

The Effect Of Personalized Intervention On Improving Communication Skills In A Child With Autism Spectrum Disorder: A Case Study

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Abstract

This study focuses on the care of a child named "A.M," aged 8 years and 9 months, who was treated at the child and adolescent care unit of E.H.S. Mahfoud Boucebssi, Dely Ibrahim, Algiers.

The study emphasizes the challenges in communication and the presence of repetitive behaviors in the child, who was diagnosed with Autism Spectrum Disorder (ASD) following a comprehensive clinical evaluation.

The evaluation was conducted using tools such as the Childhood Autism Rating Scale (CARS-T) and ABLLS-R to assess language and cognitive skills. A parent guidance program and therapeutic sessions were implemented to improve visual, language, and motor skills.

Study Results: The pre- and post-test evaluations showed significant improvements in eye contact and a reduction in stereotypical maladaptive behaviors. The child also made substantial progress in communication skills and visual and motor performance.

Keywords:

Autism Spectrum Disorder – Speech Therapy Intervention – Communication – Applied Behavior Analysis

Introduction

Autism is considered a spectrum, meaning that all individuals identified as autistic are not identical (Morttron, 2016). Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that typically appears within the first two years of life. It is characterized by difficulties in social communication, repetitive behaviors, and restricted, repetitive interests (APA, 2013).

Diagnosing ASD in children primarily relies on clinical observation and evaluation of behaviors, communication, and social skills. Numerous studies highlight that varied intervention methods are necessary to address the specific needs of individuals with ASD, taking into account their linguistic and cognitive strengths and weaknesses (Marini et al., 2020).

One of the most commonly used intervention methods for ASD is Applied Behavior Analysis (ABA). This approach has proven effective in improving communication and social skills in individuals with ASD, particularly children (Sulu et al., 2024). Among the most recognized tools for evaluating linguistic and learning skills in autistic children is the Assessment of Basic Language and Learning Skills (ABLLS-R).

This evaluation tool aligns with the ABA approach to help identify strengths and weaknesses in children with ASD. It emphasizes the need for early multidisciplinary intervention and personalized support that considers the diversity of symptoms and needs of each child. Such tailored approaches aim to mitigate the impact of problematic symptoms on the quality of life for both children with ASD and their families.

Research Problem

Autism Spectrum Disorder (ASD) is a condition that affects social communication (both verbal and non-verbal) and manifests through restricted and repetitive behaviors, including the absence of eye contact and smiling.

Early diagnosis and management of this disorder remain challenging due to the complexity of its symptoms and the lack of awareness among parents regarding early signs of autism. Children are evaluated by different specialists (medical examinations, psychological assessments, speech therapy evaluations, psychomotor evaluations, etc.) to refine the diagnosis and develop a therapeutic plan aimed at fostering relational, verbal, and motor development.

Swain et al. (2024) evaluated the outcomes of early interventions designed to improve communication skills in children with ASD. These interventions, such as ABA, focus on developing language and social skills through structured learning. Results indicate that individualized approaches significantly enhance linguistic abilities.

Despite the available care frameworks and support efforts, children with ASD continue to face persistent difficulties and complex challenges. This calls for further in-depth study and continuous research.

In this context, the research problem focuses on the effectiveness of early intervention, its accessibility for autistic children, and its direct impact on the development of their language skills. The research question can be formulated as follows:

What is the effectiveness of individualized speech therapy intervention on the language skills of a child with ASD? A case study analysis.

Hypothesis

Individualized speech therapy intervention may improve verbal and non-verbal communication skills in children with ASD.

Research Objectives

This study aims to:

- Highlight the importance of early intervention and care for children with ASD.
- Increase adaptive behaviors and improve verbal and non-verbal communication.

Definitions of Terms

1. Autism Spectrum Disorder (ASD):

Childhood autism, first described by Kanner in 1943, is a syndrome characterized as a severe developmental and communication disorder. It manifests in a child's inability to develop effective means of communication and interaction with their environment, whether through language, gaze, or gestures.

Key features of this disorder include:

- Social withdrawal
- Rigidity and a strong need for sameness
- Peculiar behaviors, such as stereotypical and ritualized use of objects
- Mutism or language that appears not to be used for communication, sometimes giving an impression of deafness
- Cognitive potential that may manifest in strong memory skills and excellent spatial organization abilities
- A diagnostic threshold of 30 months of age to confirm the disorder (Adrien, 2008).

