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Research Article

UTTERANCE STRUCTURE OF AUTISTIC CHILDREN FROM THE AGE OF 3 TO 6 YEARS: A COMPARATIVE STUDY IN VIETNAM

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ABSTRACT

By observing and taking notes on all the processes of teaching autistic children to learn to speak, this research statistics the number of speech structures of 15 Vietnamese autistic children (at three levels) from 3 to 6 years old to evaluate, analysis of component structures developed: one-component utterance, two-component utterances, three-component utterances and complex utterance. The autistic children were observed by using descriptive qualitative study to evaluate and analyze component structure development. This research indicated that there was a considerable difference in the number of utterances between groups of autistic children at different levels. Compared to mild autistic children, the more severely autistic children were, the more structure utterances appeared and the simpler structure utterance used.

KEYWORDS

Autistic children; utterance structure; autism; linguistic therapy; Vietnam.

INTRODUCTION

Language is the most important means of human communication. Through communication, people can absorb and comprehend cultural and spiritual values and social and ethical standards to form and develop their personality and morality. Especially for children, language plays a critical role in the development process of life because language is the foundation that helps children to develop all other areas, from

cognitive to emotionalism. Meanwhile, "Language impairments are widespread and to be considered as an identifying feature of children with autism" (An, 2014).

Utterance refers to complete communication units, including single words, phrases, clauses, and combinations of clauses spoken in contexts. It differs

from "sentence," which is specially used for units that consist of at least one main clause and any accompanying subordinate clauses which are marked by sentences (manifested by capitalization and period in the document)." (Ronald Carter and Michael McCarthy, 2006). In other words, an utterance is a sentence in communication activities.

The survey classified the utterances of autistic children from 3-6 years old according to a type of utterance structure, including 1CU, 2CUs, 3CUs, and CU.

Currently, several studies on the utterance of children with autism revealed that the language development of autistic children is much slower than that of normal children of the same age. Regarding the receptive ability as well as the expressive utterance of autistic children, there is a remarkable delay compared to normal children of the same age (Eaves, Ho, 2004; Luyster, Lopez, Lord, 2007; Jessica Rodriguez, 2019). The ability to receive and express autistic children is diverse. Most autistic children begin to speak slowly and have difficulty regarding expressive language (Phuong TN, 2018).

Regarding the phonological characteristics of autistic children's utterances, autistic children develop their utterances slower than normal children, and autistic children have monotonous, high-pitched utterances accompanied by echolalia (Charman et al., 1997; Scott, 2012; Jessica Rodriguez, 2019). Autistic children often have unclear pronunciation, high timbre, and even intonation (Hanh, 2007).

The number of words as well as the ability to perceive the meaning of autistic children, is much lower than that of normal children. In terms of semantics, most children with autism can only understand literal and logical meanings. They need help to receive abstract words (Bedford et al., 2013; Chanchaochai, Nattanun,

2019). The vocabulary of autistic children is still small (Thao, 2015; Phuong, 2018). Autistic children often only have a simple vocabulary (Lanh, 2017).

The grammar ability of autistic children develops more slowly than normal children. Normal children use one-word sentences at the age of 12 months. This period lasts from 3 to 6 months. Meanwhile, autistic children will use one-word sentences at the age of 30 months, and this period lasts from 6 to 12 months (Jessica Rodriguez, 2019). Erratic grammatical structure is one of the reasons why autistic children have difficulty understanding complex and informative sentences (Phuong, 2018).

The above research results show that there is a very important research gap that needs to be studied. There are no in-depth studies on the characteristics of utterance structures of autistic children in Vietnam. Therefore, this article focuses on studying the utterance structure of 15 Vietnamese 3-6-year-old autistic children compared to normal same-age children through teaching and observation from 2017 to 2021 at these Centres (Institute of Linguistics and Science Association of Education Psychology in Vietnam). This will be a valuable resource for experts, teachers, and parents of autistic children in the process of assessment, planning, and utterance therapy for autistic children.

METHODS

Study design

This is a comparative qualitative study, use the results of classifying children according to the level of autism assessed by Vietnam National Paediatrics Hospital. Then, during teaching children to learn to speak, the teacher guides, monitors and periodically evaluates utterance structural changes of these autism children

at the age of 3 years and compare with the development level of normal children.

Criteria for selection and screening

- Admission criteria: All children diagnosed with autism spectrum syndrome from 18 months old have a normal physical condition.
- For children who want to study at these centers, parents must apply for admission (intervention),

provide information about the child (difficulty, behavior, comorbidities), and commit to working closely with teachers.

Study participants

The targeted group was 15 Vietnamese 3-6-year-old children with autism who were intervened at these centers (see Table 1). The assessment was implemented from 2017 to 2021.

