A Study of the Effect of Interactive Physical Activity on Executive Function in Children with Autism

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Abstract: To explore the impact of interactive physical activity on executive function of children with autism through interactive physical activity teaching, and to verify the effective improvement of executive function of children with autism through interactive physical activity intervention. Four autistic children aged 8-10 were divided into the experimental group and the control group by literature review, interview, observation and experiment methods. Two children in the experimental group received 90 minutes of interactive physical activity once a week for 12 weeks. Through the working memory, inhibition ability, cognitive flexibility test indicators, the intervention subjects were pretested and post tested for 8 times. The working memory test scores of autistic children in the experimental group increased from 3.50-3.75 before intervention to 6.00-6.25 after intervention, and the inhibitory ability test scores increased from 2.75 before intervention to 5.00-5.75 after intervention, while the cognitive flexibility test scores did not change significantly. The total score of executive function test increased from 8.25-9.25 before intervention to 13.50-14.00 after intervention. Interactive physical activity has positive effects on working memory and inhibition in executive function of autistic children, but it has no effect on cognitive flexibility. Interactive physical activity should be based on the differences of children with autism and the fun of roller skating combined with the concept of interactive physical activity, targeted intervention for children with autism.

Keywords: Roller Skating; Autistic Children; Interactive Physical Activity; Executive Function

1. Introduction

Autism spectrum disorder (ASD, also known as lonely spectrum dysfunction), hereinafter referred to as “autism”, is a complex neurological development disorder [1,2]. Some studies have confirmed that there are problems with the execution function of autistic children and proposed the theoretical doctrine of dysfunction. Interactive body activity is developed based on somatosensory games. Slander -sensitive games have a lot of titles at home and abroad. Foreign countries include the Internet Video Game (interactive video game) Active Video Games (Sports Video Games), Exercise game (Exercise Game), Exercise Video Games. (Exercise gaming), Motion-Based Touch less Games (non-touch action game) or Touch less Motion-based Internet (non-touch action interaction); domestic is known as interactive video games, sports video games, action video games, body sensation games [3]. Executive function (EF) is the core component of cognitive function. Most people regard it as a complex advanced cognitive function. The current execution function mainly includes three sub -functions: work memory, suppression ability, and cognitive flexibility [4]. Work memory ability is a function often used in ordinary life, and the impact on the human body is very significant. According to previous studies, autistic children are generally worse than normal children’s work memory. It will affect human behavior standards, abstract thinking, cognitive flexibility, concentration of attention, and maintenance [5]. The inhibitory ability is one of the important composition functions of the execution function. It has a great impact on children with autism. The key period for the development of the ability to suppress ability is 3-6 years. Each autistic child’s inhibitory ability has different degrees of defects. It is often difficult to control their emotions and behaviors in life, and there will be emotions

and behaviors that are different from ordinary people. Some studies have also proven that the inhibitory ability of autistic children and normal children is different, and some inhibitory ability of autistic children is defective. In recent years, researchers have also found that the inhibitory ability of autism children in the clinical symptoms has also been closely related to repeated stereotypes in clinical symptoms. The degree of activation of the leaf and the lower cortex of the leaf. Cognitive flexibility is also a psychological flexibility that people often call, and it is also a high -level cognitive function. Many researchers have confirmed that the worse the cognitive flexibility of autism children, the more serious his repeated stereotypes will be. Cognitive flexibility is also one of the important components of the execution function. Most studies have confirmed that its neural mechanisms involve in many areas such as ear lobe, top lobe, temporal lobe, and cerebellum [6]. The execution function of autism children has a serious impact on individuals, families, and society. How to use effective methods to intervene and improve the execution function of children with autism have become a key problem that needs to be solved at present [7]. At present, research has shown that sports can be used as an effective method of intervention and can improve the execution function defects of children with autism, but it still lacks more scientific evidence to prove that its neural mechanism has not been revealed [8,9]. Therefore, in order to improve the intervention of physical activity and make the physical activity of autism children more abundant, interfere with the execution function of autistic children with interactive physical activity, formulate scientific and reasonable interactive body activity solutions, in practice, in practice to verify its effect. Make autism children improve the function of performing in roller skating, and can gradually integrate into society.