The DSM-5 provides a more current definition of Autism Spectrum Disorder as one of the Neuro developmental Disorders (NDD). The diagnostic criteria according to DSM-5 include two main symptom dimensions:

- Persistent deficits in communication and social interactions across various contexts.
- Restricted, repetitive behaviors, interests, or activities (APA, 2013; HAS, 2018).

2. Speech Therapy Intervention:

Speech therapy involves identifying disorders related to communication, cognition, and developmental issues. It includes:

- Objective evaluation of these disorders.
- Development of therapeutic strategies and remediation approaches.

3. Communication:

The term "communication" originates from the Latin word *communicare*, meaning:

- Sharing: To make something common or to transmit.
- Transmission: Expressing thoughts or feelings through speech, writing, gestures, or facial expressions with the aim of being understood.
- Relationship: Establishing a connection with another person (Fouzia, 2020/2021).

Communication is a complex process as it involves multiple functions. Assigning communicative intent to behaviors (e.g., requesting, refusing, protesting, naming, pointing, commenting, responding) involves:

- Use of gestures, intonation, symbols, facial expressions, and eye contact.
- Recognition of intentionality and consideration of the other person.

Communication typically occurs within interactions that range from simple to highly complex social exchanges (Carole Tardif, 2013).

Communication	Definition	Example
Form	The way a child communicates.	Crying, speaking, making gestures, signing, pointing at a picture
Use	The reason why a child communicates.	Being hungry, wanting something, needing attention, asking a question
Content	What a child communicates.	The child communicates the experiences they are living and the explorations they are making.

(Willis, 2009)

The alteration of communication is one of the major problems and diagnostic criteria for ASD (Autism Spectrum Disorder), so examining communication aspects (form, use, content) is crucial to identify language skills.

➤ **Applied Behavior Analysis (ABA)**: the acronym ABA means:

- **Applied**: because ABA involves applying its principles to everyday life and social life.
- **Behavior**: because ABA focuses on individuals' behaviors.
- **Analysis**: because it seeks to identify the relationships between behaviors and environmental events based on the theoretical principles of behaviorism.

Numerous studies by Lovaas demonstrate that ABA is effective for treating children with autism, both in terms of reducing problematic behaviors and teaching skills like language, play, autonomy, etc.

The goal of ABA intervention is to modify behaviors, meaning to create or increase the frequency and quality of deficient behaviors, as well as to reduce the occurrence of excessive behaviors.

Methodological

Procedures:

Our study is based on an in-depth qualitative methodology using a case study approach, which is relevant for obtaining a detailed understanding of the subject being studied. This method allowed us to collect rich and diverse data through triangulation of information sources, mainly through: clinical interviews, clinical observation, and the application of tests. This methodological approach enabled us to achieve a deep understanding of the case study "A.M." while preserving the complexity and richness of the context in which it is situated.

Case Presentation:

This concerns a child, A.M., currently 8 years and 9 months old, enrolled in the 3rd year of primary school (regular school).

He was seen in my consultation in July 2015 (age at the time: 26 months) at the Infanto-Juvenile Service of E.H.S Mahfoud Boucebssi, Dely Ibrahim Unit.

He was first seen by the psychologist for language delay and behavioral problems.

He was accompanied by his mother and I saw him in a second appointment for a speech therapy assessment.

In his biographical history:

The child was born as a result of a consanguineous marriage.

His father is 43 years old, a civil servant by profession.

His mother is 38 years old, an engineer by profession.

He has two brothers, aged 16 and 14. The second brother was also diagnosed with autism at the age of 3 and is currently enrolled in the 4th year of a specialized CLIS (Class for Inclusive Education).

The pregnancy was difficult due to exaggerated sympathetic symptoms during the first trimester.

The delivery was full-term and vaginal, with no incidents or signs of neonatal distress. His birth weight was 3,100g, length 44.5cm, and head circumference (HC) 33cm. His Apgar score was 8/10, then 9/10.

Regarding psychomotor development:

The mother reports that he was very calm and describes him as a quiet baby.

- ❖ First smile at 4 months.
- ❖ Head control at 4 and a half months.
- ❖ First tooth at 6 months.
- ❖ Sitting without support at 9 months.
- ❖ Crawling at 8 months and first steps at 15 months.
- ❖ Stranger anxiety at 8 months.

