The Effectiveness of a Behavioral Cognitive Program to Reduce Some Behavioral Problems Among a Sample of Kindergarten Children and to Develop their Thinking Skills

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فاعلية برنامج معرفي سلوكي لخفض بعض المشكلات السلوكية لدى عينة من أطفال رياض الأطفال وتنمية مهارات التفكير لديهم

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مستخلص الدراسة باللغة العربية

هدفت الدراسة لإعداد برنامج معرفي سلوكي لتنمية مهارات التفكير في تقليل حدة بعض المشكلات السلوكية (العدوانية ـ الانطوائية ـ الكذب) لعينة من المضطربين سلوكياً في مرحلة رياض الأطفال، وشملت أدوات الدراسة مقياس ستانفورد-بينيه للذكاء (الصورة الرابعة)، مقياس الكذب للأطفال، مقياس سلوك الأطفال، قائمة مراقبة سلوك الطفل، مقياس المستوى الثقافي والاجتماعي والاقتصادي ومقياس مهارات التفكير. تم مقارنة القياس القبلي والبعدي والمتابعة للمجموعتين التجريبية والضابطة لطلاب رياض الأطفال المضطربون سلوكياً، وخلصت النتائج إلى تنمية بعض مهارات التفكير للأطفال بمرحلة الروضة مما انعكس على خفض بعض المشكلات السلوكية لديهم.

Abstract:

In order to lessen the severity of various behavioral issues (aggression, introversion, and lying), the study prepared a cognitive-behavioral programme for a sample of behaviorally troubled kindergarten students. Children, the Child

Behaviors Watch List, the Thinking Skills Scale, and the Cultural, Socioeconomic Level Scale. The experimental and control groups of behaviorally disturbed kindergarten pupils were compared for pre- and post-measurement and follow-up. According to the findings, kindergarten students started to develop some cognitive abilities, which showed in a decrease in some of their behavioral issues.

Keywords: Cognitive behavioral programme, Thinking skills, Behavioral problems, Kindergarten stage

Introduction:

The pre-school stage is also a key formative stage of human life, as this is the time when the first seeds of personality are sown, which crystallize and take on their characteristics in the future life of the individual. Help him to survive in society and allow him to adjust himself properly. (Bahader, M., 2002, Wichstrøm, L., 2012, Pp.,699, Alexander A., & Shetty A., 2014, Pp.,37)

The development of everyone's many forms of thinking ability is the ultimate goal of education in the twenty-first century. As a result, educational institutions are becoming more crucial in developing individuals who can think critically and tackle unforeseen challenges. and numerous revised jobs. (Al-Mashrafi, I., 2003, Pp., 167, Balseviciene, et al.,2014, Pp.,6760, Bigner J.,2014, Pp.,165)

This can be achieved by introducing thinking development programs as an essential element and a crucial component in the academic curricula. Through these programs, potentials are transformed into realities that change the lives of individuals, institutions and societies. Thinking development programs are a human right because they allow people to Employ his potential for a better life (Al-Asar, S., 2002, Pp., 89, Med U., et al.,2012, Shala M., & Dhamo M.,2013)

In today's era of knowledge explosion, accurate, innovative and sophisticated kindergarten curriculum planning is urgently needed. For those responsible for numbers, planning and design, creating kindergarten curriculum, providing children with concepts and experiences, and giving them attitudes, has become become a priority. tendencies and habits. Help them understand the environment in which they live and adapt to their needs and abilities. (Musa, Al-Zabbani, 2007, Pp.,14, Wien, C.A. 2013, Pp.,29)

Thus, it is crucial that educational activities and programs supplied to kindergarten students accomplish their goals, have an impact on their behaviors, and give them access to accurate information and critical-thinking abilities.

In light of this, kindergarten academic programs and sports are important because they help kids reach their goals, have an impact on their behaviors, and develop their capacity for inquisitiveness.

Importance of the study:

1. The significance of the study sample that focuses on its study (kindergarten stage) and its significance in an individual's future life, on the one hand, and the study of behaviorally disturbed pupils among them.

2. Examining the effectiveness of cognitive behavioral programme for developing thinking skills, which is one of the interests of positive psychology, to increase students' compatibility with themselves and with the environment around them.

3. Preparing a program to develop thinking skills for behaviorally disturbed students, as the preparation of such a scale will help in opening new research fields and applications in the educational, clinical and counseling fields.

4. Based on the findings of this study, which have the potential to improve thinking abilities and lessen the severity of behavioral issues, psychologists may focus their efforts on creating programs that will help behaviorally disturbed individuals overcome their issues.

