

The Effect of a Little Water Games Program on the Level of Social Interaction for Children with Special Needs

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Introduction and Research Problem:

Participating in sports activities in an educational manner affect the individual, makes him/her acquire good attitudes, values and behaviors that leads to adjustment with the self and with members of the community the individual lives in. The various sports activities play an important role in improving individuals' deficiencies. If an individual loses their ability to enjoy any aspect of live, these activities compensate for this feeling through feelings about his/her capacities during performance. The issue of disability and caring for persons with disabilities is considered a human and civilized principles that emphasizes the importance of ensuring the rights of disabled persons and giving them the opportunity to integrate into society. Caring for persons with disabilities is also considered a humane and social necessity, as it goes beyond the right of these individuals to receive an adequate amount of care and

concern to their right to become active members in society (13: 23).

Autism is a comprehensive developmental disorders. It is characterized by a deficiency in or the stopping of sensory and linguistic perception, and consequently in the development of the ability to communicate, speak, learn, as well as social and cognitive development. This is accompanied by an avoidance introversion disposition, self-closure, and emotional stiffness, so that the autistic child seems as if his/her nervous system has stopped working completely or as if his/her five senses have ceased to receive or transmit any external stimuli or express feelings and emotions. The autistic child is involved in random typical meaningless actions or movements for long periods of time, or tantrums as a reaction to any external change or pressure to take him from his own world (6: 52).

Autistic disorders are one of the most difficult disabilities for the child, as autism is not a single disorder, but an umbrella term for a group of disorders that fall under the Autistic Disorder Spectrum. It is an evolutionary disorder (i.e. it occurs within the first three years of the child's life) and continues throughout the person's life. Since this disorder is multifaceted and has multiple symptoms, diagnosing that a child is autistic is a complex process, and requires the intervention by several competent specialists (9: 55).

The symptoms of autism are so diverse that it is rare to find two children having identical symptoms. This is due to the diversity and variety of factors causing autism (1: 41-44). Additionally, introversion leads to a lot of disturbance in the child's social, academic, and family life. It also affects many aspects of development. Autism is a result of nervous disorders that affect sensory and thinking development areas in the brain. Moreover, the Autism Society of America points out that the autistic child suffers from poor verbal and

non-verbal communication, and poor social communication, as they do not have the ability to respond to visual and audio stimuli, which are considered an essential part of overcoming language difficulties (21: 17).

The autistic child is difficult to manage because of their difficult, random, meaningless behaviors. Additionally, autistic children are worried, hypersensitive, disappointed, angry, and resist change. Their aggressive behaviors include self-injury, isolation, not perceiving or estimating risk (8: 112) (16: 30).

The autistic child also shows an inability to translate their impression about the environment and communicate with it, and is disturbed when subjected to a novel perceptive experience. Therefore, he/she needs a stable environment where play is a fundamental element to modify his/her behavior and develop communication with others surrounding him/her (10: 227) (25: 36) (4: 26).

Many scholars, including Khalil (2001), Abdullah (2004), and Adnan (2007), agree that these

children have great deficiencies in their social relationships, as they live in isolation from other, make only few communications with them, and do not pay any attention to others or to what others do (17: 66) (12: 31) (19: 45).

For autistic children, sport is the best means to make the child return to their society and be in harmony with it. Sport has a great role in the treatment of diseases at all ages for both disabled persons and normal individuals. Swimming is one of the sports that provides a fun and pleasure atmosphere away from complicated life routine and daily exhausting actions. It is also a popular physical activity especially for children (19: 47). The importance of play lies in its positive impact on the individual's social interaction, and particularly for disabled persons. It also gives an opportunity to adapt to the disability (14: 124).

Abdullah (2001), Badr (2004) and Khattab (2004) agree that play is the first form of children's communication with their environment, as it serves in bringing out emotions and internal conflicts that cause

tension in children. Scholars use play therapy program with autistic children as play is the language of these children. The play tools are the source of the autistic child's vocabulary that he/she cannot verbalize. The ability to play exists in autistic children but is latent, as they have some skills of pretend play and imagine play (12) (1) (18).

Swimming has a special weight among other sports due to the physical, psychological and social benefits it provides to the individual. Water games are an important and preferred means in teaching swimming and improving performance. The instructor should select what is suitable to the learner's age, physical capacities, and skill being learnt. It also increases learner's motivation to practice and achieves better outcome with respect to improving basic skills and physical capacities (22: 15) (30: 4).

From the previous studies reviewed by the researcher, which demonstrate the association between social interaction and children with special needs; that performance of sport activities in general improves their social

interactions, and helps these children in their social interaction with their counterparts. This motivated the researcher to conduct the present research to identify the effect of a little water games program on the level of social interaction in children with special needs.