For language development:

- ❖ First cooing at 6 months.
- ❖ First syllable at 12 months.
- ❖ First word at 16 months.

Breastfeeding continued until 3 months, then was replaced by bottle feeding until the age of 18 months. Weaning was done easily.

Introduction of complementary foods started at 6 months without oro-sensory issues. His sleep was of good quality.

A delay in language development was observed by the parents; he only said "Papa" and "Mama."

Concerns from the parents started at 18 months, marked by language delay, and other symptoms emerged, such as isolation, not playing with other children or his brothers, covering his ears, and not responding to his name.

He walked on his tiptoes and lay down on the floor, which led the mother to seek consultation.

Differential Diagnosis

The differential diagnosis of ASD is based on a thorough evaluation of clinical symptoms, the exclusion of similar disorders, and the use of appropriate diagnostic tools. Collaboration between healthcare professionals—pediatric psychiatrists, speech therapists, psychologists, psychomotor therapists—and the family is essential for an accurate diagnosis and for implementing interventions tailored to the child's needs.

Tools used:

- **Clinical interview:** the study of the individual's case history to gain a comprehensive understanding of the case and the evolution of the symptoms.

- **Clinical observation:** observing current clinical signs, adaptive and problematic behaviors to assess social behaviors, communication skills, and progress made during the sessions.

- **Tests:**
 - 3.1. **CARS (Childhood Autism Rating Scale):** an evaluation scale for childhood autism (Schopler et al., 1980, French translation by Rogé, 1989), which provides an assessment of the severity of autism based on the observation of behaviors exhibited by the individual. Scores are obtained from 15 specific domains (social relationships, imitation, verbal and non-verbal communication, auditory responses, use of objects, emotional responses, etc.). The intensity of the disorder is measured (non-autistic, mildly to moderately autistic, severely autistic) based on the frequency of certain behaviors that are either more or less abnormal for the child's age.

 - 3.2. **(ABLLS-R) Assessment of Basic Language and Learning Skills:**
The Assessment of Basic Language and Learning Skills (Revised version) is a comprehensive evaluation tool that provides a global view of the individual and helps develop educational programs tailored to each person.
ABLLS-R is divided into 25 areas, ranging from cooperation and effectiveness of reinforcers to verbal imitation, naming (tacts), responding to group instructions, fine motor skills, toileting skills, etc. Each area is divided into different items, and for each item, there are two to five possible levels of success. (Dr. James W. Partigon, 2012)
Goal: To identify language and other skills.

- **Diagnosis:**
Child A.M. received multidisciplinary care (speech therapy, psychomotor therapy, psychological care, and medical treatment).
Clinical Evaluation:
A.M. is being followed in our consultation for Autism Spectrum Disorder (ASD). No relevant medical or surgical history was noted.
All test results (blood test, auditory evoked potentials, karyotype, and brain CT scan) came back normal.
Psychological Evaluation:
A.M. received psychological care after undergoing a psychological assessment using tools such as: clinical interviews, clinical observation, and the administration of the McCarthy Scales of Children's Abilities and the ECA (Childhood Autism Evaluation Scale).
All tests performed confirmed the diagnosis of ASD.
Psychomotor Evaluation:
A.M. was evaluated on the psychomotor level. The psychomotor examination was based

on observation, as the child could not respond to questions or follow instructions given by the psychomotor therapist.

An observation grid containing the same items as in the psychomotor assessment was used, including: body schema integration, body image structuring, temporal-spatial structuring, fine motor skills, etc.

The observation grid was inspired by the clinical observation grid for infants by Geneviève Haag.

Psychomotor observations revealed motor skill impairments (fine motor skills), lack of body image and body schema structuring, and difficulty in temporal and spatial structuring, which supports the ASD diagnosis.

- **Speech Therapy Evaluation:**

During our first meeting, A.M. was a lovely boy, 26 months old.

He immediately showed little interest in the interaction, his gaze was absent, and he did not acknowledge my presence.

A.M. exhibited psychomotor instability.

He tended to withdraw, did not respond to our solicitations, and threw materials on the floor.

He displayed inappropriate laughter.

He covered his ears and occasionally lay on the floor.

He used the hand of others as an extension of himself and displayed stereotypical gestures (hands and fingers in front of his eyes). He was non-verbal.

