



THE EFFECTIVENESS OF TRAINING PROGRAM BASED ON LOVAAS' PROGRAM IN DEVELOPING CHILDREN'S AUTISM SPECTRUM DISORDER SOCIAL SKILLS

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Abstract:

Research problem: Autism spectrum disorders' children suffer from social skills problems. The aim of this study is to design a training program based on the Lovaas' curriculum for development of Autism spectrum disorders' children social skills and to measure its effectiveness. To achieve the objective of this study, the researcher uses the descriptive approach and the semi-experimental approach based on the training program and measure of the social skills. The research population consists of autism spectrum disorders' children, ages 4 to 8 years, who were in the special education centers in Irbid governorate from the Hashemite Kingdom of Jordan for the year 2018/2019. The experimental and control groups were purposive sampling selected, which consisted of 30 children divided into two groups: experimental 15 and 15 control.

Findings: The results of the descriptive analysis showed that a training program based on the Lovaas' program was designed to develop social skills. The post-test results showed statistically significant differences between experimental and control groups at the level of $\alpha = 0.05$, while the mean scores (29.8) indicated significantly for the experimental group of social skills in post-test. The delayed test results showed no statistically significant differences at the level of $\alpha = 0.05$ for the experimental group. Conclusion: The researcher recommended the need to take advantages of the training program and the application program. One of the researcher's suggestions is to conduct

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a similar research on the Lovaas' approach for different age groups and different skills in the Hashemite Kingdom of Jordan.

Keywords: Lovaas' approach, Jordanian Children's Autism Spectrum Disorder, social skills

1. Introduction

The countries of the world have paid special attention to special education, where caring for children with special needs is one of the most important indicators of the progress of societies (Sharif, 2011). The care of children with special needs is one of the most important problems faced by the present societies. A society with a significant proportion of its members with special needs faces a difficult encounter, particularly if they suffer one or more disabilities that reduce their ability to perform in their various societal roles, especially the roles of linguistic and social communication (Habib, 2016). The field of special education witnessed a new and familiar development in the second world of the last century on the global and Arab levels through the recognition of the basic needs of people with disabilities.

From time to time, the name of a particular disease or disorder, which we have not heard or know about, generates challenges and obstacles in societies. This causes scientists and researchers to search, exert and seek solutions and solutions. The first to introduce autism spectrum disorder is believed to be the Swiss psychiatrist Eugen Blüler (1911) used to describe people who are isolated from the outside world and withdrawn from social life (Shabib, 2008).

Furthermore, children with autism spectrum disorder cannot interact with others and integrate in favor of being alone, self-centered and rejecting society. The problem persists with the child for life, and the intensity of the autism spectrum disorder variates from child to child (Fadel, 2014). Autism spectrum disorder affects on children directly and the child exhibits a clear difference in social interaction, skills of autonomy, and communication (Sharif, 2011).

As a result of the fact that autism is a social taxonomic category that has different characteristics from other disorders, many centers and specialists who worked with autistic children appeared (Ali, 2013). The autistic child needs constant supervision and follow-up, needs a variety of programs, whether therapeutic, and training (Batayneh, Arnous, 2011). The educational programs are one of the most important programs of intervention in the treatment of autistic children, moreover there have been many educational programs aimed at children with autism, and we will review the international educational programs that have proven their effectiveness through educational means, including the program "Tech" and the program "Lovaas" and "Douglas" "and some famous schools such as" Higashi "(Hassan, 2016; Khatib, 2011; Al-Qar'an, Smadi, 2015). This concern came as a result of strong evidence and evidence

provided by studies and research on the importance of programs used for people with special needs, including autistic children (Sharif, 2011; Kilani, 2012; Ayad, 2010).

The Lovaas lists are methodological based on the behavioral theory to enhance the different skills of children with autism spectrum disorders, including: communication, social skills, independence, unwanted behaviors and other behaviors. Lovaas relies on the techniques of behavioral behavior analysis in program implementation, (2009; Bar, 2016). The Lovaas curriculum is an applied behavioral analysis technique for children with autism disorders through intensive individual therapy sessions for children with autism disorder. The program consists of 171 training objectives presented in training lists. These goals are divided into three Age levels. The program focuses on attention skills through: social sitting, visual communication, induction skills and divided into two parts: fine and large movements, chanting, demand, naming, expressive language skills, receptive language skills, independence skills and academic skills (reading, writing), Mathematics, play skills, social skills (Sundberg, 2011).

