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Characteristics of speech purpose of autistic children from 3 to 6 years old in Vietnam

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Abstract

The most crucial tool for human communication is language. People can comprehend values via perception, experience, and human knowledge through language-based communication activities. Nevertheless, language and communication are the biggest obstacles in children with autism. In this article, the researchers focused on analyzing the characteristics of autistic children's speech purposes (declarative speech, interrogative speech, imperative speech, other types of speech) during the period from 3 to 6 years old in order to see their ability to use speech according to different purposes in comparison with typically developing children of the same age. The study's participants consist of 15 autistic children in Hanoi, comprising 9 males and 6 females, divided into 7 with mild autism, 4 with moderate autism, and 4 with severe autism. The article's findings can assist specialists, parents, and those who are interested in autistic children in assessing the child's language abilities in terms of speech characteristics according to the speech's purpose. Narrative speech makes up the greatest proportion and amount of all speech by purpose in kids with autism. This high prevalence of narrative speech is comparable to the developmental process in typically developing children. Nevertheless, in typically developing children, interrogative speech comes second in quantity after narrative, but for autistic children, this type of speech has the lowest quantity and rate among all speech by purpose. Based on these findings, a strategy for promptly intervening in the language development of children can be formulated.

Keywords: autism, children, language, purpose of speech, communication, Vietnamese



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Public Interest Statement

The results of this study show that the most important communication tool of humans is language. People can understand values through human perception, experience and knowledge through language-based communication activities. However, language and communication are the biggest obstacles in autistic children. In this article, we focus on analyzing the characteristics of autistic children's speech purposes (declarative speech, interrogative speech, imperative speech, other forms of speech) during the period from 3 to 6 years old to see the child's ability to use speech according to their needs different purposes compared to children developing normally at the same age. The results of the article can assist experts, parents and people interested in children with autism in assessing children's language abilities in terms of speech characteristics according to speech purpose. Based on these findings, it is possible to develop a timely intervention strategy for children's language development.

Introduction

In recent years, the number of children with autism has increased rapidly in nations around the world and has become a major concern in society. As language skills are the primary challenge for children with autism, we want to examine the speech purposes in autistic children in this article to compare their language skills to those of typically developing children. The results of the article will help experts, teachers and people interested in children with autism to evaluate the child's language ability and then be able to come up with measures to help with the child's development.

The article will focus on analyzing the number of speeches categorized by purpose in children with autism and comparing them to those without autism (declarative speech, interrogative speech, imperative speech, other speech).

The research subjects include 15 autistic children (in Hanoi), including 9 males and 6 females; 7 children with mild autism, 4 children with moderate autism and 4 children with severe autism.

The structure of the article includes 3 main parts: Introduction, content, conclusion and recommendations. In the content section, the research overview, research methods, results and discussion will be presented. In the research results section, a comparison will be made regarding the number of statements according to purpose between children with different levels of autism as well as regarding data on speech according to purpose between autistic children and typically developing children of the same age range.

Theoretical Review

A. Concept of autism

Currently, there are many different concepts about autism. In this article, we follow the United Nations' perspective on autism put forward in 2008. Autism is a form of lifelong developmental disability, often manifested in the first 3 years of life. Autism is a neurological disorder that affects brain function. Autism is characterized by difficulties in social interaction, problems with verbal and non-verbal communication, and restricted and repetitive behaviors, interests, and activities (United Nation, 2008).

B. Concept of speech

According to the authors in the book "Cambridge Grammar of English Cambridge", utterances refer to complete units of communication, including single words, phrases, clauses and clause combinations (Sihombing et al., 2023). Clauses are said in context, in contrast to the term "sentence" which are units consisting of at least one main clause and many accompanying subordinate clauses marked by punctuation (capitalization and periods in writing) (Carter and McCarthy, 2006; Purba et al., 2023;

Herman et al., 2024).

According to Hao et al (2001), language communication activities are called verbal activities. Language can be divided into separate units called utterances. The smallest utterance that can be used in communication is a sentence (Resmi et al., 2023). An utterance can consist of many sentences.

Thus, an utterance is any sequence of speech, with a period of silence forward and backward in that speaker's speech (Purba et al., 2024). Statements are sentences in communication activities.