A.M. was intolerant to frustration. For example, when we tried to change games to redirect him, he would even hit us.

He was indifferent to his mother's separation and ran around aimlessly.

We observed a constant pattern of self-stimulation behaviors.

There was no pointing or joint attention observed, and we struggled to share activities with him.

He rarely responded to his name, did not produce words, but emitted a nearly continuous sound.

Regarding communication, we noted limited language, except for a few words repeated in immediate echolalia or incomprehensible jargon out of context. However, he did communicate when needed.

- At the start of the intervention, we focused on building and establishing a trusting relationship with the help and participation of his family (parental guidance), then implemented a personalized stimulation program.

We involved the parents and siblings, guiding and supporting them in managing the child's behaviors and difficulties.

The program aims to promote learning and increase his skills.

This was all after the diagnosis of Autism Spectrum Disorder was made by the pediatric psychiatrist.

Progression of Speech Therapy Sessions

Before creating a tailored program, an intervention plan was put in place with a schedule for weekly sessions.

An evaluation of the child was conducted in December 2015 (after 6 months of intervention) using the ABLLS to establish a baseline of the child's skills, which allowed for setting clear goals, identifying the skills to be worked on, and maintaining already acquired abilities.

After a short period of pairing to establish and strengthen the bond between the child and the speech therapist, intensive work began, with emerging skills being recorded and maintained, and later generalized in natural environments (home, daycare).

Techniques Used:

- **Reinforcement** is a pleasant consequence of a behavior that increases the likelihood of that behavior being repeated. The child will be motivated to demonstrate the behavior again. After evaluating the effectiveness of the reinforcing agent, the child prefers social reinforcers such as hugs, praise, and also enjoys sound-based games.
- **Guidance or Help** is what allows the child to learn a new behavior. There are several types of assistance: Visual, Verbal, Gestural, Physical (at different intensities: full, partial, or without assistance).
- **Visual Supports:** This is a form of visual guidance (pictograms, images, words, drawings, colors).

➤ Use of Educational Games

- **Extinction** is the removal of reinforcement to decrease a behavior, i.e., to make it disappear.
- **Chaining** involves breaking down a behavior into several steps, from the first to the last stage.

Domain Grid

Domain	Tasks	Task Name	Question
Visual Performance	C2	Follow instructions for engaging in an enjoyable activity in context	When given instructions to perform a preferred activity, the child manages to complete the activity.
	C5	Follows instructions to touch a reinforcing object (AR).	On request, the child touches or takes a preferred object regardless of its position.
	C6	Follows instructions to touch any object.	

	C7	Follows instructions to perform a liked action out of context.	The child is capable of following an instruction related to a preferred activity even if it is not currently visible.
	C8	Follows instructions during activities.	The child will be able to follow instructions to perform a non-preferred activity when the activity is present.
	C9	Follows instructions to give a requested non-reinforcing object.	The child follows the request to give a named non-reinforcing item.
	C10	Performs a simple motor action on request.	The child performs the requested simple motor movement.
	C13	Follows instructions to choose one of two reinforcing items.	On request, the child will be able to select an object named by the examiner from two reinforcing items held or placed in front of them.
	C17 C18	Touches their own body parts.	The child is capable of following instructions to touch parts of their own body, another person's body, or parts shown in a photo.
	C20	Chooses by function.	Can the child select items when given their function?
		Chooses by device (description?).	The child must be able to select objects or images of items when given a description.
	C23	Selects an object from three or more presented on a table.	On request, the child will be able to select specific objects from a large selection of items placed on a table in front of them.
	C25	Selects two objects from a large set.	
	C34	Selects an image representing an action from three options.	Can the child select an image representing a given action from three images?
	C39	Selects common sounds in the environment.	The child selects the correct image when they hear the corresponding sound.
Receptive Language	C7	Follows instructions to perform a liked action out of context	The child is capable of following an instruction related to an activity.
	C8	Follows instructions during routine activities	Can the child follow an instruction to perform a non-preferred activity when this activity appears frequently?
	C10	Performs a simple motor action on request	Does the child respond to the request by performing the simple motor gesture?