Study objectives:

1- Testing the effectiveness of a cognitive behavioral programme for thinking skills for kindergarten students.

2- Testing the effectiveness of the program in reducing behavioral problems (aggression - introversion - lying) among the study sample.

3- Calculating the correlation coefficients between thinking skills and behavioral problems (aggression - introversion - lying) among the study sample.

4- Giving behaviorally disturbed kindergarten students components of their thinking skills that help them face their behavioral problems and deal with them creatively.

5- To identify the extent of growth in these skills in the sequential measurement of the impact of the program.

Study concepts:

(a) Thinking Skills:

There are many scholars who dealt with the concept of thinking skills, such as: (Al-Atoum, A., et al., 2006, Ghanem M., 2009, Pp.,22, Abdul Aziz S., 2009, Al-Hallaq A., 2010, Alwan A., 2011, Pp.,10, Mustafa N., 2011, Norris, S. 2014, Pp.,198). Thinking skills are the mental activities you use to process information, make connections, make decisions, and create new ideas. You use your thinking skills when you try to make sense of things, solve problems, make decisions, ask questions, make plans.

Operational definition: Refers to a specific method of thinking that is carried out critically in various matters, and refers to the ability to analyze all information objectively, and to make appropriate and logical judgments, observation and evaluation of multiple phenomena, and reading research results; with the aim of drawing reasonable conclusions to distinguish between important and unimportant things; In order to make a decision or solve a specific problem.

(b) Behavioral problems

There are many definitions that dealt with the definition of behavioral problems (Zhou YM, 2019, Pp., 158, Liu SM, et al., 2018, Pp.,273, Chen SH, et al., 2014, Pp., 98), this study is focus on social behavioral problems (aggression - introversion - lying) Perhaps this is due to the prevalence of these problems in a noticeable way among kindergarten students, and the connection of these problems in a way that leads to poor compatibility with oneself and others.

Operational definition:

1. **Aggression:** This refers to overt, persistent, and repetitive behavior that is directed against oneself or others with the intent to cause bodily harm, psychological harm, or property damage.
2. **Introversion:** The child distances himself from others and avoids social life in all its forms. She prefers to play alone. These behaviors appear on her significantly and for a long time.
3. **Lying:** With the intent to achieve self-satisfaction, love of appearance, or to avoid harm, it is the child's deliberate, intentional behavior that is characterized by continuity, issued in verbal or gestural form, and is contrary to the truth.

(c) Cognitive behavioral programme

Operational definition: By altering the patient's way of thinking and perception of himself and his surroundings, cognitive-behavioral therapy aims to change behavior and control mental diseases.

(d) Kindergarten stage:

Operational definition: It is an important stage in children's education. This stage begins at the age of four or five and continues until the child enters primary school at the age of six. Kindergarten stage is a stage of preparing the child and preparing him to enter the formal school with its regular nature and its well-known fixed steps.

Methodologies:

Method: The experimental approach was used to test the effectiveness of the program's exercises in improving thinking skills on the one hand, and in lowering the severity of behavioral problems (aggression, introversion, and lying) in the study sample. Two experimental designs were used, the follow-up post-measurement, a control group, and an experimental group.

Participants: A group of behaviorally disturbed kindergarten students to identify the most common behavioral problems among them and then conduct the following survey:

1. Examining the content of these studies to determine the most prevalent and common issues in the kindergarten stage, the most prevalent issues were (introversion-anxiety-aggression-theft-stubbornness-lying-escape from school) These issues had both good and negative relationships with one another and with thinking abilities.

2. The researcher applied a questionnaire that contained an open question aimed at identifying the most prevalent behavioral problems at this stage on a sample of experts in dealing with kindergarten students (social specialists, psychologists and teachers) in a group of primary schools in 6th of October City. The question was as follows: What are the most unacceptable and widespread behaviors among kindergarten children that have been present for a long time and have been continuing so far?

Table 1: How to extract common behavioral problems among kindergarten students

Disorder Source	Escape from school	lying	Stubbornness	Theft	Aggression	Anxiety	Introversion
Studies	6	17	4	7	17	3	12
Experts	15	25	11	13	45	7	16
Students' opinions	4	19	2	6	35	8	15
Total	25	61	17	26	97	18	43

It is clear from the foregoing that it is possible to integrate many problems (aggression - introversion - lying) after referring to a group of experts in dealing with kindergarten students (social workers, psychologists and teachers).