2. Research Objects and Methods

2.1 Research Object

Four autistic children at Changsha Special School were selected as research objects.

2.2 Research Method

2.2.1 Literature method

According to the content of the research, find books on autism, understand the intervention plan for the execution function of autism children, carefully sort out, classify and analyze relevant information, and make key notes. Through the scientific research of related autism, interactive physical activity, and execution functions through electronic literature databases such as the North -South Campus of Changsha Teachers College, China Zhi wang, and Baidu Library, collect and sort out relevant information and documents. Determine the direction of the research, carefully study and analyze the relevant key parts in the literature, and provide the theoretical basis for research and provide a scientific theoretical basis.

2.2.2 Interview method

Through interviews with experts, parents, and teachers, I understand the condition and living conditions of Xiao xu, Zai Zai, Han Han, and Xiaoyu, the ability, learning ability, and hobbies of basic actions, and their hobbies.

2.2.2.1 Expert interview

Through an in -depth research method for experts and special education experts in roller skating training. Determine the effectiveness of the research content related indicators and meters, determine research ideas and research methods, and allow experts to give guidance and suggestions.

2.2.2.2 Parents interview

Before the experiment, the parents of Xiaoxu, Zai Zai, Han Han and Xiaoyu asked their children’s basic situation. Modify your own experimental teaching design and teaching methods; because there are obstacles to the execution function of children with autism, it is difficult to control your emotions, it is difficult to complete something alone. When conducting experimental teaching, regularly feedback from parents to self -fed back to closed from closed from the closure. The training and mastering of children to solve the various practical problems encountered in the experimental teaching process.

2.2.2.3 Teacher interview

Through interviews with the teachers of Changsha City, I learned about Xiaoxu, Zai Zi, Han Han, and Xiaoyu performance in school. Emotions, daily performance, personality characteristics, partners, and teachers’ understanding and understanding of them.

2.2.3 Observation method

Use the method of observation to record the experimental objects, record the number of times the execution function is used in the roller skating class, and determine the method to measure the variables, observations and records each variable method, and under what circumstances to observe and observe the time of observation and observation Framework and so on. Observe the experimental objects directly and record the changes in the execution function after each interactive body activity; use electronic devices such as video recorders, mobile phones to record the content of interactive body activity courses, and further determine the autism group autism through the video after class after class. The changes in children's execution functions, record and sort out the impact of interactive physical activity intervention on the execution function of autistic children, obtain a large amount of data, analyze and organize experimental data, and finally draw conclusions.

2.2.4 Single test experimental law

Adopting a single test method, experimental intervention is conducted for the three indicators of work memory, inhibitory ability, and cognitive flexibility determined by the tested, and there is a detailed test stage in the experimental design.

2.3 Experimental Design

Use a single trial experimental method to study. Under the same conditions such as training content, training venues, etc., the intervention method of interactive physical activity on the experimental objects is used. Functional indicators change to obtain the valid data required by the experiment, compare and analyze the data before and after the experiment, and finally get the result.

2.3.1 Experimental objects and selection

Experimental object: In the early stages of the study, 10 patients with autism children were publicized in the early stages of the study, and 4 symptoms of autistic children with similar symptoms were finally determined according to children's autism assessment tables.

Experimental group: Children in the experimental group need to participate in interactive physical activity courses every week and use interactive physical activity intervention.

Control group: The autism children of the control group need to test them with autism children in the experimental group on the day of the test.