Research Objective:

This research aims at identifying the effect of a little water games program on the level of social interaction in children with special needs through:

- The level of social interaction in children with special needs.

Research Hypotheses:

- There are statistically significant differences between the Means of the pre-test and post-tests measurements in social interaction of children

with special needs in favor of the research sample’s post-test measurement.

- There are statistically significant differences in the change rate in social interaction level of children with special needs in favor of the research sample’s post-test measurement.

Research Procedures:

Research Method:

The researcher used the experimental method with one experimental group.

Research Sample:

The research sample consisted of children with special needs at Pyramids Plateau Social and Sports Club (16 children), their ages from 6 to 8 years, in addition to 8 other children to conduct the exploratory experiment of the research.

**Table (1)
Research Sample Homogeneity in Development Rates and Social Skills Level of the Research Sample (N = 16)**

Skewness	Median	SD	Mean	Measurement Unit	Variables
Anthropometric Variables					
0.58	5.65	0.32	5.68	Year	Age
0.52	110.40	0.87	110.41	Cm	Height
0.63	24.50	0.61	22.51	kgm	Weight
Social interaction					

**Follow Table (1)
Research Sample Homogeneity in Development Rates and Social Skills Level of the Research Sample (N = 16)**

Skewness	Median	SD	Mean	Measurement Unit	Variables
Child's behavior					
0.28	28.10	1.12	28.18	Point	Making friendships
0.71	27.15	0.96	27.36	Point	Affective empathy
0.055	30.00	0.78	30.14	Point	Initiating relationships with others
0.21	34.50	1.72	34.98	Point	Cooperating and strengthening relations with others
0.32	119.75	4.58	120.66	Point	Total score of the first scale
The diagnostic interview					
0.75	6.50	0.18	6.52	Point	Speech and conversation
0.28	12.80	0.72	12.88	Point	Social understanding
0.23	4.90	0.11	4.92	Point	Activities of interest and preferred games
0.71	4.10	0.28	4.18	Point	Actions in social situations
0.62	28.30	1.29	28.50	Point	Total score of the second scale
0.82	148.05	5.87	145.16	Point	Total score of the scale

Table (1) shows that the variables make a normal skewness coefficients fall in the range ± 3 , which means that the sample's homogeneity.

Data Collection Tools:

• Tools and devices used in this research:

The researcher used the following devices to collect data:

- A restameter to measure height in centimeters
- A scale to measure weight in kilograms
- A measuring tape to measure distances
- A stopwatch to measure time
- A swimming pool, its depth = 60 cm

The proposed program:

• The program's timeline:

The program's timeline was set according to the nature of the research sample of autistic children. The program was implemented over ten weeks. It consisted of three weekly sessions, each of them was 60 minutes. Thus, it had a total of 30 hours.

The program was divided into five stages:

• **Stage one** (getting used to water and eliminating fear):

This stage aimed at preparing the communication with autistic children to be able make the motor performance.

The researcher faced great difficulty at the beginning of the program due to:

- Children's fear of water.
 - The children were not used to the researcher.
 - The children did not respond by performing any move requested from them at the beginning.
 - The autistic children were not familiar with the used terms.
 - The autistic children's attention deficiency and inability to focus due to the existence of multiple stimuli.
- This stage was implemented during the first three weeks of the program (9 sessions).
- **Stage 2** (breathing and opening eyes):
This stage was implemented over three sessions.
 - **Stage 3** (floating and sliding):
This stage was implemented over six sessions.
 - **Stage 4** (moving in water):
This stage was implemented over six sessions.
 - **Stage 5** (standing in water):
This stage was implemented over six sessions.

Results and Discussion:

Table (2)
Significance of differences between the pre-test and post-test
measurements in social interaction of the research sample(N = 16)

Significance	t value	Post-test measurement		Pre-test measurement		Tests	
		SD	M	SD	M		
• Children's behavior							
Significant	3.69	2.18	44.75	0.18	6.52	Making friendships	1
Significant	3.21	0.55	45.17	0.72	12.88	Affective empathy	2
Significant	3.58	1.17	48.90	0.11	4.92	Initiating relationships with others	3
Significant	3.98	0.69	52.11	0.28	4.18	Cooperating and strengthening relations with others	4
Significant	3.21	4.59	190.93	1.29	28.50	Total score of the first theme	
• Diagnostic form							
Significant	3.21	0.52	10.58	0.18	6.52	Speech and conversation	1
Significant	3.88	0.87	21.58	0.72	12.88	Social understanding	2
Significant	3.24	0.22	8.52	0.11	4.92	Activities of interest and preferred games	3
Significant	3.98	0.14	8.11	0.28	4.18	Actions in social situations	4
Significant	3.21	1.75	48.79	1.29	28.5	Total score of the second theme	
Significant	3.88	6.34	239.72	5.87	145.16	Total score of the scale	

* Tabular t value at significance level 0.05 = 1.714

Table 2 shows the existence of significant differences between the Means of pre-test and post-test measurements in social skills

of the children in the research sample. Tabular t value was greater than its calculated value at significance level of 0.05.

