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**ADJUSTING LINGUISTIC BEHAVIORS FOR 3 - 6 YEAR - OLD CHILDREN
WITH AUTISM BASED ON FUNCTIONAL EXERCISES**

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INTRODUCTION

1. Reasons for selecting the theme

Autism is a complicated developmental disability . Autism was discovered in the 1940s of the century 20th, and it was recognized socially in 1943 by an American psychiatrist Leo Kanner when he clearly and scientifically described. More than 30 % of children with Autism (CWA) do not have spoken language (SL) or they have very limited SL. Many of CWA have SL but they do not know how to use the SL suitably in contexts. Those effects from the defects of CWA lead to children facing many difficulties in life and learning , particularly in community integration .

Linguistic behaviour (LB) is a way to interact with others efficiently and it is very meaningful for CWA . If CWA want to interact or communicate they need to know reveal personal needs through various forms of communication , understand SL and implement others' orders. In fact , CWA 3-6 years have a lot of difficulty in social interactions with people around them , they do not know how to express needs and express their desire to others; therefore, arising negative behaviors because children are not satisfied their true needs . LB intervention for CWA will help children enhance awareness, interaction and development in general for social integration. On the other hand, the period of 3-6 years of age is the period of early intervention , adjustment of CWA's LB helps children prepare for school integration at the right age.

In the world, there have been some authors studied the characteristics of LB and concentrated on methods for intervention for CWA's LB as : Skinner , Jack Mi Chael , Mark Sundberg , Jim Partington & Vince Carbone . The research results show that , by changing LB , CWA can response requirements from others and express their own needs , help children learning and living in community .

In Vietnam, research mostly focuses on the areas of diagnosis, assessment , early intervention for CWA , so far there is no separated studies for CWA and LB intervention for CWA in general and CWA in particular pre-school age .

From the theoretical and practical issues, we choose the topic "Adjusting LB for 3-6 - year - old CWA based on functional exercises (FEs)".

2. Purpose of the study

Develop procedures for adjusting LB of 3-6 year old CWA's based on FE's to help CWA represent their needs and desires to other people and integrate into the community .

3. Objects and subjects of the research

3.1 . *The object of study*

Educational process to adjust LB for 3-6 year old CWA.

3.2 . *Subjects of study*

Steps for adjusting LB for 3-6 year old CWA.

4. Hypothesis

Children with disabilities have limited ability to interact socially with others because they do not know how to express their needs, have difficulties in mimicking

the sound of SL, difficult to understand commands, understand the requirements , have finite volume of language ... the construction process to adjust LB based on FEs can help them.

5. Research tasks

(1) study basic theory of LB and adjusted for LB of 3-6 year age CWA based on FEs , (2) Assessment of the status of LB of 3-6 year old CWA and measures which teachers use exercises to adjust LB for 3-6 year old CWA . (3) Proposed procedures for adjusting LB of CWA 3-6 years old based on FEs . (4) Test procedures for CWA 3-6 years old to adjust LB based on FEs .

6. Research scope

- CWA at moderate and mild level
- 3-6 year old CWA who are attending some centers in Hanoi for CWA intervention.

- Experimental some methods in the process of adjusting LB based on FEs for CWA is performed in a specialized environment to research methods for 3 cases of CWA through the implementation individual plan for teaching (IP) and individual lessons for CWA is done as one of the basic and concentrated teaching activities .

7. Research methods

7.1 . Methodology

We approach research problems in view of the combination of specific viewpoints follows:

- Dialectical materialism view
- The points system
- Perspective normalization
- View personalized (or individualized)

7.2 . Research Methodology

7.2.1 . Group theoretical methods

7.2.2 . Research Methods Group Practice

- Methods of test
- Methods used questionnaires
- Methods of observation
- Methods of experimental studies pedagogy

7.2.3 . Treatment groups using statistical data

Analysis of the results obtained from the survey and empirical basis for drawing conclusions about the situation. Using SPSS software , set up tables , graphs , calculation parameters ... to analyze the survey results on the characteristics of LB and teacher measures adjusted LB for 3-6 year old CWA.

8. Defened theoretical points

8.1 Theoretical

- Contributing to the development and expansion of theoretical and adjusted LB for 3-6 year old CWA based on FEs .

- Arguments of LB of CWA been extended through the study of subjects children with disabilities to the similarities and unique characteristics .
- Design an assessment tool for LB of 3-6 year old CWA.
- Develop processes for adjusting LB of CWA based on FEs .

8.2 Regarding the practical

- Describe the status of LB of 3-6 year old CWA ; design and recommend to use some adjustment of FEs for 3-6 year CWA.
- Guideline for using LB adjustment process for CWA which applied in early intervention for CWA at 3-6 years old .

9. Structure of the dissertation

The dissertation consists of an introduction, conclusion, recommendations and 4 chapters:

- Chapter 1 : Rationale for adjustment LB for CWA at 3-6 years old based on FEs .
- Chapter 2 : Facility practices LB adjusted for CWA at 3-6 years old based on FEs .
- Chapter 3 : Process adjusted LB for CWA at 3-6 years old based on FEs .
- Chapter 4 : Experimental procedures for the children with disabilities to adjust LB at 3-6 years old based on FEs .
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CHAPTER I

RATIONALE FOR AMENDMENT ACTS OF BEHAVIOR AND LANGUAGE FOR CHILDREN WITH AUTISM AT THE AGE OF 3- 6 BASED ON FUNCTIONAL EXERCISES

1.1 . OVERVIEW OF RESEARCH ON BEHAVIOR AND LANGUAGE OF CHILDREN WITH AUSTISM AT 3-6 YEARS OLD

1.1.1 . Around the world

1.1.1.1 . Behavior and language research

Terms Behaviorism (neo BEHAVIOR) derived from the noun Behavior (BEHAVIORS) means the conduct, respond of an individual. Author E. Tolman said " BEHAVIOR is always BEHAVIOR to reach something and comes from something " . L. Hull (1884 - 1953) said that " nothing is BEHAVIORS movements can meet the needs of the body, as a function of the variable demand and the environmental body outside the body " .

According to B.F Skinner (1904 – 1954), the BEHAVIORS theory was more clearly shaped. On the basis of recognition of the achievements of the BEHAVIORS theory with the results of their empirical study , he divided the class into three BEHAVIORS : unconditional BEHAVIORS; conditional BEHAVIORS; operant BEHAVIORS. Based on the theory of BEHAVIORS , in1957, in his study of LB , Skinner has

published the book " Acts of SL". The study by Skinner particularly focused on spoken language.

Research on children's LB under psychological perspective was concerned by psychologists such as Burrhus Frederic Skinner interest as , Barbera ML and Rasmussen T , Bourret J , Jack Michael , Mark Sundberg , MD Wallace ... these studies have analyzed the characteristics of LB . The study's results showed that LB can analyze into smaller units of LB in order to intervene and adjust.

Basically, these studies agree that the BEHAVIORS and LB which manifested externally and can be observed . We can apply analytical methods and techniques BEHAVIORS and LB for human modification in general and children in particular .