	C15	Selects one of two images of common items	Can the child select a specific image from a selection of two images of common objects?
	C17	Touches their own body parts	The child is capable of following instructions to touch parts of their own body, an image, etc.
	C18	Points to body parts on another person	
	C20	Chooses by function	Can the child select items when given their function?
	C25	Selects two objects from a large set	Can the child select two specific objects from a wide range of objects presented in front of them?
	C26	Selects two images from a large set	On request, can the child select two specific images of objects from a large selection of images placed on a table in front of them?
	C29	Follows an instruction to go to a person and give a named object	Can the child walk across the room to a specific location or person and give them a named object? For example, "Take the book on the table and give it to me."
	C30	Follows an instruction to go to a person and perform an action	
	C31	Executes a motor response specific to a directive	Can the child make a selection of objects or images when given an instruction with a specific expected response?
	C39	Selects common sounds in the environment	The child selects the correct image when they hear the corresponding sound.
	C44	Selects associated images	Is the child able to find the corresponding item?
	C45	Follows an instruction requiring a sequence of behaviors	Is the child able to select three items in a given sequence?
	C46	Selects "same" and "different"	Can the child select the one that is the same or different?
Imitation	D5	Imitates arm and hand movements	The child will imitate a motor activity involving the arms and hands.
	D6	Imitates head movements	
	D7	Imitates mouth and tongue movements	The child will imitate a motor activity involving movements of the mouth and tongue.
	D9	Imitates fine motor movements	Joins the tips of their index fingers together.

	D10	Imitates a sequence of actions	The child will imitate a sequence of motor activities, such as clapping hands and tapping thighs.
	D11	Imitates motor movements without direct verbal prompting	Performs a series of facial and head movements made by others.
	D13	Performs delayed imitation	
Vocal Imitation	E1	Imitates sounds on command	Can the child imitate the initial sounds of words that have been spoken to them?
	E2	Imitates initial sounds of words	
	E4	Imitates words on command	
	E6	Imitates sequences of numbers on command	
	E7	Demonstrates prosody	Can the child imitate words and phrases using a variety of tones, volumes, and speeds?
Requests	F2	Makes controlled multiple requests	"What do you want?" with the reinforcer present and imitative guidance (word or sign).
	F3	Requests with a visible reinforcer and answers, "What do you want?"	
	F5	Makes spontaneous requests (without guidance)	Can the child spontaneously make a request using a specific response (with words)?
	F7	Requests attention	Calls a person by name to get attention, takes their hand, or says "Look at me."
	F9	Requests using head movements or by saying "Yes/No"	Will the child indicate what they want or do not want by saying it or using head movements to specify "Yes" or "No"?
	F11	Requests help	The child asks for help when they need it.
	F27	Makes spontaneous requests	The child will spontaneously request objects, activities, or information.
Naming	G2	Labels familiar objects	If you ask, "What is this?" with a familiar item present, will the child identify the item?
	G4	Labels images of familiar items	If you ask, "What is this?" when shown an image of a familiar item, will the child identify the item?

	G6	Labels images of common actions	"What is he/she doing?" while showing an action image.
	G9	Labels body parts	The child will be able to label ordinary parts of their own body or those of others.
		Labels parts or features of objects	
	G11	Labels adjectives	Is the child able to identify the properties of objects (color, size, shape, texture, length, etc.)? For example: "The truck is red. The shoe is... big/small."
	G15	Labels the function of an item	When shown an item or an image of an item, can the child identify its function? For example: "What do you do with a glass?"
	G18	Labels with "yes/no" responses	When shown an image of a cat and asked, "Is this a cat?" the child must move their head to indicate the response.
	G20	Labels exclusions from a category (negation)	Can the child identify a particular item that does not belong to a set of items?
	G26	Labels two-component combinations (noun-verb)	Can the child identify an object and one of its properties? For example: a red ball.
	G28	Labels common environmental sounds	Can the child identify sounds such as train whistles, ambulance/police sirens, or animal sounds?
Intraverbal	H1	Completes a song	Is the child able to complete words or phrases of a song while others are singing?
	H4	Identifies animal sounds	Is the child able to provide the name of an animal when given its sound, and vice versa?
	H5	Answers questions about personal information	Is the child able to provide the name of an animal when given its sound, and vice versa? (Repeated)
	H7	Completes an item by providing its function	Is the child able to name the function of an item in a sentence?
	H8	Gives the function of a specific item	

	H9	Describes characteristics of an item	
	H16/ H17	Responds to questions	Is the child able to answer the question "WHAT"/ "WHERE"?
	H35	Answers questions about current events	Is the child able to give a single answer to questions about current events?
	H39	Maintains a conversation with an adult or peer	Is the child able to engage in conversations?
	H 40	Responds to new questions	The child should be able to answer questions differently from what they have learned.
Writing Skills	S1	Marks on paper	Can the child make marks on paper?
	S4	Copies straight lines	Can the child copy simple straight lines?
	S5	Copies curved lines	Can the child copy simple curves?