The basic situation of 4 autistic children is shown in Table 1:

Table 1. Participants Basic Information Form

Basic situation	Xiao xu	Zai zai	Han han	Xiao yu
gender	male	male	male	male
Height (cm)	118	120	119	120
Weight (kg)	42	45	44	42
age	10	10	9	10
School	Changsha Special School	Changsha Special School	Changsha Special School	Changsha Special School
symptom	Repeated stereotypes are serious	Mood change	Mental retardation	Moving and repeated movements
Reinforcement	Cartoons, Cola	Potato chips, clap hands	Milk, tire	Roller skating pile, biscuits

2.3.2 Experimental location, time and curriculum design

Experimental location: Changsha Teachers College Rolling Hall

Interactive body activity curriculum design:

(1) Intervention hours

The experimental team takes classes at 14: 30--16: 00 every Sunday, once a week, 90 minutes each time, starting on September 18, 2021, and ending on December 26, 2021, a total of 12 classes, continuing. The class time is 12 weeks.

(2) Intervention of course content

The experimental group conducted an intervention of interactive physical activity from September to December 2021 to December. The physical activity was carried out by rolling skating, and classes were conducted through the combination of roller skating motion with the game. Such as: basic taxi picking piles, obstacles, children's tire maze, children's competition grabbing,

children's driving, Song Lake gliding and other forms. In the process of teaching, we need to pay attention to the training ability training between children and teachers and children and children. In response to the other party, controlling their emotions and behaviors, reviewing the content they learned in the last class, the tasks arranged by the teacher can be planned and completed.

According to the relevant contents of the "Construction and Empirical Research on the Interactive Body Activity Plan of Autism" [3] and "Children's Roller Skating" [10], it designed a 12 -week interactive physical activity for 4 autism children. Teaching activity content.

2.3.3 Data source

2.3.3.1 Pre -test

Before the intervention, communicate with parents and teachers through interviews to understand the performance performance of children with self -closed children in families, schools and other activities outside the school. Use the "Evaluation Table of Autistic Children's Execution Functional Evolution" four times before the experiment four times, measured once a week to obtain previous measurement points. Observe the execution function of autistic children under natural curriculum, and do not make any intervention and record the performance of the execution function.

2.3.3.2 Post -test

After the experiment, the three measurement indicators of the four intervention objects were tested four times through work memory, suppression ability, and cognitive flexibility. The four intervention objects were performed four times. After the experiment, the test was tested once a week to record the final test results of each item, and the final test scores of each item were recorded. Communicate with parents and teachers, discuss children's execution functions and make good interview records.

2.3.4 Measurement tool

According to the index of the functional evaluation table of children with autism, the experimental objects are performed once a week, 90 minutes each time, and 12 weeks of interactive physical activity courses in 12 weeks. The tests before testing (4 times) before experiment, and the test of the post -test (4 times) of the experiment were scored from the three indicators of work memory, inhibitory ability, and cognitive flexibility, respectively. Select 5 indicators from each sub -function to score, that is, the child is completely in line with the index of 0 points, the child meets 1 point in accordance with the indicator, the child partly meets the indicator of 2 points, the child does not meet the indicator of 3 points, the child is not in line, the child It does not meet the indicator at all 4 points. During each test, record the performance of the function and get the test score to the final test score. (See Appendix 1 for specific evaluations) children's execution function evaluation tables are mainly divided into three sub -functions: work memory, inhibitory ability, and cognitive flexibility. The test results of various indicators in work memory add in turn, and the total score of the test memory test is 0 to 20 points; the test results of various indicators in the inhibitory ability are added in order, which is the total test of the test ability The score range is 0 to 20 points; the test results of various indicators in cognitive flexibility are added in order. The total score of the test of cognitive flexibility is 0 to 20 points. The three test scores of work memory, inhibitory ability, and cognitive flexibility have been added to the total test score of autistic children's execution functions. The score range is 0 to 60 points. High scores indicate that the impact of roller skating courses on the execution function of autistic children has a significant impact; low scoring indicates that the impact of the roller skating course on the execution function of autistic children is not significant.