1.1.1.2 . Study into LB of children with autism

Content of LB studies of CWA can be divided into two main research directions : (1) Comparative study of characterization of LB of CWA and characteristics of normal children (2) Research LB under the perspective of LB analysis .

Research characterization of LB of CWA:

Basically , the researchers describe LB of CWA . However, overseas studies have analyzed the characteristics of LB of CWA used mainly English and there are no studies describing the characteristics of LB of CWA using different SL. Therefore, it is suitable for accessing methods for LB interventions for CWA in Vietnam or not, need to be studied .

Research analyst LB under the perspective of LB:

A team of psychologists was strongly influenced by the views of Skinner's analysis of SL (1957) has developed curriculum and training guide for CWA based on BEHAVIORS analysis of Skinner. This approach is called " Analysis LB " . The authors Sundberg and Michael , in their article named "The benefits of Skinner 's analysis of verbal behavior for children with autism " in the year 2000s , has emphasized the effectiveness of and the effect of the intervention LB besides Applied Behavior Analysis (ABA) for CWA .

From the overview of the research in the world, the role of LB adjustment in CWA intervention is considered to be the central issue. Besides , this study has some new features such as : LB survey is done on a larger sample group to be able to describe the scientific characteristics of LB of CWA; integrated approach and LB adjustments methods have been proven effective in studies worldwide.

1.1.2 . In Vietnam

In Vietnam, the research has focused on the following issues : (1) Research on the diagnosis and evaluation of children with autism ; (2) Research on the intervention of children with autism . The studies mentioned above have been partially reflects the development, diagnosis , assessment and intervention for CWA in Vietnam . So far , no in-depth study of LB problems of CWA as well as methods to adjust LB for CWA both theoretically and practically in Vietnam...

1.2 . CHILDREN WITH AUTISM

1.2.1 . **The concept of children with autism**

Autism is a developmental disability, is characterized by three main deficiencies in communication, social interaction and BEHAVIORS, hobbies , limited and repeated activities. The term Autism Spectrum Disorders (ASDs) include autistic disorder , Asperger syndrome , disorders of unable to inclusive in early childhood, Rett disorder and pervasive developmental disorder .

Within the scope of this study , we only approach towards adjusting LB for children with autism disorder and called CWA . About 30 % CWA do not have SL. Therefore, LB intervention help CWA have opportunities to develop the ability to communicate , social interaction and community integration .

1.2.2 . **Criteria , processes and tools to diagnose autism**

1.2.2.1 . *Diagnostic criteria for autism*

In the 10th edition of the IDC (International Statistical Classification of Diseases and Related Health Problems) and the 3rd (repaired) , 4 th edition of the DSM (Diagnostic and Statistical Manual of Mental Disorders) , the term Autism Spectrum Disorders was defined it as " development of large-scale disorder " rather than " mental disorder " . Currently, DSM - IV is quite common approach in the field of research and application of CWA , especially psychological , educational and social .

1.2.2.2 . *Processes and tools to diagnose autism*

The diagnosis of autism occurs in following steps : (1) a description of the reasons and purposes of diagnosis (2) Analysis of the development history (3) study the psychological diagnosis (4) conclusions and give advice .

In Vietnam , in these diagnostic scales above, the scale CARS is used quite popularly.

In Vietnam , there is no standard procedure for assessing autism, no collaboration between experts in the field of diagnostic CWA . This is one of the difficulties and challenges, greatly influenced the process of determining CWA in Vietnam .

1.2.2.3 . *Classification of children with autism*

In the current conditions in Vietnam , we used CARS to assess the extent of the study subjects and objects in 3 case studies . Determine the level of autism of group of children is concluded by the doctors of Children's Central Hospital. Based on the evaluation results , we selected CWA group at mild and moderate level to test procedures LB proposed adjustments .

1.3 . LINGUISTIC BEHAVIOR AND CHARACTERISTICS OF LINGUISTIC BEHAVIOR OF AUTISM CHILD 3-6 YEARS

1.3.1 . **The concept of linguistic behavior**

1.3.1.1 . *The concept of behavior*

The term " Behaviorism " (Note BEHAVIORS) derived from the noun "Behavior" means conduct, respond of an individual (behavior).

By the time B.F. Skinner (1904-1990), BEHAVIORS theory was more clearly shaped . After B.F, Robert Skinner 's stance on new BEHAVIORS theory was closer to people.

For CWA , BEHAVIORS theory has a great significance and practical value intact for the education and teaching today. This meaning is expressed in these areas following: BEHAVIORS is created from the external environment , it means external causes outside of the child, not within him, not from the "I " . BEHAVIORS begin to appear as the stimulation of the external environment raises the needs of individuals , arising from positive subjects (children) and ending with the reaction of the child to express individual needs . Therefore , BEHAVIORS can fully formed and controlled by the BEHAVIORS environmental impact of educational purposes.

1.3.1.2 . The concept of linguistic behavior

In communication , people do a lot of different activities using SL . These actions are yet to be shown very diverse but are referred to LBs .

According to BF Skinner (1957) , SL is regarded as a BEHAVIOR that can be shaped and strengthened . Under perspective of BEHAVIORS , LB includes : distinguishing stimuli , setting action , the reaction (interaction) . BF Skinner also distinguished between types of executable functions and SL by defining them as such BEHAVIORS : BEHAVIORS requested by SL , SL mimic BEHAVIORS , BEHAVIORS remember the images of SL , BEHAVIORS implement the requirements of eyes , BEHAVIORS understand SL , said BEHAVIORS and BEHAVIORS serial verbal expression of SL .

Based on studies of LB , we approached from the perspective of Skinner's research of LB and use the concept that LBs are reacted by SL or non - words which are shown to the outside and can be seen.

1.3.2 . Characteristics of linguistic behavior of autistic children 3-6 years old

1.3.2.1 . Characteristics of linguistic behavior of preschoolers 3-6 years old

Children 3-6 years old has achieved LB as follows:

- BEHAVIORS request by SL when children know and proactive disclosure requirements when necessary in situations of daily living such as toileting , eating , drinking and entertainment needs.
- For BEHAVIORS mimic SL which is familiar to children.
- About BEHAVIORS remember pictures of SL : Children have to recognize and name the body parts , objects , objects of social and natural phenomena around them; get to know the size ; digits , the number of objects ;
- About BEHAVIORS expression through visual observations, children are ready to compete described in detail , say comments on paintings , puzzles from 5-15 pieces , say the choice of the same objects , objects corresponding ...

- BEHAVIORS understand SL , children understand the effects of objects ; Understand the relationship of simple things , familiar phenomena ; Understanding the complex orders , answering the question :why.
- BEHAVIORS to continue words , read continuous poems , sing continuous songs , the connection and fill in blank proficiently .
- BEHAVIORS SL expression , children pose and answer the simple questions : What? Where? When? Why ? Know how to answer his name, age , gender and address , telephone number of his family.