Parents are often invited to participate in therapy by repeating certain activities at home to reinforce the child's progress or where slight improvements are noted.

Results:

Childhood Autism Rating Scale (CARS): And this indicates that the degree of autism is severe.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Score
2.5	3	3	3	3	2.5	4	3	1.5	2	2	2.5	3.5	2	2	39.5

Table (2) represents the results of the cases on the CARS-T scale.

- **The evaluation domains of language skills on the ABLLS-R**

Domains	1st Evaluation	2nd Evaluation	Percentage Variation
Visual Performance	9%	66%	85%
Receptive Language	7%	57%	87 %
Requests	7%	66%	89%

Motor Imitation	12%	81%	85%
Vocal Imitation	15%	55%	72%
Naming	4%	38%	89%
Intraverbal	1%	55%	98%
GraphismWriting	10%	55%	81%

Table (3): Represents the evaluation domains of language skills on the ABLLS-R.

The table shows the percentage difference between the two assessments (pre-test – post-test). To evaluate the progress of case AM in various linguistic skills over time after speech therapy, a change rate analysis equation was applied. By examining the change rate over time, we can determine the actual impact of the speech therapy intervention.

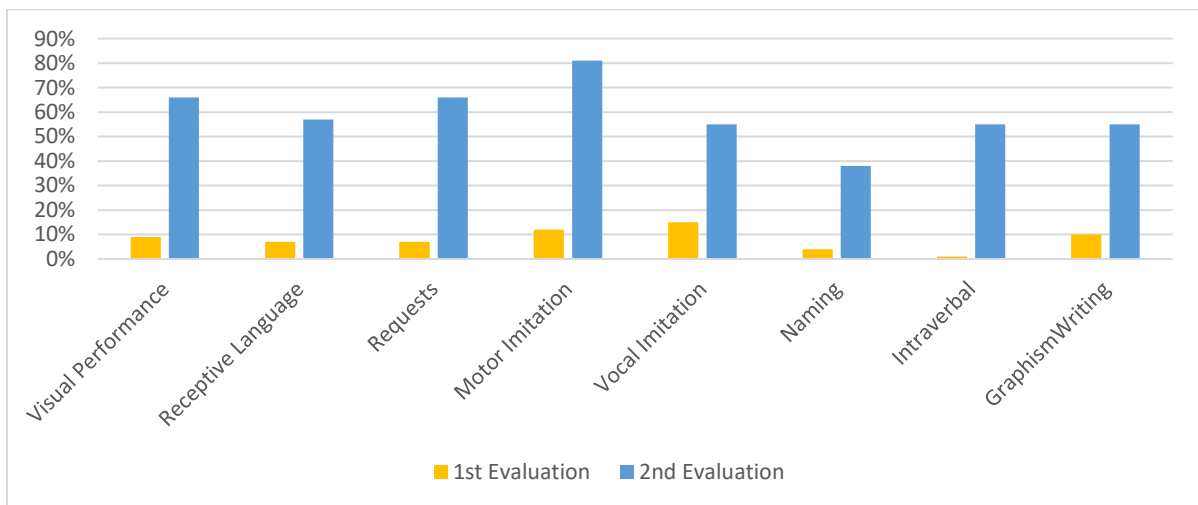


Figure 1: Evolution of Percentages (Pre-test/Post-test)

The previous table shows the scores obtained during the initial assessment, where we can observe at first glance:

Child "A.M." obtained scores below the average total success rate, with scores ranging from a minimum of 1% to a maximum of 15%.

The majority of gaps and errors were mainly due to maladaptive behaviors (crying, screaming, etc.).

Initial Evaluation: (First phase of evaluation)

The previous table presents the scores obtained during the initial evaluation, where we observe at first glance: The child "AM" scored below the average of the total success rate. The scores range from a minimum of 1% to a maximum of 15%.

