

Effectiveness of a Training Program in Developing Teacher's Knowledge in Modifying the Behavior of Children with Autism and Mental Retardation

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Abstract: This study aimed to evaluate the effectiveness of a training program in modifying the knowledge level of teachers of children with autism disorder and mental retardation in behavior. The sample of the survey consisted of (40) male teachers of children with autism disorder and mental retardation who work at the intellectual education institutes in Jeddah. They were selected on the basis of having the lowest grades using a specific scale of teachers knowledge who work with autistic and mentally retarded children which is used for behavior modification. This scale was devised and verified by two researchers. The study subjects were randomly divided into two groups – the first one was experimental and included (20) teachers, (10) were teachers of autistic disorder children and (10) teachers of mentally retarded children. The second group was the controlling group that included (20) teachers, (10) for autistic disorder children, and (10) teachers of mentally retarded children. The training program was applied on the experimental group which consisted of three levels: I: General principles of behavior modification II: Methods of strengthening the desired behavior. III: Methods of weakening the undesired behavior to examine the hypotheses of the study, the analysis of variance of recurring values (MANCOVA) and repeated measures were used. Findings of the study indicated the following :1- There are statistically significant differences at ($\alpha= 0.05$) level among the members of the experimental group that was subjected to the training program and the controlling group in developing the knowledge level of Teachers of students with Autistic disorder and mental retardation of behavior modification methods on the post direct measurement on behalf of the experimental group. 2- There are statistically significant differences at ($\alpha= 0.05$) level among the experimental group that was subjected to the training program and the controlling group in developing the knowledge level of Teachers of students with Autistic disorder and mentally retarded children in Behavior modification methods on the follow up direct measurement for the advantage of the experimental group.

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1. Introduction

The behavioral non-adaptive problems associated with autistic and mentally retarded students are considered a source of concern to the family as well as teachers who work with them directly either those joining private institutions or normal schools. Therefore, teachers who deal with students with special education needs need new, effective, simple methods and approaches to overcome these problems or decrease them in order that the class becomes more effective. Therefore, behavior modification and its various principles and strategies are of great importance in controlling these behaviors, which will result positively in the educational process, and improve adaptation of students with autistic disorder and mental retardation.

Study Problem

Behavioral non-adaptive problems lead to positive effects on children with autistic disorders and mental retardation. Moreover, they limit interaction with neighborhood, and make them unacceptable in the social and educational environment they interact

with. The non-adaptive practices of individuals with autistic disorder and mental retardation limit the success of the process of inclusion in the public normal schools, and negatively affect their ability to learn, and create a difficulty in acquiring the basic skills. Therefore, the pressing need made it imperative to provide teachers of children with autistic disorder and mental retardation with behavior modification patterns and methods. Behavior modification of retarded children occupy an important position in addressing their prevailing behavioral problems, since not attending or solving such problems of children with autistic disorder and mental retardation lead to feelings of frustration and helplessness with children which negatively reflect on self-appreciation, and having more psychological and behavioral problems (Snell & Brown, 2000). Related studies with non-adaptive behaviors indicated that the possibility of having this with retarded children in private institutions is relatively high. Matson *et al.* (1998) found that the percentage of occurrence of these behavioral problems among retarded children is more

than among normal children. This was confirmed by the study carried out by (Rojan, *et al.*, 1997) which revealed the spread of behavioral problems among mentally retarded children. Whaley (2002) also indicated the spread of behavioral problems with autistic disorder children such as patterned movements, self injury, social withdrawal, and visual impairment. Moreover, failure of teachers of children with autistic disorder and mental retardation to maintain discipline may lead to the belief that they are ineffective and low potential. This will lead- on the long run- to burnout which will have a negative effect on their motivation to work with retarded children and quit working with them (Brownell, *et al.*, 1997).

Studies indicate that behavioral modification strategies are the most effective in teaching autistic children. This is clear in that all typical educational programs for autism such as (TEACH), (Applied Behavioral Analysis(ABA), Douglass Developmental Disability Center (DDDC), and Learning experiences – An alternative program (LEAP) are all based on behavior modification strategies such as reinforcement, rote-learning, formation, and modeling, etc, (Al-Shami,2004).

Survey studies confirm the importance of the teachers' acquisition of behavior modification skills, particularly the modification of undesired behavior since teachers believe that pre- service training programs in the field of teaching students with special needs do not help in addressing behavioral problems among students effectively due to the emphasis on the theoretical aspect rather than application. Therefore, it is necessary to develop the knowledge level of teachers of students with autistic disorder and mental retardation with in-service training behavior modification methods (O,neillet *al.*, 2001 and Lise *et al.*, 2005).