1.3.2.2 . Language behavioral characteristics of children with autism

With CWA , LB is expressed as follows :

BEHAVIORS are requested by SL : BEHAVIORS requested by SL of CWA have many limitations, at the age of 2-3 years, many children have begun to request by SL when they request items , there are more than 3 year old children who do not have BEHAVIORS required by the act of SL , they do not have these requirements including the need to play with others. Their presentations of the requirements are poor, too; if they have needs, they express pulling or crying, tantrums...

BEHAVIORS mimic SL : CWA mimic others in identified situations. CWA rarely imitate others .

BEHAVIORS remembering images of SL : BEHAVIORS remembering the picture is one of the strengths of CWA . CWA have the ability to read images quite well , children can memorize a lot of pictures .

BEHAVIORS expression through visual: Most CWA study by the way to observe things and phenomena in the world around them . This is essential for CWA to represent the context-sensitive requirements. CWA can play "puzzle" well and be exciting to play.

BEHAVIORS understand SL: In daily life , BEHAVIORS understand SL of CWA are exposed pretty good.

LB continuing words: For CWA , SL is limited, they use words inactively.

BEHAVIORS expressed by SL : This deficiency also causes difficulties for CWA to develop their vocabulary , sentence structure and using apply learned phrases in different contexts .

1.4 . LINGUISTIC BEHAVIOR ADJUSTMENT FOR AUTISM CHILDREN 3-6 YEARS BASED ON FUNCTIONAL EXERCISES

1.4.1 . Linguistic behavior modification for autistic children

1.4.1.1 . The concept of linguistic behavior for autistic children

The view of the adjustment is shown in the following angles: (1) Access to cultural diversity , the environment , and experiences of children . These factors are considered as the basis for the adjustment ; (2) Access to the capabilities , needs and life experiences of children and find appropriate solutions to make adjustments related issues in teaching and education to meet the needs of optimal developing of children.

We acknowledge that Adjustment LB is the change in SL reactions (including SL using words and not using words) to help CWA respond to the requirements of others and express their own needs.

1.4.1.2 . The role of regulating the linguistic behavior for autistic children

If LB of CWA is not developed in time , the negative or inappropriate behaviors will appear . Children use these BEHAVIORS as the main means of communication. Therefore, if we do not change LB for children from preschool age , the inappropriate behaviors will increase and these behaviors may affect children's character formation. Reducing these behaviors certainly causes countless difficulties if we do not control at early age. Inappropriate LB directly affects the cognitive development and social behavior of children.

1.4.1.3 . Some methods of adjusting linguistic behavior for autistic children

- PECS
- Method equalizer and N treatments
- Method "More than words "
- Applied Behavior Analysis (ABA)
- Intuitive Action Method (Total Physical Response - TPR)

Thus, to adjust LB for CWA, we can coordinate these above methods. However , within this study we focused on two main methods: Applied Behavior Analysis ABA and intuitive method to adjust LB for preschool CWA because the two methods are consistent with the characteristics of behaviors of preschool CWA.

1.4.2 . Exercises regulatory functions linguistic behavior for autistic children at 3-6 years old

1.4.2.1 . Experience using functional exercises in linguistic behavior adjustment for autistic children in the world and in Vietnam

In 1998 , author Sunderg and Partington have designed exercises to asses basic SL and study skills, referred to ABLLS (Assessment of Basic Language and Learning Skills) . ABLLS used to determine the ability of SL as well as providing curriculum, intervention . Based on ABA , author Catherine Maurice has developed "100 Exercises for Behavior Intervention for CWA" .

In addition to group of above exercises, the current intervention centers , special schools often teach CWA used the book " Communicating with children - SL training materials" by Tara Winterton. Approching "More than words " , Fern Sussman designed a group of exercises to help parents promote communication skills for CWA .

In summary, from the research in experience in the construction of exercise for LB adjustment for CWA based on worldwide CWA interventions such as ABA , " More than words " ... may give basic orientation to construct the method adjusted LB for 3-6 year old CWA in accordance with the characteristics of SL and conditions and environment in Vietnam .

1.4.2.2 . Concept of exercises and functional exercises for linguistic behavior adjustment for autistic children at 3-6 years old

There are many different definitions of Exercise .In English, this term is "Exercise" means an activity to train physically and mentally.

In this topic , we approach the concept of Exercise : " Exercise 's information system shall include objectives , conditions and instructions for users when they complete these exercises they will get some knowledge or certain skills. "

Thus , Exercise is identified information including two close and linked sets interacting each other : the first is the implementation conditions , guidelines for implementation; the second is requirement and desired state .

From the concept of Exercise , we introduce the concept of FEs as follows : Functional exercises is exercise with adjustment functions or developmental functions of a certain BEHAVIORS . FEs are used in a flexible way, consistent with the characteristics of each LB of CWA.

1.4.2.3 . Basement for building exercises regulatory functions linguistic behavior for autistic children at 3-6 years old

FEs for LB adjustment for CWA are built and based on the view to ensure the right to equality of learning and development opportunities for all children . Exercises are built based on the following basis:

- Suitable for CWA at 3-6 years old
- Demonstrate functionality and personalization

Exercises which adjust LB for CWA at 3-6 years old are designed to ensure comprehensive education , systematic and uniform , specificity , flexibility and versatility , towards integration.

1.4.2.4 . Classification exercises

After researching many different classifications of exercises , FEs classification approach based on learning goals that are adjusted each group of FEs of LB formats such as required BEHAVIORS by SL, BEHAVIORS mimic SL , BEHAVIORS remember the images of SL , BEHAVIORS expression through visual , BEHAVIORS understand SL , BEHAVIORS continuing verbal, BEHAVIORS expressing SL will bring better efficiency in the process of intervention for CWA at 3-6 years old .

1.4.3 . Means of adjusting the linguistic behavior for autistic children at 3-6 years old

Means adjusting LB of CWA aims : (1) Development of CWA's cognitive abilities ; (2) Formation of appropriate LB; (3) Development of youth interested in participating in the intervention .

Means adjusting Lb for CWA may have different functions , including : media imaging (blackboard , whiteboard , real objects , models , pictures, photographs , tables ,...) , TV , camera , audio recorder , ...

However , using of means adjusted LB for CWA, if it is inappropriate, it will work under a negative way , making CWA scared , effective interventions are not high

To unleash the effectiveness and enhancing the role of the media adjusted LB for CWA, teachers have to understand the pros and cons, possibilities and requirements of means of teaching to ensure that using means of teaching will achieve the purpose of adjusting LB and to contribute to improving the quality of interventions for CWA .