C. Characteristics of Vietnamese children's speaking purposes

Speech by purpose of Vietnamese children is also increasingly expanding and becoming more diverse (Giang and Ha, 2024). According to Lan (1996), based on the purpose of speech, children's language in the period from 1 to 6 years old has 5 types of sentences (statements), which are reported statements, interrogative statements, and interrogative statements. exclamation, exclamation and response speech.

D. Narrative statement

This is the type of utterance that is formed earliest and has the highest number in the language of children of all ages. Children use narrative speech to talk about things, phenomena, activities in family and social activities, and to talk about relationships between things and phenomena in nature that children are aware of.

The first narrative utterance is used by children to separately describe each thing in the most general way in the form of a name. Gradually, the content reflected in narrative statements is expanded. Children use narrative speech to describe things with their characteristics and properties, describe the relationship between the subject and the action, and tell about the object the action is directed towards, the time, place, and state.

At age 4, children begin to understand and evaluate the nature of things through action; Children recognize the level of action and the cause-effect relationship of action.

By age 5, children have a better understanding of the interrelationship between natural phenomena; Children also gradually understand the characteristic signs for each object.

6-year-old children can already distinguish between different signs of action. At this age, children already know how to compare and simile. Children begin to speculate and imagine (Lan, 1996).

E. Questionable statement

Interrogative statements are statements that children ask about the world around them, forcing the listener to answer. The older children get, the more their need to learn about things and phenomena around them increases. Therefore, children's questioning statements increase rapidly and are rich in many aspects.

According to Lan's research results, children only know how to ask about things at 19 months; 21 month olds ask about actions; 26-month-old children know how to ask about the subject of action and the place where the action is directed; 33 month old children ask about the properties of things, ask about objects; 36-month-old children ask about the level and state of the action, and ask about the cause. By age 4, children have many new types of questions such as asking about the time of an action, asking about quantity, and asking about the meaning of words. Five-year-old children know how to ask about the origin of things, ask about kinship relationships, ask about days of the week, seasons of the year, and ask about methods (Lan, 1996).

F. Statement of request

Command statements (commands) are statements that convey information about the child's request that the adult must comply. The number of requests a child makes increases gradually with each month of age. Children's requests for fulfillment, expressed in their requests for requests, are also increasingly diverse. Children's command statements are often expressed by the words go, don't... or by intonation (Lan, 1996).

G. Exclamatory statement

This is a type of speech that expresses the child's emotional nuances. Children use exclamatory expressions to express many different emotions such as surprise, joy, nostalgia...

According to Lan (1996:140), "Children 18 months and 19 months old do not have exclamation sentences yet. The older the child, the greater the number of exclamatory sentences and the more diverse the nuances expressed in the exclamatory sentences".

Children's exclamatory statements are often expressed with exclamatory words such as: ah, oh, oh, I'm sorry...

H. Spokesperson called out

Speak calling (calling) is used by children to call adults or friends, sometimes even to toys. Children have a need to communicate directly with people and surrounding objects according to their imagination from a very early age. The younger the child, the more vocalizations and calls, it seems that young children always want an adult by their side (Lan, 1996).

Thus, in the process of development, each type of utterance has its own characteristics. Among the five types of statements above, declarative statements and interrogative statements are the two types of statements with the largest number and the most development. Types of imperative, calling, and exclamatory speech are still used by children at all ages, but the development is not as obvious as declarative and interrogative speech. The number of these 3 types of statements is not much.

In this article, we classify the speech of autistic children into 4 types: narrative speech, interrogative speech, imperative speech and other types of speech (exclamation, calling...)

I. An Overview

Studies on the grammatical aspects of language in autistic children reveal that they frequently make grammatical errors and seldom employ complex sentence structures compared to typically developing children (Pierce and Bartolucci, 1977; Shipley & McAfee, 2009; Brynskov et al., 2017; Rodriguez, 2019).

Pronoun inversion is a common technique among autistic kids. Children frequently substitute second or third person pronouns for first person pronouns. For example, a child might say, "You want to drink water," but he/she actually means, "I want to drink water". When it comes to morphology, such as plurals, possessives, and verb tenses, autistic children also struggle greatly (Stone et al., 1998; Paul and Wilson, 2008; Beytollahi & Soleymani, 2019; Rodriguez, 2019; Chanchaochai, 2019).