Specifically, the aim of this study is to explore the effectiveness of a training program based on using principles of behavior modification and behavioral enhancing methods, and methods of reducing undesirable behavior in developing the knowledge level among teachers of children with autistic disorder and mental retardation with behavior modification methods.

Study Hypotheses

- 1-There is a statistically significant difference at $\alpha \leq 0.05$ among the experimental group that underwent a training program and the controlling group in developing the knowledge level of teachers of children with autistic disorder and mental retardation with behavior modification methods on the direct post scale.
- 2-There is a statistically significant difference at $\alpha \leq 0.05$ among the members of the experimental group that underwent a training program, and the

controlling group in developing the knowledge level of teachers of children with autistic disorder and mental retardation with behavior modification on the follow up scale.

Importance of the Study

The importance of the study lies in the following:

- 1-Equipping teachers of children with autistic disorder and mental retardation with effective and applicable skills to deal with non-adaptive problems with autistic disorder and mentally retarded students.
- 2-This study contributes in developing a data base about teachers of autistic disorder students and mentally retarded students in KSA which is related to the degree of their knowledge of behavior modification skills.
- 3-The success of this training program in developing the teachers knowledge of autistic disorder and mentally retarded students of behavior modification methods helps in generalizing it on the rest of staff working with students with autistic disorder and mental retardation

Limitations of the study

- 1- The application of this training program for developing the knowledge level of students with behavioral modification methods on the male teachers who teach students with autistic disorder and mental retardation, and work at the intellectual education and autism institutions in Jeddah, KSA due to social limitations.
- 2- Generalization of the findings of this study is determined by the degree of validity and reliability of the tools used.

Theoretical framework and previous literature:

Mental Retardation:

Mental retardation is discrepancy in many aspects of individual performance less than 18 years, and it is clear in the decrease of mental capacity below the average and accompanied by deficit in two or more of the adaptive behavior aspects such as language skills, self- care, daily life, social life, self-guidance, social care, academic skills, health and safety, work time and leisure time (Hallahan & kauffman, 2006).

Mentally retarded children are considered more than others subject to affective disorder for one or more in the following:

- a- The psychological and social pressures that the mentally retarded child faces due to maltreatment, neglect at home, school, and society.
- b-The psychological and social pressures that the family of the retarded child faces.
- c-The low mental capabilities (Richardson *et al.*, 1986).

Al- Rousan (2011) mentions that the mentally retarded children show non-adaptive behaviors such

as: Aggression which is represented in different forms: physical and verbal aggression, vandalism, shouting and crying.

A social behavior:

It is represented in annoying others, lying, using obscene language, and using property of others without permission.

Disobedient behavior:

It is represented in ignoring directions and violating them, wrangling with others, interrupting others' activity, and escaping the school.

Withdrawing behavior:

Laziness and solitude behavior.

Stereotyped behavior:

Taking property of others, and cheating

Autism

Autism Society of America (2009) defines autism as a type of developmental disorders which appear in the first three years of the child. It results in nervous disorders that affect brain functions and appears in the form of problems in many aspects: social interaction, verbal and nonverbal communication, and playing activities. Children always respond to things more than persons, and they are confused at any change in their environment, and always repeat bodily movements or syllables of words automatically. The important thing is the research for the key methods that upgrade the level of those autistic children.

Behavioral Characteristics of Autistic Children

Autistic children show non-adaptive behaviors such as:

- 1- Routine behavior: Such individuals show behaviors such as insistence on fixed and limited routine in the field of daily life behavior, and refusal of any change of this routine.
- 2- Stereotyping behaviors: This behavior appears in the form of recurrent movements in fingers, hands, arms, moving thing and toys, constantly, moving around the body, moving hands, moving on toes, and touching things (Heflin & Alaimo, 2007).
- 3- Self injury: hitting the wall, and hand biting.
- 4- Hyperactivity or hyper laziness.
- 5- Attention disorder, and loss of interest in tasks (Heward, 2006).

Behavior modification methods

Behavior modification indicates to a group of procedures that were derived from codes of conduct which define the functional relations among the environmental variables and the behavior. Behavior modification is an organized process that includes certain remedial procedures that aim at controlling the variables that are responsible for behavior.