2. Literature Review

2.1 Social skills

The concept of social skills: The interest in social skills is attributed to the fact that it is one of the pillars of psychological consensus on the personal and societal level, since the establishment of friendly relations is one of the important indicators of efficiency in personal relationships. The individual, as Carwin points out (1977), lives in a network of relationships involving parents, peers, relatives, and teachers. The growth of these skills is therefore necessary to initiate and sustain successful personal relationships (Abd elhamid, 2010).

2.2 The importance of social skills

Social skills an urgent need for the ability to build and manage social relations and the management of labor relations effectively, as well as the availability of these skills and the effectiveness of their use to raise the level of performance, no doubt they avoid the occurrence of conflicts and if they managed to solve effectively, and cannot be overlooked in the stage It is important that the role of the parents with the school in the child's education be integrated with the social skills that they do not acquire normally, which include: participation, importance of attention, cooperation and exchange of the child Roles, the need to talk to others, to listen to them, to be courteous and courteous, and to smile, help and encourage others.

2.3 Lovaas' approach

The idea of Lovaas is based on a behavioral theory that aims at changing the behavior of the individual and making his life and the life of those around him more effective and positive, and aims at achieving experimental scientific objectives in the field of

behavior (Khatib, 2008). The ABA was established as a science at the beginning of the second half of the 20th century as a method for assessing and testing human behavior change based on the principles of the Skinner's behavioral theory and can be defined as a process through which the environment and behavior interact to form a behavioral repertoire of the organism or individual (Asaad, 2011). Lovaas developed it and used it with autistic children to the extent that the name of this curve was associated with the name "Lovaas", one of the methods of behavioral therapy, perhaps the most famous (Owner, 2009; Muhammad, 2012; Lovaas, 1996). It is the science that behavior-based procedures are systematically applied to improve social behavior to a clear degree and thus empirically demonstrate that the procedures followed are responsible for the emergence of behavior (Keenan, 2006).

2.4 The importance of the Lovaas' approach

The importance of applied behavioral analysis lies in the training of the child to conduct the target behavior in natural situations, and in helping to circulate these responses in similar contexts and to persist over longer periods of time. It facilitates the realization of social interactions with others, communication with them and even integration into society. The findings of the Owner's Study (2009) show that children who received early behavioral intervention have achieved remarkable improvement in mental functioning, expressive language, academic performance, and various adaptive behaviors.

Behavioral intervention using behavioral behavior analysis in the training of any child with mental retardation or autism increases appropriate behaviors, through increased behavioral reinforcement and focus on work or social interactions. This type of analysis is based on teaching children new skills according to the methodological teaching and procedures to enhance life skills education, communication skills or social skills. Behavioral behavior analysis has an important advantage in teaching children to maintain behaviors, which is to teach children self-censorship to maintain and disseminate acquired skills, and to reduce situations in which conflicting behaviors occur (Havercamp et al., 2006).

3. The techniques used in the Lovaas' approach

3.1 Task analysis

The task analysis technique indicates the components required to complete or complete the specified work by identifying and sequencing all the components required by the sub-tasks required to accomplish something, such as a two-digit collection process, or a particular person's acknowledgment of assistance Socially acceptable (Badr, 2010).

3.2 Enhancement

The procedure that leads to positive behaviors and positive behaviors and is sustained by continuous presence (Khatib, 2008).

3.3 Sequence

The sequencing method includes a description of the behavior that will be instruction to achieve the behavioral goal in a preferential and orderly manner, and the behavior to be divided into small parts will be serialized until the final goal is achieved sequentially (Peter, 2010).

3.4 Formation

The procedure that involves the systematic positive reinforcement of responses that approach final behavior with a view to causing behavior that does not currently exist. The therapist or teacher determines the final behavior to be taught in order to achieve the effective use of the configuration.