The concentration of failures and errors was mainly due to inappropriate behaviors (crying, shouting, etc.).

Second phase of evaluation:

In this phase, we observe that the child obtained scores above the average in all areas, which indicates the success of the established program, as the scores now ranged between a minimum of 38% and a maximum of 80%.

Furthermore, we noticed a clear and significant improvement in the following areas:

- Linguistic skills
- Receptive language
- Requests
- Denomination
- A notable reduction in behavioral disorders

Discussion:

After a stimulation period lasting 36 months, A.M. showed remarkable progress:

- Especially in repetitive behaviors, which significantly decreased: He now enters the office without difficulty. Once inside, the same rituals as at the beginning can be observed, such as exploring the entire office space in movement. He is sometimes unstable on the chair, moving, sitting, and standing up continuously.
- Regarding A.M.'s visual performance, we observe progress from 9% to 66%. His gaze is more frequent, and he gives fleeting glances, but at times, he can maintain good eye contact. He is now able to match geometric shapes (shape sorter), match image-to-image, object-to-object, object-to-image, and sort colors (red-yellow), responding to adult gestures.
- For his language, in the receptive language and requests areas:
- There is a great improvement in communication, both verbal and non-verbal. His lexical stock is expanding, with immediate and delayed echolalia. He understands adult instructions and responds appropriately, answers to his name, follows instructions during an activity, understands and responds to simple commands and questions (e.g., can point to body parts, colors...). He uses "yes" and "no" appropriately, as well as polite expressions, tells short stories, and has a good understanding of instructions, always responding appropriately.

- In terms of denomination, the progress was noted from 4% to 38%. He can now sort two objects by color, name objects, point to and name body parts (his own and those of a doll), identify the names of objects (color, size, shape, texture, length, fruits, body schema - well structured), and describe them with all possible details (e.g., neck, back...). He also knows the function of each body part (e.g., "We see with the eyes, we hear with the ears...").
- He can also identify animals by their sound (intraverbal).
- **In terms of imitation:** Progression went from 12% to 81%, showing excellent improvement in motor imitation abilities, such as joining hands, clapping, crossing arms, opening a box, etc.
- **Vocal imitation:** Notable improvement in sound reproduction abilities, such as imitating logatomes, environmental sounds (animals, means), and imitating 2 consecutive verbal and non-verbal gestures.
- **Graphism:** Progressed from 10% to 55%, with significant improvement in fine motor skills and oculomotor abilities. In the first stage, he traced clearly visible dots, following a graphic pattern. I guided his hand to follow dotted lines (physical guidance), then gradually reduced hand guidance as he started to move the pencil on his own (tracing numbers, letters, and shapes following the dotted lines). We encouraged him in all circumstances and gradually moved to lighter, more distant dots. Currently, A.M. is capable of holding a pencil or pen correctly to write.
- He can now recognize and combine phonemes, so the reading process is underway.
- He understands the concept of danger, plays with his siblings, and shows the beginning of autonomy in dressing, eating, and toilet training.

The effectiveness of personalized interventions based on Applied Behavior Analysis (ABA) in improving communication skills and adaptive behaviors in children with ASD is evident. The progress observed, ranging from 9% to 89% in various areas, is consistent with research by Sulu et al. (2024), which showed that individualized approaches like ABA significantly improve language and social skills.

Moreover, the use of tools like the ABLLS-R to evaluate and track the child's progress allowed for the customization of therapeutic strategies, confirming the recommendations of Marini et al. (2020), who emphasize a multidimensional approach tailored to the specific needs of children with ASD.

Conclusion:

This case study demonstrates the positive impact of personalized interventions in the treatment of children with Autism Spectrum Disorder (ASD). The results reveal a significant improvement in both verbal and non-verbal communication skills. The child's lexical stock expanded, and

there was an increased ability to recount rituals, along with a notable reduction in maladaptive behaviors.

The journey of managing ASD can be long and complex, especially for families. However, these progressions are the result of a structured program that combines parental guidance, appropriate therapeutic approaches, and multidisciplinary support.

We recommend that in the future, a multidisciplinary collaboration involving speech therapists, psychologists, pediatric psychiatrists, psychomotor therapists, and educators be established. This would require better coordination among professionals and the implementation of support programs for families. These programs are essential to reduce stress and improve the quality of life for both autistic children and their families.

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