1.4.4 . Factors that influence linguistic behavior adjustmentfor autistic children at 3-6 years old

- LB of CWA at 3-6 years old
- The ability of teachers
- The means of adjustment assistance LB
- Functional exercises

CONCLUSIONS FOR CHAPTER 1

1. Autism is a developmental disability , is characterized by three main deficiencies in communication , social interaction , behavior and preferences , unnatural limited activities, repeated . In this topic , we approached a group of children with autism at mild and moderate level to research the adjustable methods for LB.
2. The study on LB concentrated on 2 approaches: (1) Research describes characterization of LB of CWA (2) Research LB under perspective LB analysis . However, studies of LB primarily conducted on a group of children using English . Therefore , the study of LB of CWA group in Vietnam will open a new approach in CWA intervention .
3. LB is the response by SL or using non- verbal expressed outside and can be observed . LB adjustment is the change in SL reactions (including SL using words and SL not using words) for CWA to help them to meet the requirements of others and express their own needs .
4. Compare the pros and cons of exercises adjusting LB in early intervention for CWA , alternative approaches to adjustment based on FEs have important implications for LB adjustment for CWA at 3-6 years old .
5. Means adjusting LB for CWA if they are appropriate, cognitive abilities of CWA will be developed, appropriate LB will be formed and children's interest will be developed when they participate in intervention process.

CHAPTER II

PRACTICAL BACKGROUND OF ADJUSTING LINGUISTIC BEHAVIORS FOR 3 TO 6 - YEAR – OLD CHILDREN WITH AUTISM BASED ON FUNCTIONAL EXERCISES

2.1. THE PROCESS OF ORGANIZING THE SURVEY ON REAL SITUATION OF ADJUSTING LINGUISTIC BEHAVIORS FOR 3 TO 6 - YEAR – OLD CHILDREN WITH AUTISM BASED ON FUNCTIONAL EXERCISES

2.1.1. Purpose of the survey

Analyze, evaluate characteristics of linguistic behaviour of autistic children 3-6 years old and the actual use of teachers' techniques and functional exercises to adjust linguistic behaviours for autistic children as a basic for proposing techniques to adjust linguistic behaviours for autistic children 3-6 years old .

2.1.2. Content

2.1.2.1. Assess the status of the linguistic behavior of autistic children 3-6 years old

Current status of linguistic behaviours of autistic children 3-6 years old: features of behaviors required by language, behaviors imitating languages, behaviors remembering the image of language, behaviors understanding language, behaviours expressed through perception, behaviors after language and behaviors expressing language.

2.1.2.2. Assess the status of teachers

- The evaluation of teachers about autistic children's linguistic behaviors.
- The awareness of teachers about the importance of using techniques and functional exercises to adjust linguistic behaviours for autistic children.
- The fact of teachers' use of techniques and functional exercises to adjust linguistic behaviours for autistic children.

2.1.3. Survey Methods

- Using the questionnaire;
- Observing
- detailed interviews

2.1.4. Survey tools to evaluate linguistic behavior of autistic children 3 - 6 years old.

- The Childhood Autism Rating Scale;
- The Scale of assessing linguistic behaviours for autistic children 3-6 years old. This Scale uses the model of Cronbach's Coefficient Alpha, a formula which is available in SPSS to test the reliability.

The results of the reliability analysis of the scale showed that the reliability of Cronbach's Coefficient Alpha was $r \geq 0.85$ high ($r \geq 0.6$ is acceptable). At the same time, the overall correlation coefficient was greater than 0.3. Thus, it can be concluded that the criteria of the scale is appropriate. This means that criteria correlated significantly with the total score of the remaining criteria.

2.1.5. Places and objects of the survey

2.1.5.1. Places of the survey

The survey was conducted at The Morning Star Center, the Khanh Tam Center, the Sen Hong Centers, The specialized Preschool Starlight, the Myoko Kindergarten, The Newstar Kindergarten.

2.1.5.2. Objects of the survey

* Children with autism

The survey was conducted on 93 autistic children 3-6 years old, the characteristics of surveyed children are described as follows:

Sex		Age								
Male	Female	36	–	48	49	–	60	41	–	72
		months			months			months		
75	18	40		32		21				

* About team of teachers

The survey was conducted on 105 teachers intervening children with autism.

2.2. RESULTS OF THE SURVEY

2.2.1. The linguistic behaviours of autistic children

Collect and classify the assessment papers evaluating linguistic behaviours of 93 autistic children 3-6 years old in all measured criteria such as: (1) behaviors required by language, (2) behaviors imitating languages, (3) behaviors remembering the image of language, (4) behaviors understanding language, (5) behaviours expressed through perception, (6) behaviors after language and (7) behaviors expressing language. The results obtained have described the characteristics of linguistic behaviours of mild and moderate children with autism.

Table 2.1. Evaluation results of linguistic behaviours of autistic children.

	<i>Behaviour 1</i>	<i>Behaviour 2</i>	<i>Behaviour 3</i>	<i>Behaviour 4</i>	<i>Behaviour 5</i>	<i>Behaviour 6</i>	<i>Behaviour 7</i>
Total number	93	93	93	93	93	93	93
Average	35,23	15,54	255,09	11,98	51,17	11,57	37,69
Error standard deviation	1,012	0,594	11,599	0,584	2,231	1,913	1,913
Median	35,00	14,00	253,00	11,00	47,50	33,00	33,00
The most concentrated	28	24	146	9	25	26	26
The standard deviation	7,84	5,44	111,85	5,22	20,68	18,44	18,44
The lowest	24	6	120	6	24	6	24
The highest	48	24	451	20	93	20	92

Assess the reliability coefficients using Cronbach's Coefficient Alpha for each criterion, results showed that $r \geq 0.83$, so the criteria of the scale has high reliability coefficients.

The survey results on linguistic behaviors of children with autism language above allows to draw the following conclusions: The overall level of linguistic behavior of autistic children 3-6 years old is very low based on the survey results of the behaviours such as behaviors required by language, behaviors imitating languages, behaviors remembering the image of language, behaviors understanding language, behaviours expressed through perception, behaviors after language and behaviors expressing language.

- The level of autistic children's ability to understand is the highest, this result differ from that of children with intellectual disabilities and other types of disabilities. Autistic children have the ability of understanding information in daily life. But the expression behaviour of autistic children is quite limited, many children can not speak or speak a little. There are children who can speak but their language is passive. In addition, some children only imitate and repeat others' language.

- The limitation of linguistic behavior of autistic children leads to their difficulties in expressing their requirements as well as expressing their needs and desires to others so that they may face many difficulties in integrating the society.

2.2.2. Actual contents of the ways teacher use functional exercises to adjust behavior language for autistic children 3 -6 years old

Analyze the actual contents that teachers and parents use techniques and exercises to adjust linguistic behaviours for autistic children 3-6 years old, includes: (1) the teacher's comments on autistic children's linguistic behaviours; (2) Teachers' awareness of the importance of teachers using techniques to adjust linguistic behaviour for autistic children; (3) Teachers' awareness of the importance of using exercises to adjust linguistic behaviours for autistic children.

a) Teachers' comments on autistic children's linguistic behaviours

Teachers' comments on the characteristics of autistic children's linguistic behaviours shows that teachers could see the strengths and limitations of each autistic children's features of linguistic behaviours. Most of the teachers have difficulty in adjusting autistic children's required behaviours and behaviors expressing language

b) Teachers' awareness of the importance of teachers using techniques to adjust linguistic behaviour for autistic children

- Most of the teachers said that it is very important to use techniques to adjust linguistic behaviour for autistic children.