Determine the specific behavior performance according to the indicator of the execution function assessment table, and conduct Pre-test (4 times), intervention test (6 times), and post -test (4 times) of the experimental group and the control group test. Analyze the changes in autistic children's execution functions by changing the number of performance performance.

2.3.5 Control variable

The autistic children of this experiment do not participate in other spare sports intervention activities and other physical education courses. The courses in the control group are the same, but they do not participate in other spatial sports intervention activities and other physical education courses.

2.3.5.1 Adult variable

In the interactive body activity, the roller skating course is carried out. In the course, there is a learning and intervention of roller skating skills and the intervention of the game. There are also the integration of other sports activities and the practice of physical fitness. At the same time, it is necessary to communicate, interact, and encourage them with autism children. Sometimes there must be no tasks that cannot be completed in time.

2.3.5.2 Due to variables

When experimental objects conduct the roller skating course of interactive physical activity in accordance with the plan, during the experimental process, we must observe the number of execution functions in children's work memory, suppression ability, and cognitive flexibility indicators.

3. Results and Analysis

3.1 Pre -test Test Data Analysis

It can be seen from Table 2 that the positive and negative value of the work memory of the experimental group and the control group before the experiment is 0.31, the positive and negative value of the inhibitory ability is 0.13, the positive and negative value of cognitive flexibility is 0.50, and the total score of the execution function is 0.50, which is caused by it. It can be seen that there is no significant difference in the execution function of the experimental group and the control group before the experiment. The trio function test data of work memory, inhibitory ability, and cognitive flexibility are close.

Table 2. Pre -test Execution Function Test Data (Average Value)

Name		Work memory	Suppress	Cognitive flexibility	Total score of execution function
test group	Xiaoxu	3.50	2.75	2.00	8.25
	Zai zai	3.75	2.75	2.75	9.25
Control group	Han han	3.25	2.50	3.00	9.00
	Xiaoyu	3.75	2.50	2.25	8.50
	Average	3.56±0.31	2.63±0.13	2.50±0.50	8.75±0.50

3.1.1 Pre-test memory memory test data analysis

It can be seen from Table 3 that before the experiment of interactive physical activity, Xiao Xu's work memory score was 3.50 points, and the total score of Zai Zai's work memory was 3.75 points. The total score of work memory is 3.75 points. And the positive and negative value of the work memory is 0.31, which can be obtained from the four research objects before the intervention of interactive physical activity, the work memory is similar, and the work memory test results are similar. Four research targets can easily forget what others want to take, it is difficult to remember what they have done in the event, and difficult to forget when doing other things. Three test results are relatively good. It is difficult to remember some lengthy fingers, and there are several things to do. It will only remember that the first or last two test results are relatively poor.

Table 3. Pre -testing Work Memory Test Data (Average)

Name		W1	W2	W3	W4	W5	Total score
test group	Xiaoxu	0.25	0.75	0.25	1.50	0.75	3.50
	Zai zai	0.50	1.00	0.75	1.00	0.50	3.75
Control group	Han han	0.25	0.75	0.50	1.00	0.75	3.25
	Xiaoyu	0.50	0.75	0.50	1.50	0.50	3.75
	Average	0.38±0.13	0.81±0.19	0.50±0.25	1.25±0.25	0.63±0.13	3.56±0.31

Note: W1: It is difficult to remember some lengthy fingers; W2: It is difficult to remember what you have done in the event; W3: There are several things to do, just remember the first or last one; W4: It is easy to forget others What he wants to take; W5: It is difficult to keep in mind before doing other things.

3.1.2 Pre-testing inhibitory ability test data analysis

It can be seen from Table 4 that before the experiment of interactive physical activity, the total score of Xiaoxu's inhibitory ability was 2.75 points, the total score of Zai zai inhibitory ability was 2.75 points, and the total score of culvert was 2.50 points. Xiaoxu's. The total score of inhibitory ability is 2.50 points. And

the positive and negative value of the inhibitory ability is 0.13. From this, it can be seen that the four research objects are similar before the intervention of interactive physical activity, and the inhibitory ability test results are similar. Four research targets are difficult to persist in some lack of attractive tasks in the previous test, unless someone promises to give rewards and it is difficult to suppress his active, although the two test results are relatively good, it should be a good test score. When things must be completed, he is often divided by other more attractive things. Obviously it is difficult to do something that he is dull, and it is difficult to laugh in the three test results in the occasion that is not suitable.