The remedial programs based on behavior modification principles are suitable for educational

situations for the ability of integrating them into the educational activities that assist students and parents in implementing the correction daily within the natural environment of the child. Poteet (1971) believes that teachers are the most important qualified individuals to change children behavior and modify it for many reasons, among which are:

- 1-Teachers are almost qualified to carry out behavior modification processes due to their vocational certification in colleges and specialized educational institutions.
- 2-Teachers do not generally have subjective personal impressions about their students.
- 3-Teachers usually address or treat students behavior when it occurs without paying attention to other side behaviors.
- 4-Teachers due to their position are responsible for the students social and academic behavior change (Al-Zrekat, 2009).

The issue of retarded Children behavior modification is a key issue in the field of special education. Using behavior modification procedures is not confined to increasing desired behaviors, and reducing the undesired ones, but extended to include other aspect with retarded children such as various academic skills: language acquisition, writing, math, vocational skills, and self-care skills, in addition to daily life skills. Researchers always depend on teachers to implement behavior modification programs which are directed to these children after training them to use appropriate methods (Witzel & Mercer, 2003).

Previous Literature:

Wisling, *et al.* (1981) carried out a study that aimed at identifying the skills which distinguish between special education master teachers and normal special education. The findings showed that special education master teachers and acquired teaching competencies were those having behavior modification skills.

Hundert (1982) aimed at training a group of teachers of children with special needs on designing and implementing behavior modification programs by using written training guides and feedback. The findings indicated the effectiveness of the training program in improving the teachers' use of behavior modification methods.

Lovaas (1987) carried out a study that aimed to investigate the effectiveness of a practical behavioral analysis program in improving intelligence degree on a sample of autistic children that included (40) children. Lovaas and his colleagues carried out intensive behavior training on the empirical group with an average of (40) hours per week. The findings showed an increase in intelligence rates among the

empirical group by 20 degrees, whereas the controlling group showed no change.

In another study carried out by (Hrydowy& Martin, 1994) that aimed at assessing the effectiveness of a training program in improving the skills of teachers of retarded children at special education centers. The program was introduced in the form of a training program that included methods of implementing behavior modification. The findings indicated an improvement in the performance of teachers of mentally retarded children that were basically trained on the post exam and the follow up. Moreover, the improvement in the teachers' performance led to behavior improvement with most mentally retarded children.

Hurshet *al.* (2000) carried out a study on 12 students from field training in behavior modification, and aimed at comparing between the effectiveness of written directions and direct directions (directions and oral feedback) in training of applying the methods of behavior modification. The behavioral methods used were: Reinforcement, formation, modeling, and exclusion of positive reinforcement. The findings indicated the effectiveness of written directions and direct directions in developing the application of behavior modification methods. The findings also showed no statistically significant differences in the students' application of behavior modification methods that are attributed to the given instructions.

Pelios, *et al.* (2003) also carried out a research aiming at assessing the effectiveness of behavior modification program that included enhancing strategies dictation, concealment, and response cost in teaching three children with autistic disorders. The program was applied through their teachers, and the findings showed the effectiveness of the program in independent skills acquisition.

Al-khatib (2004) carried out a study that aimed at developing the teachers knowledge of behavior modification in reducing the patterned, aggressive and chaotic behavior with an 81 child sample of mentally retarded children in Jordan. The study findings showed a statistically significant difference among children in both the empirical and controlling groups for the benefit of the empirical group, in reducing the patterned, aggressive and chaotic behavior in the sample.

Al-Ziot (2005) carried out a study that aimed at training teachers on using behavior modification strategies represented in positive reinforcement, response cost, feedback and classroom environment control to improve the attention among children with minor mental retardation. The sample included (40) male/female students attached to special education centers in Amman, and were split into two empirical and controlling groups. The findings showed an

improvement in attention level among the empirical group.

During the survey of the previous literature we notice that there are strong reasons and great importance for training teachers on behavior modification methods that are also known as the practical behavior analysis. They are the most effective methods in increasing the desired behaviors of retarded children, and reducing the undesired behaviors This is what studies had proved (Wisling *et al.*, 1981, Hundert, 1982 Hursh *et al.*, 2000). The findings of a number of scientific studies assured the effectiveness of this kind of training on retarded children behavior modification (Lovaas, 1987) (Pelios, *et al.*, 2003), (Al-Khatib 2004), and (al-ziot, 2005).