Children with autism rarely use questions, and they often find it easier to answer yes/no questions than questions with question words. In addition, they cannot generalize a grammatical rule on their own besides what is taught (Minshew, Meyer, and Goldstein, 2002; Shipley & McAfee, 2009).

Children with autism have slower grammatical development than typically developing kids. Typically developing children start using one-word sentences at around 12 months, and this stage usually lasts for 3 to 6 months. In contrast, children with autism typically begin using one-word sentences

around the age of 30 months, and this stage lasts from 6 to 12 months (Rodriguez, 2019).

Studies on the grammatical traits of autistic children's language reveal that children with autism have slower grammatical development than typical children, often struggling with pronouns, plurals, possessives, and verb tenses. They also tend to avoid asking questions and usually respond to yes/no questions, while finding it challenging to respond to questions with interrogative words.

Research Methodology

The following techniques and strategies were employed to gather linguistic sources and then analyze this data:

1. Observation, recording, and note-taking

From the ages of 3 to 6, we observe kids during group lessons, classroom activities, and individual lessons to record their speech. In addition, we also regularly record the audio and video of children's individual lessons. The total average recording time per month is about 1 hour.

2. Journaling

To obtain the speech that children use at home and in preschool, we ask for assistance from the children's caregivers (grandparents, parents, etc.) to record the speech that the children say at home. We also regularly contact the children's preschool teacher to learn about the speech the child makes in class.

3. Analyzing sentences according to the purpose of speech

The researchers analyzed children's speech according to the purpose of speech (declarative speech, interrogative speech, imperative speech and other types of speech).

4. Comparison

The researchers conducted a comparison of the number of statements based on their intended purpose between children with varying degrees of autism as well as between autistic children and their typically developing peers of the same age.

5. Statistical analysis and classification

All the speech of autistic children from nearly 3 years old until 6 years old are statistically detailed and classified based on the purpose of their speech.

Findings and Discussion

A. Findings

1. Comparison of speech according to purpose between children with different levels of autism

Through our survey, we have a table of the quantity and ratio of types of speech according to purpose among children with different levels of autism (3 - 6 years old) as follows:

Table 1. Average quantity and ratio of types of speech according to purpose of each group of children with autism

Autism Level		36 months				48 months				60 months				72 months			
		Interrogative	Imperative	Others	Declarative	Interrogative	Imperative	Others	Declarative	Interrogative	Imperative	Others	Declarative	Interrogative	Imperative	Others	Declarative
Level 3 (Severe)	Quantity	2.25	0	0	0	14.75	0	2.25	1.25	53	0	4	3.75	133	0.25	6.25	4.75
	Ratio (%)	100	0	0	0	80.82	0	12.33	6.85	87.24	0	6.58	6.17	92.20	0.17	4.33	3.29
Level 2 (Moderate)	Quantity	1.75	0	0.5	0.5	49.5	0	8.25	3.75	195	1.75	15.75	8.5	335	2.75	19	8.5
	Ratio (%)	63.64	0.00	18.18	18.18	80.49	0.00	13.41	6.10	88.24	0.79	7.13	3.85	91.72	0.75	5.20	2.33
Level 1 (Mild)	Quantity	63.43	0.43	6.71	3.86	190.86	3.29	20.43	9.14	345.71	6.00	31.29	16.43	506.29	16.00	48.86	47.86
	Ratio (%)	85.22	0.58	9.02	5.18	85.31	1.47	9.13	4.09	86.55	1.50	7.83	4.11	85.46	2.70	8.25	8.08

From the data table presented above, it is clear that children with various degrees of autism have quite distinct speech patterns depending on their purpose. Additionally, there are variations at each stage.

At 36 months old, children with severe and moderate autism still exhibit variations in the types of speech they use. The group of children with severe autism only make declarative speech (2.25 times), which account for 100% of the total number of statements in this period. The group of children with moderate autism make no interrogative speech (0%), and the remaining kinds of speech are in very small quantities. Children with moderate autism make 1.75 declarative speech, accounting for 63.64%. Both imperative speech and other speech are made 0.5 times (18.18%). Meanwhile, with the group of children with mild autism, all types of speech classified by purpose are recorded in relatively large numbers. They make an average of 63.43 declarative speech, accounting for 85.22%; 0.43 interrogative statements, accounting for 0.58%; 6.71 imperative speech, accounting for 9.02% and 3.86 other types of statements, accounting for 5.18%.

