Considerations

Ethical considerations in research encompass a framework of principles that inform the design and execution of research activities. It is imperative for scientists and researchers to consistently follow a specific code of conduct when gathering data from individuals (Bhandari, 2021) Ethics indicates that a researcher's work is credible, humane, and trustworthy, not just correct.

In conducting this research, a various ethical considerations were applied. Participants were informed completely and clearly of the study's aims and the nature of their participation without any form of pressure or unfavorable repercussions. They had the opportunity to ask questions and make an informed choice regarding their participation or withdrawal. Besides, participants' information was protected in an ethical manner to foster trust between the researcher and the participants, thereby meeting the ethical standards required in research. Essential data was collected while minimizing personally identifiable information. Furthermore, all collected information was treated with confidentiality, which must be maintained to secure study data and participants' data information.

No researcher can ignore the ethical considerations as it is a crucial aspect of research. Considering ethics in research is not just about following rules, but about promoting human well-being, respecting individuals, and contributing to knowledge in a responsible and meaningful way.

3.8 Conclusion

This chapter focused on the practical aspects of the research study. It addressed the main outcomes of the research concerning the communication barriers of autistic EFL pupils and the challenges encountered by teachers. This chapter has analyzed and evaluated the discussion and analysis of the findings gathered through two different research tools, which are observation and

questionnaire. Furthermore, it offered suggestion for future research in this field and recommendations which aimed at enhancing the learning and teaching EFL experience for both autistic pupils and teachers. Moreover, it discussed the limitations faced during the research process. In conclusion, it mentioned the ethical considerations applied by the researcher.

General Conclusion

This study has explored the complex communication barriers by autistic EFL pupils in Algeria, alongside the challenges encountered by teachers in facilitating effective language learning. Language, as the mirror of the soul and a vital tool for human connection, presents unique difficulties for autistic EFL pupils, who often struggle with pragmatic communication, and spontaneous verbal interaction. These challenges are compounded in foreign language learning where abstract linguistic concepts and social engagement are fundamental.

The research confirmed that socio-psychological barriers, and semantic and language barriers are the main challenge faced by autistic EFL pupils, impeding their capacity to participate effectively in classroom discussions. Furthermore, educators encountered considerable communication difficulty, as a significant number do not possess specialized training in EFL instruction tailored for autism. The research also indicated the necessity of training which greatly contributes to engagement and communication improvement in EFL classroom.

Algeria's commitment to inclusive education, evidenced by its growing of specialized institutions and multilingual policies, provides a promising foundation. However, the findings highlight the urgent need for teacher training programs, greater interdisciplinary collaboration among educators, psychologists, and policy-makers. By addressing these gaps, Algeria can better support autistic pupils in learning English, a language of global opportunity, while fostering a more inclusive and empathetic educational environment.

This research contributes to the broader discourse on neurodiversity in language education, advocating for pedagogical approaches that recognize the unique strengths and needs of autistic pupils. Future studies should expand on cross-cultural comparisons in the technology era to further bridge communication gaps. As society progresses toward greater inclusivity, understanding, and accommodating autistic pupils in EFL classroom will remain essential for equitable and effective classroom.

The study started with a theoretical exploration of communication and autism. This theoretical framework provided a foundation for comprehending the particular difficulties encountered by autistic individuals, and the challenges faced by teachers. The second chapter outlined the research design, methods, and procedures used to investigate the communication barriers of autistic EFL pupils, and the challenges faced by their teachers. A mixed-methods approach was employed to ensure comprehensive data collection and analysis, combining observation and questionnaire. The last chapter presents the key findings of the study, analyzing

data collected through pupils' observation and teachers' questionnaire, it provides a set of recommendations and suggestions, in addition to mentioning study's limitations, and ethical considerations.

To sum up, this thesis contributes to the broader understanding of inclusive education, and exploring the communication barriers of pupils with autism, and the challenges faced by teachers who work with them, and emphasizing the need for training for teachers. That is to say, our hypothesis regarding the research study has been strongly supported by the findings derived from both autistic pupils' observation, and teachers' questionnaire.

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Appendices

Appendices

Appendix 01

Autistic Pupils' Observation

Date:

Name:

Gender:

Attending School:

Items	Frequency														
Limited reciprocity															
Atypical eye contact															
Difficulty with peers															
Reduced joint attention															
Circumscribed interests															
Inflexible routines															
Repetitive movements															
Sensory seeking/avoidance															
Echolalia															
Scripted speech															
Literal understanding															
Meltdowns/shutdowns															
Unusual fears															
Flat or exaggerated affect															

Appendix 02
Teachers' Questionnaire

Dear Participants,

Thank you for participating in this research study. The purpose of this questionnaire is to examine the challenges that encounter teachers; it is for EFL teachers of Mahi Mohamed Middle School. It would be great if you could answer some questions about this topic, the data gathered will be used for academic purposes, there is no right or wrong answer and your responses will remain strictly confidential. This questionnaire will take at most 5 minutes of your time and the results are anonymous. Thank you.

Please tick of corresponds box or provide your own answer when necessary. Thank you in advance.

Background Information:

A- How many years of teaching experience do you have?

☐ Less than 1 year

☐ 1-5 years

☐ 6-10 years

☐ More than 10 years

B- Do you teach only pupils with autism?

☐ Yes

☐ No

C- Have you received training on teaching autistic pupils in an EFL context?

☐ Yes

☐ No

Section One: EFL Teaching Challenges in Autism Context

Question 01: On a scale of 1-5, how challenging do you find teaching autistic pupils in an EFL context?

☐ 1 (Not challenging)

☐ 2 (Very slightly challenging)

☐ 3 (Quite challenging)

☐ 4 (Very challenging)

☐ 5 (Completely challenging)

Question 02: What challenges do you face when teaching autistic pupils in an EFL classroom?

☐ Communication barriers

☐ Paying/diverting attention

☐ Classroom attitude management

☐ Other (Please specify).....

Question 03: How do communication barriers impact your teaching?

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Section Two: EFL Teaching Strategies in Autism Context

Question 04: What style or technique do you utilize to support your EFL teaching to pupils with autism?

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Question 05: which strategy or tool do you utilize to enhance communication of EFL autistic pupils?

☐ Creating safe space

☐ Visual aids

☐ Assistive technology

☐ Social stories

☐ Other (Please specify).....

Question 08: What recommendation (s) would you give to other EFL teachers working with autistic pupils?

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Thanks for your collaboration