- Regarding to the level of using basic techniques to adjust linguistic behaviour for autistic children , Most of the teachers did not give out various techniques to adjust linguistic behaviour for autistic children

c) Teachers' awareness of the importance of using exercises to adjust linguistic behaviours for autistic children

The majority opinion of the surveyed teachers (73%) shows that they need exercises to adjust linguistic behaviour for autistic children as well as the instructions on how to use these exercise in order for them and parent to be able to apply to intervening autistic children's linguistic behaviours.

** Advantages and disadvantages of teachers during their process of applying exercises to to adjust linguistic behaviour for autistic children 3-6 years old*

- Advantages: When being interviewed, all teachers have accepted that having exercises to adjust linguistic behaviors will help them intervene effectively for preschool children with autism. They also realizes that if they are trained, they could acquire and apply to their teaching process.

General difficulties of teachers: exercises to adjust linguistic behaviour for autistic children are not various but mainly focuse on intervening understanding and expressing behaviours.

** Teachers' desire to help autistic children adjust their linguistic behaviors*

Create close, friendly and safe environment for autistic children. Establish practical contexts for autistic children to practise linguistic behaviours in daily activities. The teachers also expect that family member will collaborate with them to effectively use exercises to adjust linguistic behaviour for autistic children.

CONCLUSION FOR CHAPTER 2

(1). The degree of development of linguistic behavior is very low based on the criteria of behaviors required by language, behaviors imitating languages, behaviors remembering the image of language, behaviors understanding language, behaviours expressed through perception, behaviors after language and behaviors expressing language.

(2) Teachers do not have suitable awareness of techniques to adjust linguistic behaviours for autistic children to interact, communicate effectively in activities at schools. Teachers' use of techniques to adjust autistic children's linguistic behaviours has not been done frequently. Furthermore, the level of use of each teacher is different.

(3) Teachers who adjust linguistic behaviors for autistic children were aware of the role of techniques and exercises to adjust linguistic behaviours for autistic children, but in fact now the teachers are still tinkering, mainly establish exercises by themselves, basing on no theoretical basis.

(4) According to teachers' assessment, the means of adjusting the linguistic behaviors for autistic children 3-6 years old are not appropriate and need to be adjusted to fit with physiological characteristics of preschool autistic children.

CHAPTER 3

DEVELOP THE PROCESS OF ADJUSTING LINGUISTIC BEHAVIOURS FOR 3-6 YEAR - OLD AUTISTIC CHILDREN BASED ON FUNCTIONAL EXERCISE

3.1. THE PRINCIPLES OF PROPOSING THE PROCESS OF ADJUSTING LINGUISTIC BEHAVIOURS FOR 3-6 YEAR - OLD AUTISTIC CHILDREN BASED ON FUNCTIONAL EXERCISE

Principle 1: The process of adjusting linguistic behaviours for autistic children needs to be built basing on characteristics of linguistic behaviours.

Principle 2: Ensure comprehensive, developmental features, systemic - synchronization and flexibility.

Principle 3: Ensure a combination of teaching and therapy.

Principle 4: Ensure to inherit and promote the achievements in the study of linguistic behaviours in general and linguistic behaviours in particular on the World and in Vietnam.

Principle 5: The exercises must have a positively stimulating effect and raises a child's discovery demands.

3.2. DEVELOP THE PROCESS OF ADJUSTING LINGUISTIC BEHAVIOURS FOR 3-6 YEAR - OLD AUTISTIC CHILDREN BASED ON FUNCTIONAL EXERCISES

The process of adjusting linguistic behaviours for autistic children includes these steps as follows:

Step 1: Develop and design groups of exercises to adjust linguistic behaviours for autistic children 3-6 years old.

Step 2: Implement educational activities to adjust linguistic behaviours for autistic children.

Bước 3: Support teachers and parents the way to adjust linguistic behaviours for autistic children.

This is the diagram that describes how to adjust linguistic behaviours for autistic children.

3.2.1. Develop and design groups of exercises to adjust linguistic behaviours for autistic children 3-6 years old

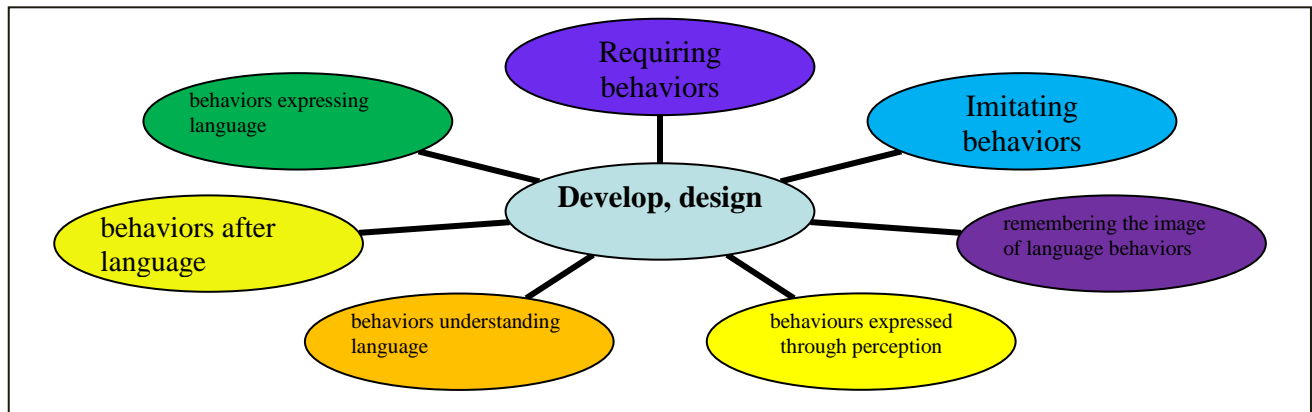


Diagram 3.2. Group of functional exercises to adjust linguistic behaviours for autistic children.