By 48 months old, children with severe autism start to make imperative speech (2.25 times, accounting for 12.33%) and other types of speech (1.25 times, accounting for 6.85%). The number of declarative speeches in them continue to increase with 14.75 times, accounting for 80.82%. Similarly, the group of children with moderate autism has a rapidly increasing number of speeches based on their intended purpose, with 49.5 times of declarative speech (80.49%), 8.25 times of imperative speech (13.41%), 3.75 times of other types (6.10%). However, they have not yet made any interrogative speech. For children with mild autism, the numbers also increase during this period. Those children had an average of 190.86 times of declarative speech, accounting for 85.31%; 3.29 times of interrogative speech, accounting for 1.47%; 20.43 times of imperative speech, accounting for 9.13% and 9.14 times

of other types of statements, accounting for 4.09%.

At 60 months of age, children with severe autism still do not have any interrogative speech. They have an average of 53 times of declarative speech, accounting for 87.24%; 4 times of imperative speech, accounting for 6.58% and 3.75 times of other types, accounting for 6.17%. On the other hand, children with moderate autism now have a full range of speech according to purpose. These children have 195 times of declarative speech, accounting for 88.24%; 1.75 times of interrogative speech, accounting for 0.79%; 15.75 times of imperative speech, accounting for 7.13% and 8.5 times of other types, accounting for 3.85%. Lastly, the group of children with mild autism continue to have an increasing number of statements, with 345.71 times of declarative speech, accounting for 86.55%; 6 times of interrogative speech, accounting for 1.50%; 31.29 times of imperative speech, accounting for 7.83% and 16.43 times of other types, accounting for 4.11%.

Finally, at 72 months, all three groups of children with autism at different levels exhibit a full range of speech types according to their intended purpose. The group of children with severe autism have 133 times of declarative speech, accounting for 87.24%; 0.25 times of interrogative speech, accounting for 0.17%; 6.25 times of imperative speech, accounting for 4.33% and 4.75 times of other types, accounting for 3.29%. The group of children with moderate and mild severity continue to have increasing numbers. The group with moderate autism had 335 times of declarative speech, accounting for 91.72%; 2.75 times of interrogative speech, accounting for 0.75%; 19 times of imperative speech, accounting for 5.20% and 8.5 times of other types, accounting for 2.33%. Children with mild autism have 506.29 times of declarative speech, accounting for 85.46%; 16 times of interrogative speech, accounting for 2.70%; 48.86 times of imperative speech, accounting for 8.25% and 47.86 times of other types, accounting for 8.08%.

Thus, in general, after each year of intervention, the number of statements according to purpose in each group of children with autism increases, but there are differences in each group of children as well as differences through each stage.

Among the four types of statements classified by purpose (declarative, interrogative, imperative, others), declarative speech always has a very large quantity and this number increases rapidly. It follows that declarative speech always accounts for a very high proportion in 3 groups of children in all stages. However, the speech development of each group of kids varies depending on the stage.

Concerning the group of children with severe autism, there is a significant decrease in the rate of declarative speech between 36 and 48 months of age (from 100% to 80.82%), then this number increases to 87.24% at 60 months old and continues to increase to 92.20% at 72 months old.

At the same time, the group of children with moderate autism has an increasing rate of speech each year. At 36 months, declarative speech accounts for only 63.64%, this is the lowest rate compared to all other groups of children and all other stages of children with autism. After that, the rate of this type of speech increases to 80.49% at 48 months, 88.24% at 60 months and 91.72% at 72 months of age.

Last but not least, the group of children with mild autism have a relatively stable rate of declarative speech at all stages (ranging from 85.22% to 86.55%).

Imperative speech is the type of speech with the second highest rate, although the proportion of this type of speech is not high compared to the total types of speech classified by purpose. Data on imperative speech also show differences in each group of children at different stages. In the group of children with severe autism, the rate of imperative speech increases in the period from 36 to 48 months (from 0% to 23.33%) and then decreases in the later period (at 60 months, it decreases to only 6.58% and continues to decrease to 4.33% at 72 months of age). Regarding the group of children with moderate autism, the

rate of imperative speech decreases over the years from 18.18% to 13.41% (48 months), then continues to decrease to 7.13% (60 months) and to 5.20% at 72 months of age. As regards the group of children with mild autism, there is a fluctuation in the rate of imperative speech over the years. At 36 months, the rate of this type of speech is 9.02%, then it increases slightly at 48 months to 9.13% before decreasing to 7.83% at 60 months and increasing again to 8.25% at 72 months of age. Thus, this type of speech exhibits varying trends in each group of children and at different stages.