The identification and definition of the final behavior to be achieved in the form of a behavioral goal, the identification and definition of the decomposition, where the starting point is through direct observation for several days before starting the formation process, selecting effective boosters to increase motivation, continuing to enhance the input behavior until the rate of infection becomes high, Gradually moving from performance to performance (Ahtib, 2008)

3.5 Modeling

The child learns desirable or undesirable behavior patterns, by observing others and imitating them. The change in a child's behavior that results from observation of the behavior of others is called modeling. This learning process is also called by different names: observation learning, social learning, imitation, mutual learning. Modeling is one of the most effective techniques for children (Ayesh, 2013).

3.6 Indoctrination

Indoctrination is a sign or tip that makes the probability of a correct response more frequent. It is also a procedure that involves the temporary use of additional discriminative stimuli in order to increase the likelihood of an individual performing the intended behavior, an appropriate way to encourage the person to show the desired behavior as soon as possible rather than wait until he / Automatically (Mohammad, 2012).

4. Research Methodology (The study approach)

The researcher used the semi-experimental approach to find out the effect of the social variable on the dependent variable. The Quasi Research Experimental approach is based on the idea of selecting an intentional sample from the community. This method does not require random selection of the study sample, in addition to its dependence on external variables (Abbas, 2009, Batsh and Abu-Zayna, 2007).

The semi-empirical curriculum is based on the design of pre-test and remote measures, based on the use of experimental and control groups. The semi-experimental approach also takes into account the conditions surrounding the experiment as much as possible, such as determining the time of experimentation and the physical factors during application and the psychometric conditions of the sample accurately before the start of the experiment, where all these factors are equal. In both control and experimental groups, and use measures that have a degree of sincerity and consistency (Abu Allam, 2004).

4.1 The study samples

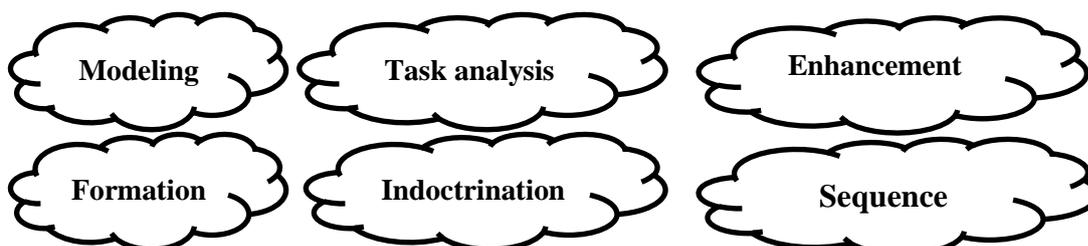
The study sample consisted of (30) children with autism disorder who were diagnosed according to the criteria and criteria of the DSM-v, between the ages of 4 to 8 years, and those with autism spectrum disorder and those who do not suffer from other mental, motor, visual or other disabilities, who have not been previously employed, and children with autism spectrum disorder who lack social skills by applying the Social Skills Scale and reference to each child's personal records. They were divided into two groups, an experimental group containing 15 children and a control group containing 15 children.

4.2 Description of the proposed training program

Is a set of time-structured sessions organized according to the Lovaas (Applied Behavior Analysis) curriculum for children with autism spectrum disorder in the 4 to 8 year age groups. Therefore, for early intervention, the response is faster for this age group (Warfare, 2015). All that was early intervention produced greater benefits for the child (Mohammed, 2009).

The training program consists of (255) training sessions with (17) training sessions for each member of the experimental sample divided into three dimensions. The first is the readiness to learn. It includes 60 training sessions for all members of the experimental group with 4 individual sessions per child. The second dimension consists of (60) training sessions for all members of the experimental group with (4) individual sessions for each child. The third dimension of social interaction skills includes (135) training sessions for all members of the experimental group with (9) individual sessions per child.

4.3 Lovaas' approach relies on a methodology for applying its programs to a range of methods



4.4 Study procedures

The study procedures include a number of steps: selecting the sample of the study and obtaining the approval and parents of children with autism spectrum disorder by applying the program, creating the educational environment to start the implementation of the program and providing the tools and means to implement the program, dividing the study sample into two groups (control and experimental) Age and social characteristics, and applying the social skills scale to the two groups in the pre-test measurement, after which the training program was applied to the experimental group (only). After the program was implemented directly, the measurement tools were applied to the social skills scale in the post-teston the experimental and control groups. The application of the Social Skills Scale was implemented one month after the completion of the training program in sequential (deferred) measurement.