We point out here to the dearth of Arab studies that tackled the acquaintance of the level of the teachers of children with autistic disorder and mental retardation in behavior modification methods particularly those oriented to teachers training and providing them with interaction skills with non-adaptive behaviors, and the increase of desired behaviors. Therefore, the current study came to identify and develop the level of the teachers of children with autistic disorder and mental retardation with behavior modification methods.

2. Method and procedures

Study group:

The study was composed of 40 male teachers of children due to cultural limitations among teachers of children with autistic disorder and mental retardation working in the intellectual education institute in Jeddah. They were selected based on getting the lowest grade on the knowledge level of teachers from teachers of children of autistic disorder, whereas, the second half -(20) teachers- were from the teachers of mentally retarded children. Members of the study were randomly divided into two groups; the first was the empirical group which consisted of 20 teachers of autistic disorder and mentally retarded children. As for the second group, it was a controlling group that contained 20 teachers of children with autistic disorder and mental retardation.

The study tools

To achieve the goals of study, the following tools (instruments) were used:

1-Testing the teachers knowledge with behavior modification methods.

It is a test which was prepared by the two researchers to measure the knowledge level of teachers of children with autistic disorder and mental retardation of behavior modification methods, and to identify male teachers who were nominated to join the training program and got the lowest grades in the test. The previous test was prepared based on a revision of

literature related to behavior modification Al-Khatib,2004; Hrydowy& Martin,1994; Hundert,1982).

The test included 33 paragraphs. Each covered three parts as follows:

- a) General basic principles in behavior modification represented in 11 paragraphs.
- b) Methods of increasing the desired behavior represented in 11 paragraphs.
- c) Methods of reducing the undesired behavior represented in 11 paragraphs.

Validity of the test was verified by refereeing it by a group of specialists in special education. As for reliability of the test, it was derived by using internal consistency. Cronbach's Alpha Test for internal consistency was used to measure the internal consistency between the paragraphs. The value was (0.85).The correct answer is given (1) point whereas the wrong one is given (zero).Therefore, the maximum score is 33 and the lowest is (zero).

The training program:

The two researchers designed a training program based on behavior modification.

The program is as follows:

-The goal of the program

This behavioral program aims at improving the knowledge level of teachers of children with autistic disorder and mental retardation of behavior modification methods.

Specific goals of the program

This program aims at:

- 1-Identifying teachers of children of autistic disorder and mental retardation with the main principles of behavior modification.
- 2-Providing teachers of children with autistic disorder and mental retardation with strategies of strengthening the desired behavior.
- 3-Providing teachers of children with autistic disorder and mental retardation with strategies of reducing the undesired behavior.
- 4-Training teachers of children with autistic disorder and mental retardation practically on how to use the strengthening strategies of the desired behavior and reducing the undesired goal.
- 5-Participating in treating common behavioral problems of children of autistic disorder and mental retardation.
- 6-Increasing confidence of children of autistic disorder and mental retardation, and improving their social interaction.

Building the training program

The training program was designed and included two axes. The first one included papers of the two researchers. The second axes included a worksheet and a training manual for teachers that were prepared by the researchers through the following:

1-Revising literature related to behavior modification, and some studies that were included in this study such as (Kazdin, 2001; Meltenberber, 2001; Al-Khatib, 2007; Al-Zreiqat, 2009).

2-The draft of the program was introduced to 12 specialists in special education and psychology to express their opinion about the program.

The program content

- 1- The training manual included an identification of the basic principles of behavior modification and how the can be presented in an applicable way in the classroom. The manual particularly included a clarification of the concept of behavior modification, and the main concepts in behavior modification and the bases they depend on, and the basic principles in behavior modification, the main public steps of planning and implementation of behavior modification of children with autistic disorders and mental retardation. The functioning analysis was made clear, as well as identifying and defining the targeted behavior, and the basic considerations in behavior measurement, methods of measuring the targeted behavior, research methodology in behavior modification, and types of individual designs that are used in behavior modification programs and how to frame the behavioral objectives, and the moral principles in behavior modification of children with autism disorder and mental retardation.
- 2- The manual included enrichment methods and framing the desired behavior,most of which were Reinforcement (positive and negative), and incentives of all kinds (physical, nutritious, activity, symbolic and social), and methods of selecting appropriate incentive factors that increase the effectiveness of reinforcement, reinforcement tables (continuous and fragmented), the procedures used in formulating new behaviors in the individual such as (formulation, gradation, dictation, concealment, modeling, feedback, Premack principle, behavioral contract.
- 3- The manual included methods of decreasing the undesired behavior such as negligence (extinction), deferential reinforcement (reinforcement of absence the of the behavior, reinforcement of the opposite behavior, and reinforcement of gradual decrease) and hypercorrection (positive practice, situation correction), response cost, negative practice, saturation, exclusion of positive reinforcement, and reprimand.