Other speech is the third most common type of speech after declarative and imperative speech, although its overall proportion is relatively low in the total amount of speech output. This type of speech exhibits an unstable pattern in autistic children. In the severe autism group, there is an initial increase in the rate of other speech from 0% to 6.85% between 36 and 48 months, followed by a gradual decrease to 3.29% between 60 and 72 months. The group of children with moderate autism shows a significant decline in the rate of other speech across different periods, dropping from 18.18% at 36 months to 2.33% at 72 months. In contrast, the mild autism group exhibits fluctuations in the rate of other speech, decreasing from 5.18% to 4.11% between 36 and 60 months and then rapidly increasing to 8.08% at 72 months. In summary, there is a general trend of increased proportions of other speech in children with mild autism from 36 to 72 months.

Interrogative speech has a relatively insignificant presence across all three autism groups and developmental stages. However, it shows an increasing trend between 36 and 72 months in all autistic children. The severe autism group had no interrogative speech until 72 months, where it constituted 0.17%. The moderate autism group started using interrogative speech at 60 months (0.79%) but slightly decreased to 0.75% by 72 months. Meanwhile, the mild autism group's use of interrogative speech started at 0.58% at 36 months, increased to 1.47% at 48 months, reached 1.50% at 60 months, and expanded to 8.25% at 72 months.

In summary, when considering the proportion of speech by purpose among autistic children, declarative speech dominates across all child groups and developmental stages. Imperative speech is the second most common type, followed by other speech in the third position, while interrogative speech plays a minimal role in autistic children. Nonetheless, interrogative speech is the only type that demonstrates an increasing trend between 36 and 72 months in all child groups. The remaining types of speech (declarative, imperative, and others) exhibit fluctuating trends among the different child groups and developmental stages.

2. Comparison of the number of statements by purpose between autistic children and typically developing children (3 - 6 years old)

Among typically developing children, narrative speech is formed earliest and records the highest number in children's language at all ages (Lan, 1996:134). Hence, narrative speech among autistic children and typically developing children demonstrates similarities at different stages. This type of speech accounts for the highest number and proportion among children's speech types.

In typically developing children, besides narrative, interrogative is also a type of speech that is large in number and develops rapidly compared to other types of speech. According to Lan (1996:134), among the four types of speech (narrative, imperative, interrogative and exclamatory speech), narrative and interrogative speech are the most numerous and developed. At this point, there exists a huge gap between autistic and typically developing children in the absorption and usage of different types of speech by purpose. In the case of autistic children, interrogative speech is at the lowest number and rate among the types of speech by purpose. Children with autism face significant challenges in using this type of speech. Therefore, many children that are in the survey sample did not produce any interrogative

sentences by 72 months old, even among some children with mild autism (T04, T05, T07, T08, T09, T10, T11).

It is perceived that autistic children have inherent disorder in comprehension and language. As a result, children primarily acquire language through stereotyping and imitation. Specifically, the language they possess reflects the speech that children are taught by teachers and families. Furthermore, autistic children's comprehension is intuitive, thus they are more receptive to narrative speech. Because narrative speech is mainly to "express objects, phenomena, activities in family and community, relationships between things and phenomena in nature that children are able to perceive" (Lan, 1996). This type of speech is easy for both autistic and typically developing children to absorb and use, thus it has the largest number in children's language.

Meanwhile, for typically developing children, they can use interrogative speech to inquire about the surroundings, forcing the listener to answer. The older children get, the more their need to learn about things and phenomena around them increases. Therefore, children's interrogative speech increases rapidly and is enriched to cater multiple aspects (Lan, 1996). As a result, the number of interrogative statements in typically developing children is very large and growing daily. Meanwhile, for children with autism, their linguistic perception is extremely limited, they mainly use existing, stereotyped sentence patterns, which leads to the difficulties in being creative and flexible with language usage. Furthermore, many autistic children do not have the need to communicate or learn new things, making their need to use interrogative speech diminish. For autistic children whose language is better, using interrogative speech is also very difficult. These children often can only use sentence patterns that they have learned and applied in a straightforward manner. Therefore, this type of speech has the lowest number and develops the slowest compared to other types of speech by purpose among children with autism.