3.2.2. Implement educational activities to adjust linguistic behaviours for autistic children 3 – 6 years old

Educational activities to adjust linguistic behaviours for autistic children 3 – 6 years old are described by the following diagram:

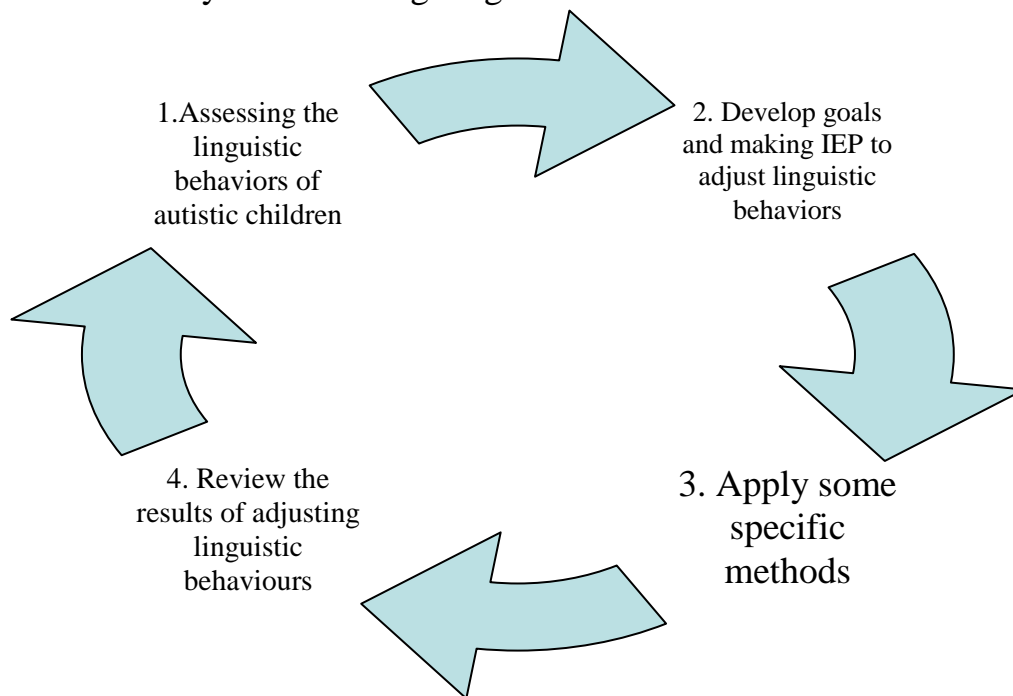


Diagram 3.3. Educational activities to adjust linguistic behaviours for autistic children 3 – 6 years old

3.2.3. Develop group of measures to support teachers and parents to adjust linguistic behaviors for autistic children 3-6 years old

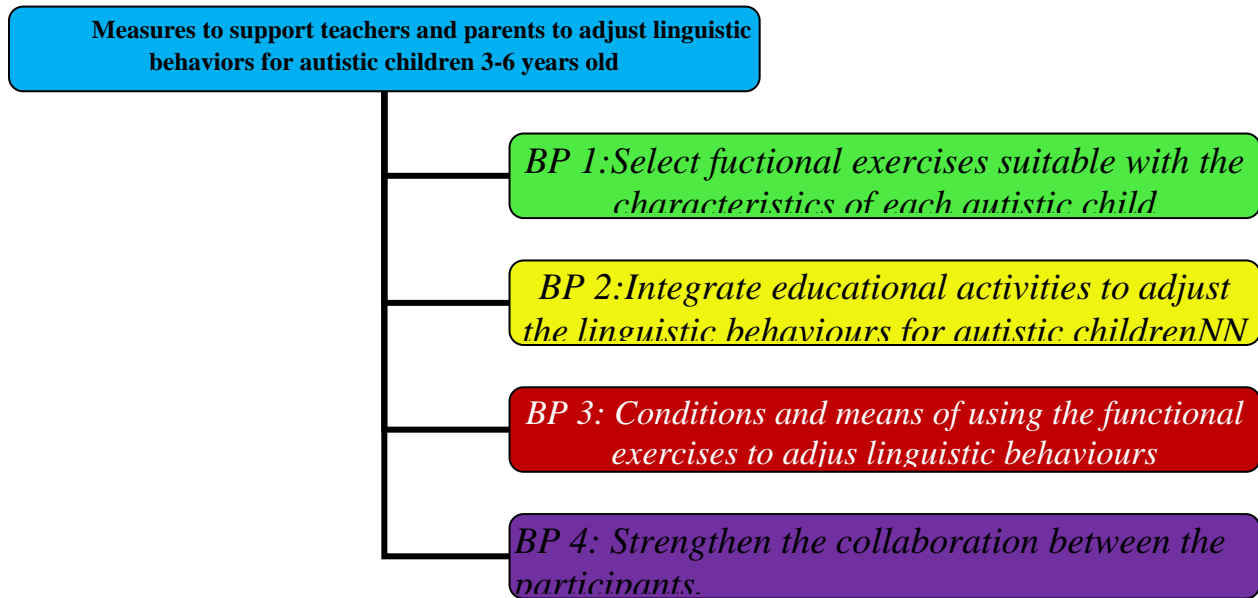


Diagram 3.4. Measures to support teachers and parents to adjust linguistic behaviours for autistic children 3-6 years old

3.2.4. The relationship between the steps in the process of adjusting linguistic behaviors for autistic children

The steps in the process of adjusting linguistic behaviors for autistic children have reciprocal relationships in order to improve children's interoperability, communication, help children express their needs and wishes and know how to respond to the demands of others appropriately. These interaction and interdependence of the steps in the process of adjusting linguistic behaviors for autistic children leads to the systematic feature of the process of adjusting linguistic behaviors for autistic children to ensure that the principles of developing the processes of adjusting linguistic behaviours are carried out scientifically and logically.

CONCLUSION FOR CHAPTER 3

On the basis of the principles of developing the processes of adjusting linguistic behaviours for autistic children, we built the 3 steps as follows: (1) Develop and design groups of exercises to adjust linguistic behaviours for autistic children 3-6 years old; (2) Implement educational activities to adjust linguistic behaviours for autistic children; (3) Develop group of measures to support teachers and parents to adjust linguistic behaviors for autistic children 3-6 years old. The steps of the process adjusting linguistic behaviours for autistic children 3-6 years old have reciprocal relationships creating the system and uniformity of the steps.

Each child with autism has different abilities and needs, so each child's linguistic behaviors also shows differently; thus, the selection of functional exercises to adjust linguistic behaviors for autistic children require consideration of the guiders and users. The application of the process of adjusting linguistic behaviours for autistic children

should be flexible, creative and on the principle of personal approach to ensure that linguistic behaviors are applied on a variety of educational activities.

CHAPTER IV

EXPERIMENT THE PROCESS OF ADJUSTING LINGUISTIC BEHAVIOURS FOR 3-6 YEAR OLD CHILDREN WITH AUTISM BASED ON FUNCTIONAL EXERCISES

4.1. EXPERIMENTAL PROCESS

4.1.1. Experimental purposes

Pedagogical experimentation was conducted to examine the feasibility of the process of adjusting linguistic behaviours for autistic children 3-6 years based on proposed functional exercises.

4.1.2. Experimental content

The experimental procedure for adjusting linguistic behaviours for autistic children is conducted on 3 children with autism basing on individualized interventions. Three experimental cases were conducted according to the following steps:

- Assess the autistic level and the characteristics of linguistic behaviors of each child with autism;
- Select functional exercises to adjust linguistic behaviours for autistic children;
- Establish specific goals;
- Develop the IEP to adjust linguistic behaviours for autistic children;
- Implement the IEP (Applying measures to adjust linguistic behaviours for autistic children);
- Evaluate results of adjusting linguistic behaviours for autistic children.