The following sample illustrates the procedures for applying the study

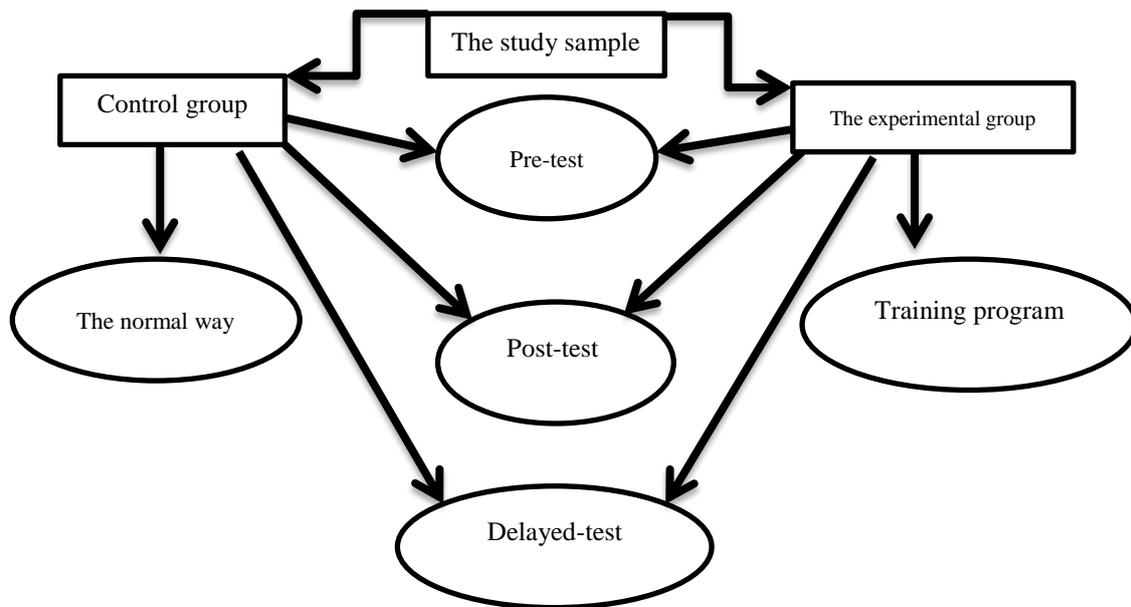


Figure1: Model No. (1.3)

5. Results and Discussions

5.1 Results of the second question

What is the effectiveness of the Lovaas program in developing social skills in children with autism spectrum disorder?

Table 1: The results of pre-test of the two groups

Pre-test	N	Mean Rank	U value	Z value	P value	r value
Control group	15	8.90	103.500	-0.382	0.713	-0.069
The experimental group	15	18.10				
Total	30					

Table 1 shows that there are no statistically significant differences between the average grade levels of the two groups (control and experimental) in the pre-test. The average grade of children (experimental group) in the pre-test (10.18), and the average grade of children (control group) in the pre-test (8.90). The value of $(u=103.500)$ and the value of $(z=0.382)$ and the value of $(p =0.713)$ and the value of $(r=0.069-)$. This means that there are no statistically significant differences between the average grade levels of the two groups (experimental and control) At the level of significance $(\alpha=0.05)$ on the scale of social skills in children with autism spectrum disorder. The same table shows that the value of the average for the two groups (experimental and control). In the pre-test was "close", as shown by the average grade of the two groups (control and experimental) in the measurement on the scale of social skills was "weak".

Table 2: Test results of pre and post tests of control group

Control group	N	T	Z value	P value	r value
Pre-test	15	0.000	-0.970	0.861	-0.180
Post-test	15				
Total	30				

Table 2 shows the results of the "control group" in the pre-measurement and post-measurement. After the application of the usual curriculum, the value of $(t=0.000)$ and the value of $(z=-0.970)$ and the value of $(r=-0.861)$ this means that there are no statistically significant differences on the level of significance $(\alpha=0.05)$ between the mean grade of the control group on the social skills scale in children with autism spectrum disorder in the pre and posttests. Control group in the pre and post tests were "convergent." As shown by the average grade level of the control group on the skill scale in the pre and posttests measurement was "weak".