Methods used in the application the training program

Many methods were used in training teachers of children with autistic disorder and mental retardation on the training program. It is the written and computerized power point guide, work sheets, lectures, discussions, cooperative learning and case study.

Timetable for program implementation

1- Recognizing (Identifying) the teachers knowledge level testing phase

The two researchers applied identifying the teachers' level of children with autistic disorder and mental retardation on behavior modification that lasted for two weeks.

2- Selection of the study individuals for the training program

The subjects of the study were selected only from males among those who got the lowest grades on the teachers' level test, and were nominated to join the training program. They were randomly distributed into two groups, the first was empirical and the second was a controlling group.

3-The training program application phase

The training program was applied for two weeks over 3 days in the first week and 4 days in the second week on the members of the empirical group for two hours daily (from 11 am to 1 pm) based on the teachers' desire.

4-Post direct exam phase

The results of the application of teachers' knowledge test were scored on the empirical group directly after the completion of the application of the training program.

5-Follow up phase

The results of the application of teachers' knowledge test were scored on the empirical group

after two weeks of the completion of the application of the training program.

Design and statistical processing

This study aimed at identifying the effectiveness of a training program in developing the knowledge level of teachers of children with autistic disorder and mental retardation. Therefore, the independent variable is the training program. The dependent variable is the knowledge level of teachers of children of autistic disorder and mental retardation of behavior modification methods. As for the design used, this study is considered one of semi – empirical studies. Male Members who got the lowest grades in the knowledge test were divided into two groups, the first was empirical on which the training program was applied, and the second group was controlling group. As for the statistical processing, "analysis covariance" was used for recurring values, as well as multi analysis covariance (MANCOVA).

Findings and discussion:

The following is a survey of the findings of the study:

1-Findings related to the first hypothesis: This hypothesis stated that there are statistically significant differences at ($\alpha= 0.05$) level among the empirical group and the controlling group in improving the knowledge level of teachers of children with autistic disorder and mental retardation in behavior modification on the post measurement (scale).

To test this hypothesis, arithmetic mean, and pre-post standard deviation of knowledge domains of behavior modification and total score were calculated.

Table (1): Arithmetic mean and standard deviation of pre and post and follow up knowledge of the two groups - the empirical and controlling

Domain		Before/Pre		After/Post		Follow up	
		Empirical	Controlling	Empirical	Controlling	Empirical	Contr.
Principles of behavior modification	Arithmetic Mean	5.20	5.75	8.90	6.10		
	Standard Deviation	1.74	1.48	1.29	1.52		
Strengthening desired behavior	Arithmetic mean	5.40	5.15	8.85	5.45		
	Standard Deviation	1.50	1.09	1.09	1.43		
Reducing undesired behavior	Arithmetic mean	3.95	4.90	8.70	5.20		
	Standard Deviation	1.61	1.29	1.42	1.28		
Total	Arithmetic Mean	14.55	15.80	26.35	16.70	25.85	14.30
	Standard Deviation	3.94	3.35	2.94	3.51	2.74	3.28

The arithmetic means of table (1) showed an observable improvement with teachers of the empirical group. The total score changed from (14.55) in the pre scale to (26.35) whereas, there was a slight degree of change among the teachers of the controlling group whose grades changed from (15.80) to (16.70).

To measure the effect of the training program, the results of single covariance analysis for the total degree of the knowledge measurement of behavior modification were conducted as well as MANCOVA. The findings appear in Table (2).

Table (2):The covariance analysis (MANCOVA) to measure the effect of the training program in improving the total knowledge level in behavior modification methods of teachers of children with autistic disorder and mental retardation

	Digit Total	(df)	MS	F-Value	Significance
Total	180.4	1	180.4	33.8	0.000
Group	1281.7	1	1281.7	240.3	0.000
Error	197.4	37	5.3		
Total	1490.8	39			

Findings of table 2 shows a positive effect of the training program in improving the total score of knowledge of behavior modification methods. (F) value was (240.3) and post- modified average for teachers in the empirical group was (26.35), whereas the value for teachers in the controlling group was (16.70) which shows an improvement of (11.81) degree.