Table 1. List of 15 intervened autistic children

No.	Code of child	Sex	Year of birth	Autism level	Assessment of developmental capacity compare to normal children at	
					Awareness	Language
1	To1	Male	8/2014	Moderate	12 months	12 months
2	To2	Male	5/2015	Mild	18 months	18 months
3	To3	Male	2/2014	Very mild	30 months	24 months
4	To4	Female	8/2014	Mild	24 months	18 months
5	To5	Female	11/2014	Moderate	12 months	12 months
6	To6	Nam	7/2014	Severe	10 months	10 months
7	To7	Female	11/2014	Severe	10 months	10 months
8	To8	Female	12/2014	Severe	10 months	10 months
9	To9	Male	9/2014	Moderate	12 months	12 months
10	T10	Female	1/2014	Severe	10 months	10 months

11	T11	Female	6/2014	Very mild	30 months	30 months
12	T12	Male	8/2014	Mild	24 months	18 months
13	T13	Male	6/2014	Mild	24 months	24 months
14	T14	Male	1/2015	Mild	24 months	18 months
15	T15	Male	8/2014	Moderate	12 months	12 months

Among 15 children with autism, there were 9 boys and 6 girls. This rate is also consistent with the proportion of boys and girls with autism in the world as well as in Vietnam (Centres for Disease Control and Prevention, 2020; Nam & Van, 2015).

Principles of teaching intervention for autistic children

After admission, experts at the Center will assess the child's development capacity (based on the development checklist). Based on the ability of each child, teachers will advise parents on the level of intervention needed for each child. Children with moderate and severe autism attend daily care classes at those therapy centers; mild children only need 1-2 hours/day of intervention at the Center; the rest of the time, the child should attend the preschool integration). These centers also provides a monthly intervention plan for each child. After each month, children will be re-evaluated to see if they have met the set goals or not to adjust for the next month promptly. If the child is making progress well, he only needs to attend preschool to integrate.

Depending on each child, the Center has appropriate teaching methods: Picture Exchange Communication

System (PECS); Applied Behavior Analysis (ABA) and Treatment and Education of Autistic and Related Communication Handicapper Children (TEACHC).

Access to data

Each child is assigned a code and the child's profile is confidentially kept at the Center, accessible only to the research team and the authorized person.

RESULTS

Development of the utterance structure of autistic children depended on the levels of autism

Data analysis provided the number and average percentage of utterance types classified according to the utterance structure of each group of children with different levels of autism from 3 to 6 years old as follows:

The following Table 2 are the statistics from the assessment. It compares the rate of utterance structure types between groups of children with different levels of autism:

Table 2. Utterance structure types of autistic children

Autistic levels		36 months				48 months				60 months				72 months			
		1CU	2CU	3CUs	CU	1CU	2CU	3CUs	CU	1CU	2CUs	3CU	CU	1CU	2CU	3CUs	CU
Severe	Number of utterances	2.25	0	0	0	18.25	0	0	0	59.75	1	0	0	137.5	7	2	0.75
	Percent (%)	100	0	0	0	100	0	0	0	98.35	1.65	0	0	93.38	4.75	1.36	0.51
Moderate	Number of utterances	2.75	0	0	0	56.25	6.5	0	0	180.75	33.75	8.75	1.5	269	76.75	37.75	5.25
	Percent (%)	100	0	0	0	89.64	10.36	0	0	80.42	15.02	3.89	0.67	69.2	19.74	9.71	1.35
Mild	Number of utterances	13.4	0	0	0	111.2	6.6	1	0.8	210.6	81.6	45	14.8	257.6	112.4	111.6	49.6
	Percent (%)	100	0	0	0	92.97	5.52	0.84	0.67	59.83	23.18	12.78	4.21	48.5	21.16	21	9.34
Very mild	Number of utterances	185.5	43	6	1	246	148	112.5	54	259	191	162	96	265	229	219	161
	Percent (%)	78.77	18.26	2.55	0.42	43.89	26.4	20.7	9.64	36.58	26.98	22.88	13.56	30.32	26.2	25.06	18.42

As mentioned in Table 2, findings are a huge difference in the occurrences of structure utterance between groups of children with different autistic levels.

Regarding the rate of utterance structure in autistic children, there was a big gap among different degrees of autism. At the age of 3, groups of children with severe, moderate, and mild autism had 100% for 1CU. Meanwhile, the group of very mild autistic children has a full range of structurally classified utterances with the following rate: 1CU accounted for 78.77%, 2CUs accounted for 18.26%, 3CUs accounted for 2.55%, and CU utterances accounted for 0.42%.

At the age of 4, the group of severely autistic children still has the following rate: 1CU (100%); The group of moderately autistic children starts to have 2CUs. However, this rate was still low (10.36%). The group of mild autistic children has a full range of structurally classified utterances, but the rate was still very low (the rate of 2CUs accounts for 5.52%, 3CUs 0.84%, CU 0.84%); the rate of multi-component utterances in the group of very mild autistic children was quietly high (2CUs was 26.4%, 3CUs was 20.7%, CU utterances was 9.64%); the rate of 1CU was less than 50% of the total number of structurally classified utterances (43.89%).