Table 3: Measurement results of the two groups

Pre-test	N	Mean Rank	U value	Z value	P value	r value
Control group	15	13.10	25.5	-3.654	0.000	-0.679
Experimental group	15	29.8				
Total	30					

Table 3 shows statistically significant differences between the mean scores of the two groups (control and experimental) in the post-test on the social skills. The average grade of children (experimental group) in the post-test (29.8) and the average grade of children (control group) in the post-test(13.10). The value of Man-Whitney test $(u=25.5)$ and the value of $(z=-3.684)$ and the value of $(p=0.000)$ and the value of $(r=0.679)$. This means that there are statistically significant differences from the mean level $(\alpha=0.05)$ (Experimental group) and mean grade scores (control group) on the social skills in children with autism spectrum disorder in telemetry. The same table shows that the value of the average for the two groups (experimental and control) In the post-test, they were "spaced", as shown by the average grade level (experimental group) that was "larger" than the average of the control group in the post-test on the social skills scale.

The development of social skills in the experimental group was due to the application of the existing training program On the Lovaas Platform for the development of social skills in children with autism spectrum disorder.

Table 4: The results of the pre - and post - test of the experimental group

The experimental group	N	T	Z value	P value	r value
Pre-test	15	0.000	-3.387	0.001	-0.628
Post-test	15				
Total	30				

Table 4 shows statistically significant differences between the mean grade (experimental group) in the pre-test and the post-test. The value of (t=0.000) and the value of (z=-3.387) (R = 0.288) This means that there are statistically significant differences at the level of significance (a=0.05) between the mean grade of the experimental group on the social skills scale in children with autism spectrum disorder in the pre-test and remote measurement. (Experimental group) in the pre-test were "spaced" as shown by the mean (experimental group) on measuring social skills measuring pre-test "was very large" for the benefit of the dimensional measurement. The development of social skills in children with autism spectrum disorder is attributed to the lovaas training program in developing social skills.

5.2 Results of the third question

To verify the impact of the Lovaas training program on the development of social skills in children with autism spectrum disorder in delayed-test?

Table 5: The results of the post-test and delayed-test of the control group

Control group	N	T	Z value	P value	r value
Post-test	15	0.000	-2.103	0.538	-0.390
Delayed-test	15				
Total	30				

Table (5) shows that there are no statistically significant differences between the mean grade of the control group in the post-test, the measurement and the sequence. The value of (t=0.000) and the value of (z=-2.103 was (p=0.538) (r=-0.390). This means that there are no statistically significant differences at the level of significance (a=0.05) between the average grade of the control group on the social skills scale in children with autism spectrum disorder in the post and delayed tests. The average grade (control group) in the post and delayed tests are "convergent." As shown by the mean grade scores E) social skills scale in the telemetric delayed tests "was weak."

Table 6: The results of the post-test and delayed test of the experimental group

The experimental group	N	T	Z value	P value	r value
Post-test	15	0.000	-3.395	0.601	-0.630
Delayed-test	15				
Total	30				

Table (6) indicates the mean grade (experimental group) in the delayed-test, the measurement and the sequence; the value of ($t=0.000$) and the value of ($z=-3.395$) and the value of ($p=0.601$) and the value of ($r=-0.630$) There are no statistically significant differences at the level of significance ($\alpha=0.05$) between the mean grade of the experimental group on the social skills scale in children with autism spectrum disorder in the post-test and delayed-test. The post-test and delayed-test were "significant". The persistence of the development of social skills in the delayed-test of children with autism spectrum disorder in the experimental group is attributed to the Lovaas curriculum in the development of social skills.

5.3 Summary of Results First question

The results showed that there were statistically significant differences between the mean scores of the experimental group and the control group in the post-measurement on the social skills scale for the benefit of the experimental group. This results in the effectiveness of the Lovaas program in developing social skills in Children with Autism Spectrum Disorder in the experimental group. Their level of performance on the social skills scale increased after the implementation of the training program. The program emphasizes the effectiveness of the training program in developing social skills in children.