To know the effect of the training program in improving the sub degrees of knowledge of behavior modification, results of (MANCOVA) were deduced. Table (3) shows the findings.

Table (3) MANCOVA analysis results to measure the effect of training program in improving the sub degrees of knowledge of behavior modification

		Welex Lambda Value	F- value	Significance
Pre degrees	Principles of behavior modification	0.84	2. 09	0.120
	Strengthening desired behavior	0.75	3.58	0.024
	Reducing the undesired behavior	0.91	1.05	0.383
Group		0.14	68.34	0.000

Table 3 shows *that* there was an effect of statistical indication of the training program in improving the sub degrees of knowledge of behavior modification. F- value was 68.34. To measure the effect of knowledge, one-way ANOVA was deduced. Table 4 shows the findings.

Table (4)MANCOVA analysis results to measure the effect of training program in developing the sub degrees of knowledge of behavior modification methods

			Sum of squares (ss)	(df)	Meansquares (ms)	F- value	Significance
Behavior modification principles	Pre- scores	Principles	7.1	1	7.1	6.2	0.018
		Increase	1.9	1	1.9	1.6	0.210
		Reduction	2.4	1	2.4	2.1	0.158
Group			111.1	1	111.1	96.4	0.000
Error			40.3	35	1.2		
total			172.8	39			
Enhancing desired behavior	Pre-scores	Principles	1.3	1	1.3	1.7	0.207
		Increase	8.5	1	8.5	10.6	0.002
		Reduction	0.3	1	0.3	0.3	0.569
	Group Error total	113.2	1	113.2	141.2	0.000	
			28.0	35	0.8		
			182.0	39			
Reducing undesired behavior	Pre- scores	Principles	2.8	1	2.8	2.0	0.166
		Increasing	3.2	1	3.2	2.3	0.139
		Reducing	1.1	1	1.1	0.8	0.391
	Group error total	139.6	1	139.6	99.2	0.000	
			49.2	35	1.4		
			214.4	39			

Table 4 shows an increase of statistical significance of the training program in improving the sub degrees of knowledge of behavior modification methods. (F) values were (96.4), (141.2), (99.2) for the principles and enhancing the desired behavior and reducing the undesired behavior respectively. It appeared that the effect was in favor of teachers in the empirical group. Post modified average" mean were (9.19), (8.88),(8.89) respectively, whereas they were (5.46), (5.12), (4.71) respectively in the controlling group.

Findings related to the second hypothesis: this hypothesis stated that there is a statistically significant difference at ($\alpha= 0.05$) level among the subjects of empirical and controlling groups in developing the knowledge level of teachers of children with autistic disorder and mental retardation of behavior modification methods on the total degree on the follow up scale.

To test this hypothesis, the arithmetic mean, prior standard deviation and follow up of the individuals of empirical and controlling group were calculated on the total degree of knowledge of behavior modification.

Table (5) shows findings of one-way ANOVA.

Table (5): MANCOVA analysis to measure the continuity of the effect of training program in improving the total knowledge degree of behavior modification with teachers of children with autistic disorder and mental retardation

	Sum of Squares	df	Square average	F- value	Significance
Total 1	151.8	1	151.8	28.8	0.000
Group	1483.7	1	1483.7	281.6	0.000
Error	194.9	37	5.3		
total	1680.8	39			

Findings in Table 4 show continuity of the effect of a training program in improving the total degree of knowledge of behavior modification methods. (F) value was (281.6), and this shows the post modified average in the empirical group(26.43), whereas it was (13.72) for teachers in the controlling group.

4. Discussion

1-First Hypothesis findings:

Findings of this hypothesis showed that there were statistically significant differences among the subjects of the empirical group that was involved in the training program and the controlling group in developing the knowledge level of teachers of children with autistic disorder and mental retardation in behavior modification methods at level ($\alpha= 0.05$) on the post direct scale for the benefit of the empirical group. Findings of the current study agree with the study that was carried out by (Hrydowy&Martin, 1994) and Hurshet *al.*, 2000). The two researchers explain the effectiveness of the training program which is based on principles and methods of behavior modification in that they are suitable for educational situations because of the possibility of inclusion in the educational activities. Moreover, they help teachers to control common behavioral problems among students with mental retardation and daily autistic disorder within natural child environment, as well as, the possibility of applying behavior modification programs in different situations such as school and home. It is applied on different categories either old or young. The training program is based on the theoretical behavioral principles. One of the most important principles is that behavior is governed by its results. If the individual is reinforced after doing a desired behavior, such act will be repeated and enhanced. The success of the program may be attributed to the accuracy of the researcher in building

the program and training teachers on it. Many methods were used in training teachers as well as using models of case studies, in addition to the teachers desire to improve their practical skills in behavior modification methods.