Table (3)
Improvement rate in post-test measurement compared to pre-test measurement of social interaction of the research sample (N = 16)

Improvement rate	Difference between Means	Post-test measurement		Pre-test measurement		Tests	
		SD	M	SD	M		
• Children's behavior							
58.80%	16.75	2.18	44.75	0.18	6.52	Making friendships	1
65.09%	17.81	0.55	45.17	0.72	12.88	Affective empathy	2
62.24%	18.76	1.17	48.90	0.11	4.92	Initiating relationships with others	3
48.97%	17.13	0.69	52.11	0.28	4.18	Cooperating and strengthening relations with others	4
58.32%	70.27	4.59	190.93	1.29	28.50	Total score of the first theme	
•							
62.26%	4.06	0.52	10.58	0.18	6.52	Speech and conversation	1
67.54%	8.70	0.87	21.58	0.72	12.88	Social understanding	2
73.17%	3.60	0.22	8.52	0.11	4.92	Activities of interest and preferred games	3
94.01%	3.93.	0.14	8.11	0.28	4.18	Actions in social situations	4
71.19%	20.29	1.75	48.79	1.29	28.5	Total score of the second theme	
56.14%	94.56	6.34	239.72	5.87	145.16	Total score of the scale	

Table 3 demonstrates an improvement in the social interaction scale in the children of the research sample. The improvement rate ranged between 48.95% for the “Cooperating and strengthening relations with others” variable and 94.01% for the “Actions in social situations” variable.

- Discussion:

Table 2 shows the existence of significant differences between the Means of the pre-test and post-test measurements, as the value of tabular t was greater than its calculated value at significance level of 0.05.

Moreover, table 3 demonstrates an improvement in the social interaction scale in the children of the research sample. The improvement rate ranged between 48.95% for the “Cooperating and strengthening relations with others” variable and 94.01% for the “Actions in social situations” variable.

The researcher views that the motor activity and play is an important aspect for modifying and guiding children, as they help develop social and psychological values such as self-control, and the

experience of success with its various dimensions. Play and motor activity help acquire and develop children’s mental, physical and social capacity to the greatest extent so that they feel their self-worth.

Social interaction is concerned with developing and providing children with social skills to help them effectively integrate into their community in a manner that is appropriate with its members, increase cooperation and communication with others so that their relationships with their peers become good and active, make the child acquire the ability to express him/herself and form social and emotional relationships with other people surrounding him/her by gaining interest in their activities and participating in them. Thus, children gain perception of the importance of social relationships that make them adjust with others (22: 271).

The researcher notices a growing interest by scholars during the second half of the 20th century in studying the increasing feeling of social isolation as a phenomenon that proliferated in various societies. She attributes this to

the significance of such phenomenon in expressing the dilemma of contemporary people, their suffering, and conflicts resulting from the widening gap between material advancement that moves forward in great speed and the value, ethical, social, and moral advancement. Consequently, people feel insecure about real life.

In this respect, Mohamed (2000) notes that sports preserve bodily safety and integrity in addition to helping develop the mind through training on sharp observation and good thinking. Additionally, sports provide the person with social qualities through the cooperation and collaboration one practices during exercising, as well as other good qualities, e.g. self-restraint, obedience, content, responsibility, leadership and following a leader. Sports may also provide the person with determination, boldness, initiation and other psychological qualities. So, it ensures important educational and moral values. Thus, the child becomes a complete person from physical, mental, psychological and social aspects (11: 12).

In this regard, Afifi (2003)(4) points out that a child can learn or master a single skill or collective social skills through participation in games. This can occur in the form of a little game where some rules of the game can be neglected such as the number of players or the area of the playfield. This helps children achieve their goal cooperatively without the atmosphere of competition among them (4: 30).

Conclusions:

- The proposed water games program had a positive effect on the level of social interaction of autistic children.
- The proposed water games program resulted in an improvement in the level of social interaction of autistic children.

Recommendations:

- The proposed program should be applied as it has positive effect on the level of social interaction of autistic children.
- More studies should be conducted on ways to develop social interactions in disabled children and normal children.
- A psychologist should be present with the sports specialist to improve the

psychological and physical capacities of autistic children.

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