Table 4. Pre -testing Capability Test Data (Average Value)

Name		I1	I2	I3	I4	I5	Total score
test group	Xiaoxu	0.50	0.50	0.50	0.50	0.75	2.75
	Zai zai	0.50	0.75	0.50	0.50	0.50	2.75
Control group	Han han	0.50	0.25	0.75	0.75	0.25	2.50
	Xiao yu	0.75	0.25	0.50	0.25	0.75	2.50
	Average	0.56±0.19	0.44±0.31	0.56±0.19	0.50±0.25	0.56±0.31	2.63±0.13

Note: I1: It is difficult to stick to some missing tasks to the end, unless someone promises to give rewards; i2: When something must be completed, he will often be divided by other more attractive things; i3: Obviously obviously It is difficult to do something that he is dull; i4: It is difficult to laugh in the occasion that is not suitable; i5: It is difficult to suppress his activity, even though the same is true of the order.

3.1.3 Pre -test cognitive flexibility test data analysis

It can be seen from Table 5 that before the experiment of interactive physical activity, Xiao Xu's cognitive flexibility was 2.00 points, and the total score of the cognitive flexibility of Zai zai was 2.75 points. 3.00 points, Xiaoyu's cognitive flexibility has a total score of 2.25 points. And the positive and negative value of cognitive flexibility is 0.50. It can be seen that the four research objects have similar cognitive flexibility before the intervention of interactive physical activity, and the test results of cognitive flexibility are similar. Four research targets are difficult to understand in the previous test, unless they demonstrate how to do it at the same time, and it is difficult to tell some of what has happened to make it easy to understand. When he is troubled by the problem, it is difficult to think about it. Another method to answer the three test results is relatively good. Even if the order is stopped, it is difficult to stop immediately in the event. The two test results that are difficult to perform multiple steps are relatively poor.

Table 5. Pre -test Cognitive Flexibility Test Data (Average Value)

Name		C1	C2	C3	C4	C5	Total score
test group	Xiaoxu	0.25	0.75	0.50	0.25	0.25	2.00
	Zai zai	0.50	0.50	0.75	0.25	0.75	2.75
Control group	Han han	0.25	0.75	0.50	0.75	0.75	3.00
	Xiao yu	0.50	0.50	0.50	0.50	0.25	2.25
	Average	0.38±0.13	0.63±0.13	0.56±0.19	0.44±0.31	0.50±0.25	2.50±0.50

Note: C1: It is difficult to stop in the event even if it is stopped by the drinking order; C2: It is difficult to say something that has happened to make it easy to understand; C3: It is difficult to understand the instructions expressed in words unless it is demonstrated to him at the same time to demonstrate him at the same time What to do; C4: It is difficult to perform activities that require multiple steps; C5: When he is troubled by the problem, it is difficult to come up with another method to answer.

3.2 Analysis of the Experimental Process Data

The use of autistic children's execution function assessment tables, statistics have been carried out on the specific performance behavior of Xiaoxu and Zai zai execution functions. 14 tests.

3.2.1 Interactive physical activity affects the number of anger on the number of anger

According to the test results of Figure 1, it can be seen that the number of Xiao Xu Sheng was at most 21 times before the intervention of the experimental group, and the number of anger

was 22 times. Due to learning wrestling, the number of anger was recovered. The subsequent courses through the game tire maze and driving the train, it was found that the number of anger of Xiao Xu and Zai zai was significantly reduced, with a minimum number of 6 times. From this we can know that interactive physical activity has improved Xiao Xu and Zai Zai's control of their emotions and has a positive effect on suppression ability.