2-Second Hypothesis Findings Discussion:

Findings related to this hypothesis reveal existence of statistically significant differences among the members of the empirical group that underwent a training program and the members of the controlling group in developing the knowledge level of teachers of children with autistic disorder and mental retardation in methods of behavior modification at the level ($\alpha= 0.05$) on the follow up scale in favor of the empirical group, The current findings agree with the study conducted by (Hrydowy&Martin, 1994 and Al-Khatib, 2004 and Al-Ziot, 2005). The reason for the continuity of the program effect is attributed to the teachers accurate implementation, and to the recurrent success in application particularly. It provided them with practical, applicable, convenient methods inside the classroom. In addition to encouraging students to follow up the required directions and acknowledging their potential to do that which helped the improvement that was evident on the pupils behaviors. The effectiveness of continuity of the effect of the program on the follow up scale in this study may be attributed to the researcher's follow up to implement the program by teachers to ensure accurate implementation.

Recommendations:

In the light of this study the two researchers recommend:

- 1-Activating in-service training programs related to behavior modification methods of teachers of children with autism and mental retardation.
- 2- Conducting workshops for teachers of children with mental retardation and autism in general to provide them with effective applicable skills to deal with

- students' non- adaptive problems.3-The success of this training program in developing knowledge of teachers of children with autistic disorder and mental retardation of behavior modification methods indicates the importance of generalizing it on the rest of those working with special education individuals.
- 4- The inclusion of subjects related to behavior modification and the importance of focusing on the practical aspect in Lessons' plans for the certification of teachers of special education.
- 5- Conducting similar studies that are related to the degree of the parents (of children with special needs) knowledge of behavior modification in a bid to providing them with these skills through a training program oriented for them.

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References

1. Al-Khatib, Jamal. (2007). Human Behavior Modification, Al-falah library, 2nd ed. UAE.
2. Al-Khatib, Jamal. (2004). Effectiveness of Developing The Teachers Knowledge In behavior Modification In Reducing The Stereotyped, Aggressive And Chaotic Behavior With A sample of Mentally Retarded Children In Jordan, University Educational Journal (73), pp 59-90.
3. Al-Rousan, Faroug. (2011). Introduction To Mentally Retardation. Dar Al-Fikr, Amman.
4. Al-Shami, Wafa. (2004). Secrets Of Autism: Types, reasons, and diagnose, 1st ed, Al-Faysalyyah Women, Jeddah charitable Society.
5. Al-smadi, Jamil. (2007). Introduction To Teaching People With Special Needs, 1st ed, dar Al-Fikr For Publishing and distribution, Amman, pp 235-260.
6. Al-zreiqat, Ibrahim. (2007). Child And Teenager Behavior Modification. Dar- Al-fikr, Amman, Jordan.
7. Al-Zarea, Nayef. (2010). Introduction To Autistic disorders, dar Al Fikr, Amman.
8. Bauminger, N. (2004). The Facilitation of Social-Emotional understanding and social interaction in high- functioning children with autism ;journal of autism and developmental disorder, 32 pp280-289.
9. Brownell, M., Smith, S., McNelis, J., & Miller, M. (1997). Attrition in special education: Why teachers leave the classroom and where they go. Exceptionality, q, 143 – 155.
10. Clark, & Lynn. (1985). SOS Help for parents, Bowling Green. K. V.
11. Drew, C., Hardman, M. & Logan, D. (1996). Mental Retardation, New Jersey, Prentice Hall.
12. Ehlers, Ramberg. C. & Ajohnson, M. (1996). Language and Pragmatic Functions in School Age Children on the Autism Spectrum 2, pp 22 – 32.
13. Foxx, R. (1982a). Decreasing behaviors of mentally retarded and autistic children. Champaign, Ill : Research Press.
14. Foxx, R. (1982b). Increasing behaviors of mentally retarded and autistic children. Champaign, Ill : Research press.
15. Hallahan, D. P. & Kauffman, J. M., (2006). Exceptional Children: Introduction to Special Education, (4nd Ed). Englewood cliffs N. J: Prentice-Hall
16. Heflin, L. &Alaimo, D. (2007), Autism Spectrum Disorders: Effective Instructional Practices, (1st ed.). Columbus, Ohio: Pearson Prentice Hall.
17. Heward, W. &Orlankey, M. (1992). Exceptional Children. (4th ed.). New York, Macmillian Publ.
18. Heward, W. (2006), Exceptional Children: An Introduction to Special Education, (8th ed.). New Jersey: Merrill Prentice Hall.
19. Heidgerken, A. Geffken, G., Modi, A., &Frakey, L. (2005). A Survey of Autism Knowledge in a Health Care Setting, Journal Of Autism and Developmental Disorders, 35, pp 223-230.
20. Hrydowy, E., & Martin, G. (1994). A practical staff management package for use in a training program for persons with developmental disabilities. Behavior Modification, 18, pp 66 – 88.
21. Hundert, J. (1982). Training teachers in generalized writing of behavior modification programs for multi-handicapped deaf children. Journal of Applied Behavior Analysis, 15, pp 111 – 122.
22. Hursh, D., Schumaker, J., Fawcett, S., & Sherman, J. (2000). A comparison of the effects of written versus direct instructions on the application of four behavior change processes. Education and Treatment of Children, 23, pp 455 - 464.
23. Lovaas, O. (1993). Long-Term outcome for children with autism who recited early intensive