4.1.3. Experimental places and objects

4.1.3.1. Experimental places

Pedagogical experimentation was conducted in the context in which 3 children are partly intervened at the Red Lotus Centre, The Vietnam Study Encouragement Association, at 164B Khuong Thuong, Hanoi.

4.1.3.2. Experimental objects

- The group of studied children: Choosing 3 children to conduct the research with the following characteristics:
 - + Age: From 36 đến 72 months (1 female child và 2 male children)
 - + Family circumstances: These children live in family situations with both parents; their parents' academic status was university graduated; their parents' economic status was rather than average; all parents are state employees. Their parents and children are very willing to cooperate in the process of intervention.
 - + Children are studying at The Red Lotus Centre - Hanoi
 - + All children are living in Hanoi.

Except for above characteristics, due to different ages, so there are some differences related to the time finding out the features of autism, the intervention time, the level of linguistic behaviors and the level of support from each family. Three children were selected as follows:

The case of student named H.B: Moderate autism, without spoken, being assessed as autism late.

The case of student named H.M: Moderate autism, having spoken language and being assessed as autism at the early age.

The case of student named P.A: Mild autism, without spoken language and being assessed as autism at the early age.

4.1.4. Experimental Procedure

Experimental procedure was carried out according to the following steps:

Step 1: Gather information about the children and assess them;

Step 2: Develop a individualized interventional document to monitor children's progress;

Step 3: Develop and professionally train for experimental teachers;

Step 4: Develop the detailed experimental plan;

Step 5: Evaluate the results of experimental process, including the assessment for each stage and the final evaluation (post - test). Evaluate periodically for 1 time per 2 months according to criteria for all scales presented in Section 2.1.4.

4.2. PEDAGOGICAL EXPERIMENTATION AND THE RESULTS

4.2.1. Case 1 (H.B)

4.2.1.1. General information

HB was born on 07/01/2007. He is the son of the family with 2 children.

The diagnosis report of HB included the parents' questionnaires and CARS. Evaluation results achieved by CARS revealed that HB gained 34 points, this result shows that HB is moderately autistic.

4.2.1.2. Evaluate before experiment

Bảng 4.1 H.B's Result evaluations before experiment

	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Criteria 6	Criteria 7
Score	28	12	259	16	68	10	26
Level	3	3	3	3	4	2	2

Thus, summing up the general seven evaluation criteria, HVNN HB's best linguistic behaviors was understanding language behaviors which was level 4. His behaviours after language and expressing language were at level 2.

4.2.1.3. Make plan of adjusting autistic children's linguistic behaviors

On the basis of general information related to HB's developmental results of linguistic behaviors, we have selected priority targets for intervention. There are two 2 targets which H.B was at the lowest level_level 2 should be included in the priority objectives. In addition, in order to promote H.B's understanding and to support the

H.B's ability of using expressing behaviors, HB should learn behaviors which help to remember linguistic images. After discussing with parents and teachers about the intervention plan for 6 months electronic from March to September 2012, we focused on intervene HB's limited behaviors which are: behaviors remembering the image of language, behaviors after language and behaviors expressing language.

4.2.1.4. Experimental results

The criteria for measuring the results of HB TN are changing in a positive direction at all times measured. This shows the effectiveness of the adjustment HVNN children. Initially, the child has progressed well in the selected HV intervention.

4.2.1.5. Some conclusions about the case 1

This is a case demonstrating the adjustment process for a preschool autistic child's linguistic behaviors basing on applying the process of adjusting linguistic behaviors in accordance with the child's ability. Evaluation results show that during experimental process, adjusting linguistic behaviors for autistic children based on functional exercises brings positive results in intervening for H.B.

4.2.2. Case 2 (H.M)

4.2.2.1. General information

The evaluating results by CARS show that H.M gained 36 points, the results suggest that HM was moderately autistic. By the time of evaluation of his linguistic behaviors, H.M was 52 months old, with some characteristics: having no spoken language, having some unexpected behaviors like crying, smashing objects, biting and screaming noisy sounds. With the above description, HM eligibility chosen as the object of our study.

4.2.2.2. Evaluate before experiment

Table 4.3. H.M's Result evaluations before experiment

	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Criteria 6	Criteria 7
Score	12	9	162	6	39	6	24
Level	1	2	2	1	2	1	1

Summing up the general seven evaluation criteria shows that all H.M's linguistic behaviors were at low level. His basic behaviors which help the child to study linguistic behaviors like behaviors required by language, behaviors imitating languages, behaviours expressed through perception were very low; therefore, he faces difficulties in learning expressing language.

4.2.2.3. Make plan of adjusing autistic children's linguistic behaviors

On the basis of general information related to HB's developmental results of linguistic behaviors, we have selected priority targets for intervention. To achieve expressing behaviors (the highest level), H.M should obtain some basic behaviors. Thus, we selected priority objectives focus on behaviors required by language,

behaviors imitating languages, behaviors remembering the image and behaviors understanding language.

4.2.3.4. Experimental results

The charts show there are positive changing at all times measured on all the criteria measuring experimental results of H.M. This shows the effectiveness of adjusting the child's linguistic behaviors. Initially, the child has progressed well in selected behaviors. HM has gained improvement in his behaviors, regardless of unequally increasing scores.

4.2.2.5. Some conclusion about the case 2

In this case, H.M made the progress in a positive way when teachers and parents collaborated in using measures adjusting behaviors required by language, behaviors imitating languages, behaviors remembering the image and behaviors understanding language. Results shows that the use of measures adjusting H.M's linguistic behaviors is appropriate. However, compared with H.B, H.M mad less improvement because of some reasons: First, H.M was realized as being autistic and intervened 1 year slower than H.B. Second, having the same degree of autism, but H.M has more difficulties in language and communication than H.B. H.M have not known how to use expressing behaviors to express his individual needs.. Third, the coordination between parents and teachers are limited due to objective conditions: HM's mother had new baby during the experimental time. Thus, if there is the collaboration between teachers and parents, the greater efficiency of linguistic behaviors for autistic children can be seen.

4.2.3. Case 3 (P.A)

4.2.3.1. General information

P.A's diagnosis by CARS shows that P.A gained 30 points (mild autism).

4.2.3.2. Evaluate before experiment

Table 4.5. 4.2 P.A's Result evaluations before experiment

	<i>Criteria 1</i>	<i>Criteria 2</i>	<i>Criteria 3</i>	<i>Criteria 4</i>	<i>Criteria 5</i>	<i>Criteria 6</i>	<i>Criteria 7</i>
Score	37	15	193	10	39	9	27
Level	5	4	3	3	3	2	2

Summing up the general seven evaluation criteria shows that all P.A's linguistic behaviors were high level and quite high. However, observing behaviors, behaviors after language and behaviors expressing language were still limited. These are the main features which teachers and parents need to consider to set the priority goals for P.A.