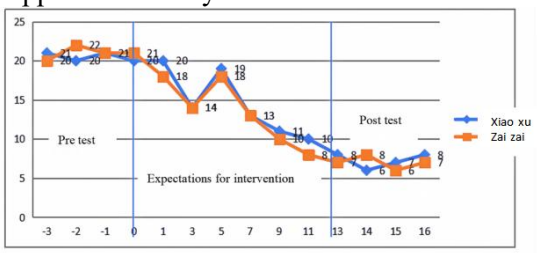

Figure 1. The Effect of Interactive Body Activity on the Number of Anger

3.2.2 The effect of interactive body activity on the number of instructions of obedience

According to the test results of Figure 2, it can be seen that the number of times Xiao Xu and Zai zai before the intervention of the experiment group were 8 times, and the number of times the instructions obeyed by Xiao Xu after intervention were at most 22 times, and the number of times the instructions obeyed at most 21 times. The largest number of in the fifth week shows that the content of the course of learning steps has a significant impact on the obedience instructions. From this we can know that interactive body activities have improved Xiao Xu and Zai Zai's control of their own behaviors, and have a positive effect on work memory.

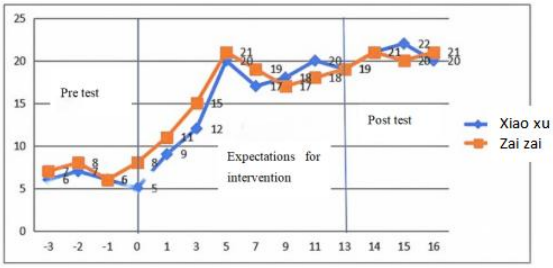

Figure 2. The Effect of Interactive Body Activity on the Number of Instructions of Obedience

3.2.3 The effect of interactive physical activity on the number of hands on shooting

According to the test results of Figure 3, it can be seen that the number of times Xiao Xu patted by Xiao Xu before intervention was 28 times, and the number of times the number of times was 29 times. 8 times, a significant decline in the third week, indicating that the content of the course of learning wrestling has a significant impact on the ability to suppress. In the ninth week, the number of hands clapped reached the lowest number. The number of shots is 8 times, which shows that the content of the tire maze and the competition has played a positive role. From this we can know that interactive physical activities have improved Xiao Xu and Zai Zai's control of their behavior and have a positive effect on suppression ability.

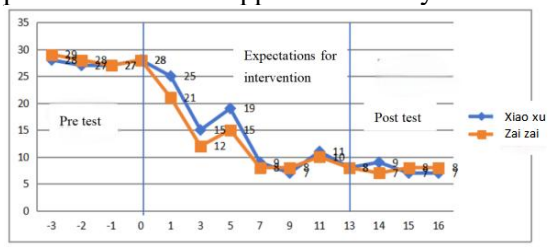

Figure 3. Interactive Body Activity Affects the Number of Times on the Number of Shooting

3.2.4 The effect of interactive physical activity on the number of obstacles

According to the test results of Figure 4, it can be seen that the number of times Xiao Xu and Zai Zai have avoided obstacles before the intervention of the experimental team, and the number of times the number of times to avoid obstacles after intervention is 20 times, and the number of times the number of people to avoid obstacles is the most at the highest number of obstacles. 21 times, of which the fifth week rose sharply. From the beginning of the tires at the beginning, the tires would not lift their feet and leap. When I met the tires, they could actively lift their feet and leap, indicating that the content of the course of crossing obstacles had a significant impact on work memory. In the eleventh week, the number of avoiding obstacles reached the highest number of times. The number of times of Xiaoxu and Zai zai to avoid obstacles was 21 times, which shows that the content of the tire maze course has played a positive role. From this we can know that interactive body activities have improved Xiao Xu and Zai Zai's control of their own behaviors, and have a positive effect on work memory.