- behavioral treatment. *A Journal of Mental Retardation*, 97, pp 372-395.
24. Lovaas, O. (1987). Behavioral Treatment and normal education and Intellectual Functioning in Young Autistic Children. *Journal of Consulting and Clinical Psychology*, 55, pp 3-19.
 25. Lise, L., Warnie, R., & Janet, M. (2005). The use of applied behavioral analysis in teaching childhood children with autism. *International Journal of Special Education*. 20, pp 13-34.
 26. Pelios, L. Macduff, G. Axelrod, S. (2003). The effects of a treatment package in establishing independent academic work skills in children with autism, with autism, *Education and Treatment of Children*, 26, pp 16-27.
 27. Matson, J., Smioldo, B., Bamburg, J. (1998). The Relationship of Social Skills to Psychopathology for Individuals with Severe or Profound Mental Retardation. *Journal of Intellectual and Development Disability*, 23.
 28. O'Neill, R., Johnson, R., Kiefer-O'Donnell, R., & McDonnell, J. (2001). Preparing teachers and consultants for the challenge of severe problem behavior. *Journal of Positive Behavior Interventions*, 3, 101-109.
 29. Rojahn, J., Tasse, M., & Sturmey, P. (1997). The stereotyped behavior scale for adolescents and adults with mental retardation, *American journal on mental retardation*, 2, pp 137- 1460.
 30. Rosenwasser, B., & Axelrod, S. (2002). More Contributions of applied behavior analysis to the education of people with autism. *Behavior Modification*, 26, pp 3-8.
 31. Richardson, S. Kaller M. & Katy, M. (1986). Relationship of up Bringing to Later Behavior Disturbance of Mild of Mentally Retarded young People. *American Journal of Mental Deficiency*, 90 (1), pp 1-8.
 32. Schoen, A. (2003). What potential does the applied behavior analysis approach have for the treatment of children and youth with autism? *Journal of Instructional Psychology*, 30, 1250130.
 33. Schreibman, I. (2000). Intensive behavioral treatments for autism: Research needs and future directions. *Journal of Autism and Developmental Disability*, 30, pp 373-378.
 34. Shook, G., Alai – Rosales, S., & Glenn, S. (2002). Training and certifying behavior analysts. *Behavior Modification*, 26, pp 27 – 48.
 35. Sulzer-Azoroff, B. & Mayer, G., (1987). *Applying Behavior Analysis: Procedures with Children and Youth*, New York, Holt, Rinehart, Winston.
 36. Snell, M., & Brown, F. (2000). *Instruction of students with severe disabilities*. Upper Saddle River, NJ : Merrill.
 37. Walker, J. & Shea, T. (1980). *Behavior Modification A Practical Approach Education*, Mosluycyco.
 38. Whaley, C., (2002). *Special Education Teachers and Speech Therapist Knowledge of Autism Spectrum Disorders*. Unpublished doctoral dissertation, East Tennessee state University.
 39. Wislting, D. Koorland, M. & Rose, T. (1981). Characteristics of superior and average special education teacher exceptional children, 47 (5), pp 357-363.

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