Similarly, at the age of 5 to 6 years, the rate of 1CU in the group of very mild autistic children decreased and accounted for a low proportion of the types of structurally classified utterances. Meanwhile, in the group with severe and moderate levels of autism, the 1CU rate was still very high. At the age of 5, the 1CU in the group of mild autistic children accounted for 36.58% and decreased to 30.32% at the age of 6. The 1CU in the severely autistic children group accounted for 98.35% at the age of 5 and decreased to 93.38% at the age of 6. The 1CU in the moderate autistic children group was 80.42% at the age of 5 and decreased to 69.2% at the age of 6; The 1CU in the group of mild

autistic children has 59.83% at the age of 5 and decreased to 48.5% at the age of 6. Thus, in terms of the rate of 1CU in autistic children, there was a big difference between groups of various autistic levels. The more severely autistic children were, the higher rate of 1CU was, and it decreased slowly yearly. The milder autistic children were, the higher rate of CU was

There was a big difference between groups of different autism levels regarding 2CUs, 3CUs, and CU in autistic children. The milder autistic children were, the higher rate of CU was. This tendency increases faster yearly. At the age of 5 and 6, the occurrences of 2CUs in very mild autistic children tend to decrease (from 26.98% at the age of 5 to 26.2% at 6). The rate of 3CUs and CU seems to increase in this age group (the 3CUs of very mild autistic children were 22.88% at the age of 5 and 25.06% at the age of 6 years; the rate of CU was 13.56% at the age of 5 and increased to 18.42% at the age of 6). Meanwhile, in the very severe autistic children group, the rate of 2CUs only accounted for 1.65% at the age of 5 and increased to 4.75% at the age of 6. All surveyed children do not have 3CUs and CU at the age of 5. The rate of 3CUs only accounted for 1.36%, and CU was 0.51% at the age of 6.

The different levels of very mild autism compared to the others tend to decrease

At the age of 4, out of 15 autistic surveyed children, there were nine children with 2CUs. At the age of 5, the number was 13, and by the age of 6, all 15 autistic surveyed children had 2CUs despite the fact that there was a significant difference in the proportion of 2CUs. The rate of 3CUs and CU is reported in a similar situation. 3CUs appeared in 2 among 15 children at 3 years old, in 7 among 15 children at 4 years old, in 11 among 15 children at 5 years old, and in 13 among 15 children at 6 years old. CU appeared in 1 among 15 children at 3 years old, in 4 among 15 children at 4 years

old, in 10 among 15 children at 5 years old, and in 14 among 15 children at 6 years old.

Thus, compared to normal children, the assessment found that at the age of 3, only T03 and T11 were equivalent to normal 2-year-old children (because during this age group, T03 and T11 already have 2 utterances with 3 components). All other children were equivalent to normal children from 12 to 20 months of age (100% utterances of a child was 1CU). At the age of 4, CU appeared in the utterances of T03 and T11. Therefore, at this group of age, these 2 children were equivalent to normal children at 24 - 36 months (in this age group, children build multi CU, which is equivalent to the CU as was mentioned. Other children (T02, T12, T13, T14, T15) had utterances with 2 and 3 components. This is equivalent to normal 2-year-old children. At the age of 5, T01, T04, T05, T09 also appeared 2 and 3CUs and CU. Therefore, their characteristics of utterances structure were equivalent to normal children at 24 to 36 months. At the age of 6, all kinds of classified structural utterances also appeared in T07. Thus, they were considered to be equivalent to normal children at the age of 24-36 months. Meanwhile, at the age of 6, in the utterances of T06, T08, and T10, there were still mainly 1CU (over 90%), while no 3CUs or complex utterances were reported. Therefore, they were only equivalent to normal children aged 12-20 months.

Moreover, although autistic children have made progress yearly, especially those with a mild degree, however, compared to normal children, the language ability of autistic children is still much slower. According to Lan, "The 5- 6-year-old children could tell past events by using consecutive simple sentences. (Lan, 1996). At the age of 6, their complex sentences had more linking - words. The meaning of the sentence is manifested more clearly and coherently. Children in

this age group use conjunction and particle more often than under 3-year-old children " (Lan, 1996). Meanwhile, the language of autistic children was quite rigid and stereotyped. They usually used 1CU or 2CUs outside class but long and CU in communicating with teachers in the class. Especially with autistic children, the use of the conjunction of the particle was very rare. Children used these connective words when the teachers asked or completely imitated a sentence of another. Therefore, the use of words in communication by autistic children is very naive. Sometimes, they make long sentences that are not suitable for the communication situation. This was the most complicated problem and also the most obvious point in autistic children, even at mild autism levels.

Strengths and Limitations of this study

This study based on tracking and recording the progress of 15 autistic children studying at two centers, has provided new insights into the utterance structure of autistic children. However, this study is only exploratory on a small sample, not representative of children with autism in Vietnam. Suggest further studies to expand the scope of interventions and periodically evaluate for more convincing evidence.

CONCLUSION

Through the process of teaching autistic children to learn to speak and record the child's chances of utterance structure in autistic children from 3 to 6 years old, findings indicated that there was a huge difference in the number of utterances between groups of autistic children at different levels. In comparison to mild autistic children, the more severely autistic children were, the more late structure utterances appeared, as well as the simpler structure utterance used. However, the differences between autistic children decreased in the following years. In

comparison to normal children, the utterance structure of autistic children was much simpler. Therefore, it was necessary for autistic children to receive intervention to be able to intergrade with normal same-age children.

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