4. The Child Behavior Scale was applied to estimate aggression and introversion, and the Lying Scale among the children of kindergarten students, on an exploratory sample of (100) students in the kindergarten stage who school experts saw as having these three problems as high, and low thinking skills of the respondents.

The study sample was selected through the following steps:

1- The experts in dealing with kindergarten students (social specialists, psychologists, and teachers) were asked to identify students with recurring behavioral problems for more than one academic year, and they have problems (lying-aggression-introversion) for a period of time and are still continuing.

2- After identifying the behaviorally disturbed students, the sample in its initial form became 250 students.

3- A lying scale was applied to primary school children to estimate lying to a sample of students identified in the previous step, then they corrected the two scales and extracted the grades of each student on each problem and then arranged Descending from the largest to the smallest, then according to the highest quartile of these degrees, and the highest heights were determined in these problems, and their number reached 84 students.

4- Students who have physical, sensory or organic problems or any chronic diseases were excluded, and accordingly (18) female students were excluded so that the results of the study would not be affected by the impact of these problems on their behavior.

5- The Stanford Binet test of intelligence, the fourth picture, was applied to determine the level or rate of intelligence of the sample, and then (6) students whose intelligence was below average were excluded.

6- The sample was divided after reducing its number (60) into two groups, experimental and control, equally, provided that the experimental group is from one school and the control group from another school, so that the application of the program procedures does not affect the experimental children in the relationship between the researcher and the control students in the post-application of the program, and the homogeneity between the two control groups is taken into consideration. and experimental.

Age and IQ:

The value of "T.Test" was calculated to denote the differences between the control and experimental groups in age, as the age range of the study sample is (5-7 years), as well as according to the level of intelligence, so that the IQ ranged between (90-115), and this is shown in Table (2). From the social, economic, cultural level, academic achievement, school adjustment, and physical and social compatibility are important variables and contribute to the degree and occurrence of behavioral problems, so the value of " T.Test " was calculated to denote the differences between the control and experimental groups in these variables, in addition to academic achievement through the use of The grades of the members of the two groups in the results of the first semester of the academic year 2021/2022, as shown in Table (2).

Table 2: Means, standard deviations, the value of "t" and its significance between the two main study groups, the experimental and the control, in the homogenization variables before applying the program.

Group Variables	T.test	Significance level	N	Control Group		Experimental Group	
				SD	X	SD	X
IQ	0.299	(P ≤ 0.01)	30	10	104	11	105
The age	1.56			0.8	6	0.9	6
Economic level	0.094			15	104	15	105
Academic achievement	0.35			12	126	14	127
School compatibility	1.04			6	50	6	49
Physical compatibility	0.75			3.5	27	3	28
Social compatibility	0.8-			11	81	12	84

SD, standard deviation. X, mean. N, number

The results of the previous table show that there are no statistically significant differences in the variables that may affect the study's findings between the experimental and control groups, proving that the two groups are equivalent.

Before introducing the independent variable, there must be parity between them on the study's fundamental variables (behavioral issues and cognitive abilities) so that discrepancies between the two groups may later be attributed to the experimental variable and not to other variables. It is unnecessary, thus the value of "T.Test" was calculated to indicate the differences in behavioral issues (aggression, introversion, lying), and thinking abilities, between the control and experimental groups before the programme was applied, as shown in Table (3).

Table 3: Means, standard deviations, "T" value and its significance between the two main study groups, experimental and control, in behavioral problems and thinking skills before applying the program.

Group Variables	T.test	Significance level	N	Control Group		Experimental Group	
				SD	X	SD	X
Aggression	1.366	(P ≤ 0.01)	30	4	58	3	70
Introversion	0.466			5	52	4	53
lying	0.162			4	53	4	54
Thinking skills	0.241			4	68	4	78

SD, standard deviation. X, mean. N, number

The results of the previous table indicate that there are no statistically significant differences between the experimental and control groups on the variables of the study before applying the program, which indicates that there is equivalence between the two groups.

(c) Study Tools: The study tools include the following:

1- The Stanford-Binet Intelligence Scale: Prepared by Louis Malika (1998)

2- Child Behavior Observation List: Prepared by Cassell (1987) and arabized by Mostafa Kamel

3- The measure of the cultural, economic and social level: (prepared by the researcher)

4- Scale of Lying in Children: Prepared by Amal Abdel Halim (1998).

5- Child Behavior Scale: Prepared by Issa Jaber (1989).