These results are consistent with the results of several studies, such as Wollfberg (2014), which aims to introduce a program that shapes what is known as compact playgroups by integrating children with mild or simple autism spectrum disorders into playgroups with peers from the same Age group, for the development of social skills social interaction skills in children with autism spectrum disorder. Al-Tali (2014) aimed to find out the impact of a training program on the development of social interaction skills in a sample of children with Asperger syndrome and high-functioning autism.

The researcher conducted a study (2017) to develop emotional intelligence skills and improve social interaction in children with Asperger syndrome through a training program that is a test. The study of ovaries 2018 aims to identify the effectiveness of a therapeutic program based on cognitive improvement in the development of cognitive performance and social interaction among a sample of children with autism spectrum disorder in Jordan. A study to identify the impact of a program to improve the functions of the theory of central coherence in the development of social interaction in children with mild autism spectrum disorder and reduce their troubled behavior.

Based on the above, Mohammed (2018) conducted a study aimed at improving the social skills of children with autism spectrum disorder accompanied by mental disability through a program designed in the light of their shortcomings. Ahmed 2018

aims to identify the effectiveness of a music therapy program in improving the level of verbal and nonverbal communication of children with autism spectrum disorder in the light of action research.

The present study is consistent with previous studies in the existence of statistically significant differences between (control group and the experimental group) in post-measurement on the social skills scale for the experimental group. And there are statistically significant differences between the scores (experimental group) in the pre-test measurement and the post-measurement on the scale of social skills in favor of telemetry. And the effectiveness of training programs in the development of social skills in children with autism spectrum disorder.

5.4 Summary of the second question

The results of the post and delayed tests showed no statistically significant differences between the mean (control group) in the post and delayed tests on the social skills scale. The average value of the control group was "convergent" and the average achievement of children with autism spectrum disorder (Control group) for their poor performance in social skills in post-test and delayed-test.

This finding suggests that the development of social skills in post-test in the experimental group is due to the program's impact on social skills development in children with autism spectrum disorder in the experimental group. The results of the post and delayed tests showed no statistically significant differences between the mean (experimental group) in the post and delayed tests on the social skills scale. The average value of the experimental group showed "convergent" and the average achievement of children with autism spectrum disorder (The experimental group) reported an increase in the level of their performance in social skills in post and delayed tests

These results have been agreed with the results of several studies, such as the study of Pakker, (2011), which aimed to identify the impact of task analysis on the orientation of children with autism spectrum disorders in social situations. Corbett et al. (2014) aimed to identify the effectiveness of a program based on cycudrama and an impact on social interaction and social skills among a sample of young people with autism spectrum disorder. Mustafa (2015) directed a study to investigate the effectiveness of the program based on art therapy techniques in the development of social skills in children with autism spectrum disorder.

In addition, Mr. (2016) has conducted a study to verify the effectiveness of the program of collective activities in improving the social interaction of autistic children. The study (Ghoneim and Behansawi 2016) aimed at comparing the effectiveness of a psychodynamic training program to the development of social interaction among a sample of people with autism spectrum disorder. And Ahmed (2017) conducted a study aimed at detecting the effectiveness of a computer-assisted training program in improving the social interaction of children with autism spectrum disorder in the theory of mind. The aim of this study was to investigate the effectiveness of self-efficacy and social interaction in children with autism spectrum disorder in Jordan.

In the same context, Ahmad (2018) conducted a study aimed at identifying the effectiveness of a program based on music therapy in improving the level of verbal and nonverbal communication of children with autism spectrum disorder in the light of action research.

The results of the present study were consistent with the results of the previous studies in the absence of statistical differences between the average of the group (control group) in the after and after measurement on the scale of social skills and the absence of statistically significant differences between the scores of the experimental group in the post-test and the delayed-test on the social skills. And the effectiveness of training programs in the development of social skills in children with autism spectrum disorder. In the governorate of the experimental group on the possession of social skills in children with autism spectrum disorder. The results of their studies showed that there were no significant differences between the average of the experimental levels on the social skills scale in the post-test and the delayed-test.

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