Although imperative does not account for a high proportion in the speech of autistic children, it is placed the second behind narrative speech. This is because imperative speech helps express children's needs, which can facilitate their absorption and usage. Therefore, teachers provided this type of speech to children early, especially sentences expressing children's basic needs (eat, drink, go to the toilet, etc.). Other speech is understood to encompass exclamatory, greeting and calling, gratefulness expression, apologies, praise, encouragement, etc. to other people. Autistic children usually do not have the need to use this type of speech while it is also difficult for children to adopt. Therefore, the rate of this type of speech is not high in children's language.

For typically developing children, imperative, greeting, and exclamatory sentences are still used by children at the sample age, however their development is not as obvious as the narrative and interrogative speech. These three types of speech do not represent a significant portion (Lan, 1996:14). Thus, in addition to the interrogative speech, which is the type of speech that illustrates a major gap between autistic and typically developing children, the remaining types of speech such as narrative, imperative and others show a similar fashion of development between autistic and typically developing children.

B. Discussion

With the above research results, it is possible to conclude that this is an innovative and practical study on the language of autistic children, specifically the characteristics of speech by purpose in these children. In this essay, a comparative study on the number of statements by purpose between children with different levels of autism as well as between typically developing children of the same age has been performed. Analysis results highlight that narrative speech constitutes the highest proportion of all types of speech by purpose in children with autism; the second one is imperative while other and interrogative speech

have the lowest percentage and take insignificant rate in children with autism. Meanwhile, in typically developing children, interrogative speech accounts for a high proportion of the child's language. Thus, interrogative speech demonstrates the difference in linguistic adoption between autistic and typically developing children. The remaining types of speech (narrative, imperative, other) illustrate similar development between these two groups of children.

Conclusion and Suggestions

1. Conclusion

Regarding speech purposes, there exist differences between children with different levels of autism and across development stages. The less severe the level of autism, the earlier and more fully the speech by purpose types develop. Children with different levels of autism possess distinct abilities to absorb the meaning of speech depending on purpose, which also varies by stage.

Narrative speech accounts for the highest quantity and percentage of total speech by purpose in children with autism. This high occurrence of narrative speech is similar to the developmental process in typically developing children. However, for typically developing children, interrogative speech is the second in quantity after narrative, but for autistic children, this is the type of speech with the lowest quantity and rate among the total speech by purpose. The primary reason for this phenomenon is that autistic children inherently struggle with language and communication, they generally express the disinterest and inability in communication, therefore their speech mainly comprises of simple and specific sentences. As a result, it is extremely difficult for children to perceive and utilize interrogative speech.

2. Suggestions

Intervention measures for autistic children in general, including language teaching, is an arduous and strenuous process, requiring a comprehensive combination of factors.

First, in order to be able to intervene scientifically, teachers, parents and people working with autistic children need to be trained to have an understanding of autistic children in general including children's language development.

Second, before performing intervention measures, experts, teachers and parents of autistic children need to properly assess the child's language ability which encompasses the characteristics of the speech purpose. On this ground, it is possible to develop suitable speech therapy for children with appropriate plans and goals.

Third, in order to achieve high results in speech therapy for children with autism, there needs to be more in-depth research on their language such as phonetics, pragmatics or speech length. These studies need to be synthesized to provide benchmarks for phonetics, vocabulary, grammar, pragmatics, etc. for autistic children in Vietnam. Experts, teachers and parents can then apply these metrics to assess, plan and intervene in speech therapy for autistic children.

Fourth, to be able to attain output in intervention on autistic children, it is essential to establish an interdisciplinary collaboration of health, psychology, education, language, etc. so that children with autism can be evaluated and obtain a suitable intervention roadmap in all fields.

Fifth, research agencies need to continue to execute research and publish documents on the language of autistic children to facilitate the scientific approach of schools and intervention centers on autistic children.

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Authorship and Level of Contribution

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