4.2.3.3. Make plan of adjusing autistic children's linguistic behaviors

On the basis of general information related to P.A's developmental results of linguistic behaviors, we have selected priority targets for intervention which focus on

behaviours expressed through perception, behaviors after language and behaviors expressing language.

4.2.3.4. Experimental results

P.A đã có những tiến bộ trong việc điều chỉnh HVNN. Qua quá trình thực nghiệm P.A là bé có nhiều sự tiến bộ nhiều nhất trong số 3 trẻ. Sự tiến bộ này có thể giải thích được là do mức độ tự kỷ của P.A nhẹ hơn 2 trường hợp trên, ba mẹ P.A phát hiện sớm và cho P.A can thiệp sớm ngay từ khi phát hiện. Bên cạnh đó, P.A là con một nên bố mẹ đã dành nhiều thời gian quan tâm hơn. PA has made progress in adjusting his linguistic behaviors. Through experimental process, P.A has obtained achievement the most of the 3 researched children. This progress can be explained as due to the level of autism of P.A is milder than 2 other children. P.A was also early intervened as soon as being detected. In addition, P.A received such a lot of care from his parents.

4.2.3.5. Some conclusion about the case 3

It is P.A's parents that contributed to the progress of P.A. His parents accepted his characteristics of autism in early time. They also researched many documents related to autism. In addition, they well cooperated with teachers. The result reveals that the use of functional exercises to adjust linguistic behaviors is suitable. Although, P.A sometimes gained little progress, the charts shows that the P.A's degree of progress was quite good.

4.2.4. Some comments on three cases

Evaluation results of the survey of 3 children show that all three children are getting better after experiment. Thus, we can draw some comments as follows: The degree of autism can affect a child's linguistic behaviors. To illustrate, among three children, P.A had lowest age, but his linguistic behaviors gained highest scores including before and after experimental time. According to three children's results, the higher score one child gained, the higher criteria tended to be. For example, P.A's scores were quite similar to each other in high and quite criteria. In contrast, the lower score one child gained, the lower criteria tended to be. H.M was an example. Thus, elements of the ability of performing behaviors have interdependent relationships. The progress of this criterion may affect other criteria. The progress of three different cases depends on the choice of appropriate exercises to adjust linguistic behaviors and the close collaboration between teachers & parents.

CONCLUSION FOR CHAPTER IV

Basing on the experimental time on 3 cases, these following conclusions can be made:

1. Results of the experiment confirmed that using the process of adjusting linguistic behaviors for autistic children 3-6 years old based on functional exercises is reasonable and effective in improving linguistic behaviors for preschool children with autism.

2. The experimental process had applied all functional exercises to adjust linguistic behaviors for 3 children with autism. However, in each different stage and each different child, the degree of applying exercises to adjust linguistic behaviors is different. This requires flexibility and creativity of teachers and parents in the process of applying functional exercises.

3. Test results also showed that application of correct process for adjusting linguistic behaviors for children with autism would bring positive results to children in terms of their linguistic behaviors. The change of autistic children's linguistic behaviors depends greatly on the ability of each child, the ability of teachers, support facilities and the selection of proper functional exercises.

CONCLUSIONS AND RECOMMENDATIONS

1. CONCLUSIONS

1.1. On the basis of collecting and summing up, analyzing the results of scientific research outside and inside Vietnam relating to children with autism and their linguistic behaviors, this study showed the importance of adjusting linguistic behaviors for children with autism. In order to help children with autism develop and integrate into the community, it is important to use the adjustment process for 3-6 – year - old autistic children which bases on functional exercises applied in families, centers and special schools.

1.2. The research showed that more than 30% children with autism could not speak or had a little spoken language; many of them had spoken language but did not know how to use language fitting the context. Those affected by their linguistic impairment led to their difficulties in life, learning and particularly in intergrating the community.

1.3. The adjustment of linguistic behaviors is the process of changing reactions through language (including verbal language or nonverbal language) to help children with autism respond to the requirements of others and express their own needs. To help adjust linguistic behaviors effectively, intervening people must comply the adjustment process basing on functional exercises.

1.4. The research pointed out 05 principles and recommended the adjustment process of linguistic behavior for 3 -6 – year - old autistic children including 3 steps. The steps in the process of adjusting linguistic behaviors for children with autism have been built to ensure general requirements to regulate linguistic behaviors for 3-6 – year – old autistic children; The process of adjusting linguistic behaviors for children with autism is suitable with preschool children with autism at the age of 3-6. Functional exercises demonstrate functionality and personalization; ensure comprehensive education, specificity, flexibility, versatility connected to inclusive education.

1.5. Experimental studies have demonstrated that the process of adjusting linguistic behaviors for 3-6 – year – old children with autism is reliable and feasible under applying conditions in Vietnam.

2. RECOMMENDATIONS

2.1. Provide guidance and training courses for teachers, parents about linguistic behaviors and how to use functional exercises to adjust their children's linguistic behaviors.

2.2. For better adjustment of linguistic behaviors for 3-6 – year – old children with autism, it is necessary to continue to study additional methods, specific methods of intervening for children with autism, such as using PECS, TEACCH to improve the efficiency of adjusting linguistic behaviors for children with autism.

2.3. The Ministry of Education and Training offer written guidance, inter-sectoral coordination mechanisms between health - psychological – educational sectors so that children with autism can receive better care in centers or specialized centers.

2.4. Research and training institutions should continue to research, develop documents, references to enhance information resources related to autistic children's linguistic behaviors for specific centers; continue to research to provide a system of functional exercises.

**LIST OF SCIENCE WORKS
RELATED TO DISSERTATION HAVE BEEN PUBLISHED**

1. Dao Thi Thu Thuy (2013), *Some methods of intervening children with autism* - Journal of Scientific Education no. 89 published in February 2013
2. Nguyen Duc Minh, Dao Thi Thu Thuy (2013), *The new K - Scale (2001) and test result of the development of preschool children in Vietnam* - Journal of Scientific Education no. 92 published in 2013
3. Dao Thi Thu Thuy (2013), *Research on linguistic behaviors of children with autism in terms of behavioral psychology*, Journal of Scientific Education no. 98 published in November 2013
4. Dao Thi Thu Thuy (2013), *Results of testing the model of inclusive education for children with autism in primary school*, Journal of Special Education published in December 2013.
5. Dao Thi Thu Thuy (2013), *The supporting system for inclusive education for children with autism*, International Scientific Conference "Taking care of children with autism in Vietnam, the status and prospects", The Vietnam Institute of Educational Sciences.
6. Dao Thi Thu Thuy, *Experimenting to use functional exercises to adjust linguistic behaviors for 3 - 6 - year - old children with autism*, Journal of Special Education published in December 2013.
7. Dao Thi Thu Thuy, Đào Thị Thu Thủy, *Situations and Solutions for inclusive education of children with autism in Vietnam*, Journal of Special Education published in December 2013.
8. Dao Thi Thu Thuy, *The situations of using functional exercises of adjusting linguistic behaviors for preschool children with autism of teachers and parents*, Journal of Scientific Education no. 103 published in 2014.