6- Measuring the thinking skills of behaviorally disturbed children: (Prepared by the researcher)

7- Training program on thinking skills for children (Prepared by the researcher)

The researcher calculated the reliability and validity coefficients for the previous tools on the study sample.

The researcher prepared a measure of thinking skills for behaviorally disturbed children:

The researcher prepared this scale in order to provide a psychometric tool derived from the Arab environment, to suit the category of behaviorally disturbed students. The scale was also prepared in order to evaluate the effectiveness of the program, which aims to develop thinking skills. We will explain the stages of preparing this scale as follows:

The first stage (defining the scale phrases):

This has been the identification of expressions through the extrapolation of psychological heritage and perusal of literature and psychological research that dealt with the study of thinking skills in general and children in particular,

in addition to surveying available standards and tools and programs for teaching thinking skills.

The second stage (determining the components of the scale):

•   Using a questionnaire with two open-ended questions, the first of which asked a sample of psychology specialists to list the elements of their thinking abilities. The second sought to discover the behavioral, affective, and cognitive traits of these components, and the arbitrators sample comprised of (9) university psychology professors.

• Analyzing past vocabulary and component lists created in an Arab or foreign setting, as well as previous research and psychological literature on thinking techniques. As a result, the scale's components were discovered. The researcher also updated some of their names depending on her definition of thinking skills.

Table 4: Sources of obtaining the components of the scale and their percentages: cognitive processes, meta-cognitive processes, symbolic language processing, discovery learning and systematic thinking

THE COMPONENTS SOURCE	Systematic thinking	Discovery learning	Symbolic language processing	Metacognitive processes	Cognitive processes
Psychology experts	%98	%78	%83	%97	%93
Psychological literature	%100	%80	%90	%98	%95
Previous studies	%97	%69	%95	%95	%95
previous metrics	%98	%73	%85	%100	%95
average percentage	%98.25	%75	%88.25	%97.5	%94.5

The third stage (listing the scale phrases):

The researcher designed the statements to measure each aspect of the previously identified thinking skills, so that each set of statements covers one dimension, and the researcher identified five dimensions to measure the thinking skills of kindergarten students, namely:

1- **After the cognitive processes:** Such as: comparison, classification, and conclusion, given that they are essential in acquiring knowledge and processing information.

2- **The dimension of meta-cognitive processes:** Which are: planning, monitoring, and evaluation. Subjective thinking.

3- **After linguistic and symbolic treatment:** It focuses on linguistic and symbolic systems as means of thinking and expressing the products of thinking together. It aims to develop thinking skills in writing, analysis and logical arguments.

4- **A dimension based on discovery learning:** Stresses the importance of teaching specific methods and strategies to deal with problems, aiming to provide students with several strategies for solving problems in different cognitive fields, It is based on reconstructing the problem, and representing the problem with symbols, pictures and drawing.

5- **A dimension based on teaching systematic thinking:** It aims to provide students with experiences and training that move them from the stage of physical operations to the stage of abstract operations in which the development of logical and scientific thinking begins, and it focuses on exploration, thinking and reasoning skills, and identifying relationships within different social situations.

The fourth stage (arbitration of scale phrases):

Researcher followed the following steps at this stage:

1. The researcher prepared a form in which the phrases were placed after the selection stage, where the arbitrators' answer boxes were allocated. Each arbitrator puts his appropriate estimates from his point of view on the validity of the phrase as content and wording, according to the following estimates: dimension measurement, wording integrity, other modifications.

2. The researcher sought the help of a group of arbitrators consisting of (5) arbitrators, professors specialized in the field of psychology in Egyptian universities, to obtain fixed estimates of the weights of the different statements in Table (5).

3. Applying a questionnaire to a sample of experts in dealing with behaviorally disturbed students, teachers, and psychologists and social workers. The arbitrators sample consisted of (9) psychologists, social workers, and teachers of behaviorally disturbed students.

4. Analyzing the content of the responses to the two questionnaires, and the researcher extracted some characteristics, traits, behavioral characteristics, and different attitudes to develop thinking skills.