3.2.5 The effect of interactive physical activity on the number of palms of the palm

According to the test results of Figure 5, it can

be seen that the number of Xiao xu palms before the intervention of the experimental group was 6 times, and the number of palms was up to 7 times. Among them, the number of palms in the seventh week has increased significantly. From the beginning of the coach raising hands rarely with it, to see that the coach will take the initiative to come to the palm, it shows that the content of the course grabbing the ball is significantly significant for the memory memory of the work. The influence was the highest number of palms in the eleventh week. The number of Xiao xu's palm was 25 times, and the number of palms of Zai zai was 27 times, indicating that the content of the tire maze course has played a positive role. From this we can know that interactive body activities have improved Xiao Xu and Zai Zai's control of their own behaviors, and have a positive effect on work memory.

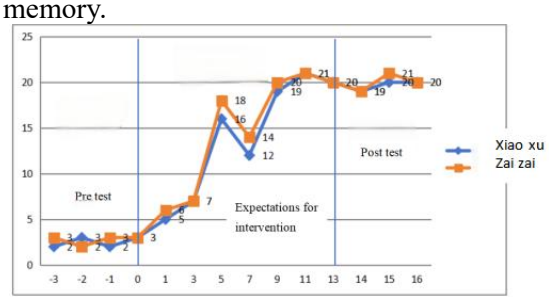

Figure 4. The Effect of Interactive Body Activity on the Number of Obstacles to Avoid Obstacles

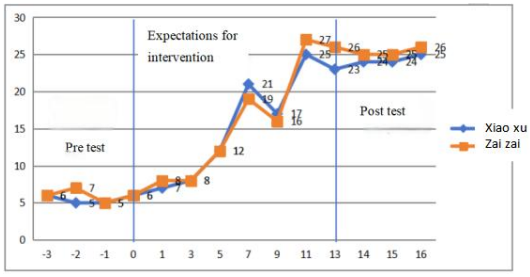

Figure 5. The Impact of Interactive Body Activity on the Number of Palms on the Palm of the Palm

3.2.6 Interactive body activity affects the number of steps of multiple steps

According to the test results of Figure 6, it can be known that before the intervention of the experimental group, Xiao xu performed a maximum of 7 times in multiple steps, and the number of steps per number of steps was 8 times. The number of times the number of steps in multiple steps is 7 times, and there is no obvious change before and after the experiment. From this we can know that interactive physical activities have no effect on the change of thinking of Xiao Xu and Zai Zai, and have no effect on cognitive flexibility.

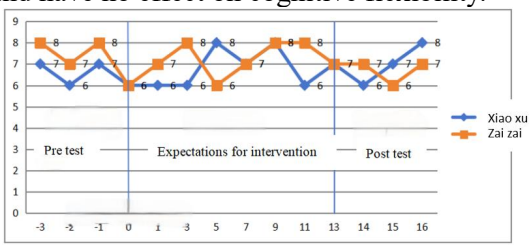

Figure 6. The Impact of Interactive Body Activity on Multiple Steps on Multiple Steps

3.3 Comparison Analysis of Previous Test Results

It can be seen from the test results of Table 6 that the work memory test results of the experimental group before and after the intervention of interactive body activity have been improved. 6.25 points; there was no significant change before and after the intervention in the control group Han and Xiao yu. Comparing the test data comparison of the front and rear tests of the experimental group and the control group, it shows that interactive physical activity has an impact on work memory and is more obvious. Interactive body activity intervention has improved the test results of the experimental team before and after the experimental group. The test team Xiao Xu and Zai Zai's inhibitory ability test results increased from 2.75 before intervention to 5.00-5.75 points. There was no significant change before and after the intervention. Comparing the test data comparison of the front and back of the experimental group and the control group, it shows that interactive physical activity has an impact on the ability to suppress and is more obvious. Interactive physical activity intervention has not changed significantly in the test results of the experimental group and the control group before and after the control group; the previous test results of the experimental group and the control group are not large, indicating that interactive body activity has no effect on cognitive flexibility. According to the results of Table 6, it can be seen that the test scores of the experimental group and the control group have improved. The test team performed a function test score of 8.25 points before the intervention of the experiment group, and the function test score was 14.00 after the intervention of the interactive body activity

intervention. Before the intervention, the function test score was 8.00 points, and the function test score was 13.50 points after the intervention of interactive body activity intervention. In the control group culvert, the previous testing function score is 9.00 points, and the post -test score is 9.50 points; Xiaoyu's pre -test execution function score is 8.50 points, and the post -test score is 9.50 points. From the results, two autistic children in the experimental group intervention have been improved, especially the work memory and suppression capabilities have been actively improved. In summary, after 12 weeks of interactive physical activity intervention training, the execution ability of the experimental objects after training has increased, indicating that interactive physical activity intervention training has improved the execution function of autistic children. Among the three items of work memory, inhibitory ability, and cognitive flexibility, the results of the test results of cognitive flexibility are not significant. Work memory and inhibitory ability have been greatly improved. It may be because interactive physical activity intervention is targeted training. These test projects have been integrated into roller skating teaching, so the test effect is obvious. Interactive body activity is designed based on the defects, characteristics and differences of children in autism. It can trigger the migration of narrow attention of autistic children through human -machine interactive mode, and integrate them into physical activities where people interact with people. Scientific target system design, content selection, organizational plan implementation, and teaching strategy application are the guarantee of the implementation effect of interactive body activity solutions. The interactive body activity solution has enriched the theoretical system of autistic individual physical activity intervention.

Table 6. Pre -testing and Test Test Data

Name	Work memory		Suppress		Cognitive flexibility		Total score of execution function	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Xiao xu	3.50	6.00	2.75	5.75	2.00	2.25	8.25	14.00
Zai zai	3.75	6.25	2.75	5.00	2.75	2.25	9.25	13.50
Han han	3.25	3.75	2.50	3.00	3.00	2.75	9.00	9.50
Xiao yu	3.75	3.75	2.50	2.75	2.25	2.75	8.50	9.50

4. Conclusion and Suggestions

4.1 Conclusion

After the intervention of interactive physical activity, the number of anger in the experimental group has been reduced from up to 21-22 times to 8 times, and the number of obedience has been increased from up to 8 times to 21-22 times. Times, the number of avoiding obstacles has been increased from the maximum 3 times to 20-21 times, and the number of palms has been increased from 6-7 to 25-26 times. Through the number of specific behaviors, you can know the work memory of the experimental group and the work memory and the suppression ability has been improved.

Through the changes in the number of performance performance times, it can be seen that after the experiment of interactive physical activity, the experimental group's autism children's palms, clapped hands, avoid obstacles, anger, obey instructions have shown a positive trend. Physical activity has a positive effect on the improvement of autistic children's execution function.

Through the analysis of the test data of the previous test and the post -testing, it can be seen that after the experiment of the interactive body activity, the work memory and suppression ability of the autism children in the experimental group have improved, but the cognitive flexibility has not changed significantly.

4.2 Suggestions

Before the experiment, you should make full preparations, fully understand the basic situation of the experimental object, and formulate a targeted interactive body activity course content according to the specific situation of the curriculum standards and the specific situation of the experimental object, so that the intervention of interactive body activity is better played with better performance. Effect.

Experimental objects have similar execution

functions before the experiment. During the experiment, the family members and teachers of the experimental objects are communicated in a timely manner to understand the changes in the implementation function outside the interactive curriculum and the situation of participating in other sports activities. The impact on its execution function ensures the accuracy of the test results.

Through the comparison analysis of the experiment, the work memory and suppression ability of autistic children have improved, but the flexibility of cognitive flexibility has not changed significantly. I hope that the future autism research can be developed to formulate the flexibility of the flexible cognition of children with autism children in the future. Sexual curriculum content allows interactive physical activity intervention to play a better results.

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