Table 5: The arbitrators agreed on the scale of thinking skills

Agreement ratio	Paragraph	Agreement ratio	Paragraph	Agreement ratio	Paragraph	Agreement ratio	Paragraph	Agreement ratio	Paragraph	Agreement ratio	Paragraph
80%	51	80%	41	100%	31	80%	21	100%	11	80%	1
100%	52	80%	42	100%	32	80%	22	100%	12	80%	2

80%	53	80%	43	80%	33	100%	23	80%	13	80%	3
80%	54	100%	44	80%	34	100%	24	80%	14	80%	4
100%	55	100%	45	80%	35	80%	25	100%	15	100%	5
100%	56	80%	46	100%	36	80%	26	100%	16	100%	6
80%	57	80%	47	80%	37	100%	27	80%	17	80%	7
80%	58	100%	48	100%	38	100%	28	80%	18	100%	8
80%	59	100%	49	80%	39	80%	29	80%	19	80%	9
100%	60	100%	50	80%	40	100%	30	100%	20	80%	10

Fifth stage (Scale building stage):

The researcher formulated items in a simple and easy formulation to suit the use with the study sample of behaviorally disturbed children, age (5-7) years. = 2 degrees / I do not agree = 1 degree). The results of this stage were also used in the experiment to understand the wording of the instructions and the items of the scale.

Sixth stage (Scale instructions):

The instructions of the scale included identifying data that includes (the student's name, age, class, and date of application). And vice versa. If you do not know and are hesitant, then you should choose (sometimes), and you must know that there is no right or wrong answer.

Seventh stage (scale description):

- The scale consists of (60) phrases, divided into five sub-dimensions, as shown in Table No. (7).
- The total score of the scale was determined by the sum of the scale scores that show the total score of the thinking skills scale for kindergarten

students. High scores indicate a high degree of thinking skills for the study sample, while low scores indicate the opposite.

Table 6: Distribution of the phrases of the final picture of the thinking skills scale for kindergarten students on each of the five dimensions that make up this scale

The dimension	The number of paragraphs	Paragraph numbers
Systematic thinking	12	- 46 -41 – 36 – 31 -26- 21 -16 - 11– 6-1 56 -51
Discovery learning	12	-47 -42 -37 - 32 – 27 -22- 17 – 12 – 7 -2 57 -52
Linguistic and symbolic processing	12	-48 -43 -38 -33 -28 -23-18 - 13 – 8 -3 58- 53
supracognitive operations	12	-54 -49 -44-39-34 -29 -24 -19 -14 -9 -4 59
Cognitive processes	12	60-55-50-45-40-35-30-25-20-15-10 – 5

rationing scale:

(a) Scale constancy:

To verify the stability of the scale, the researcher resorted to two types of stability, which are "Fragmentation Half, Cronbach's Alpha" as follows:

Table 7: The estimated values of the reliability coefficients for the measure of thinking skills by the methods of "Fragmentation Half, Cronbach's Alpha"

Sub-dimensions of the measure of developing thinking skills	Alpha Cronbach	Half segmentation
Systematic thinking	0.9547	0.9311
Discovery learning	0.9636	0.9448
Linguistic and symbolic processing	0.9605	0.9509
supracognitive operations	0.9707	0.9695
Cognitive processes	0.9773	0.9591

It is clear from the previous table that the degree of reliability of the thinking skills scale is high, as the stability scores for the sub-dimensions of the test ranged between "0.9311 : 0.9773", which are degrees that give a high indication of the stability of the scale, which means reassurance of the validity of applying the test to the study sample.

(b) The validity of the scale: in several ways, as follows:

1. **Logical validity:** it means the extent to which the test represents the field it measures.

2. **Validity of Al-Dhaheri:** The researcher was reassured to achieve the validity of the content of the scale, by presenting it to a number of arbitrated professors of psychology in Egyptian universities and their number was (5). The percentage of agreement was not less than (80%), and the paragraphs that were not agreed upon by the arbitrators were excluded.

How the researcher prepares for the training program for developing thinking skills:

Sources for building the program:

1- Previous research that addressed the idea of thinking abilities as well as how to handle youngsters with behavioral problems.

2- Through the application of a questionnaire with an open question to identify them on a sample of experts in dealing with behaviorally disturbed students (teachers, psychologists, and social specialists), the researcher's exploratory study sought to identify the favorites activities of these kids before they are used in the programme procedures. According to the findings, educational games, story activities, drawing activities, acting activities, and cartoon movies are the most effective of these activities.

3- Strategies and techniques used:

A. Social strategies, manifested in exhortation and encouragement, modeling, group participation, role-playing, psychodrama, good listening, verbal orientation, facial expressions, eye contact, use of gestures during speech, and the degree of loudness of the voice.

B. Cognitive strategies that are evident in dialogue and discussion, analysis, comparison, imagination, asking questions, lectures, offering alternatives and homework.

C. Behavioral strategies that are evident in positive reinforcement, encouraging the student to interrupt while telling the story, and evaluating education

D. Emotional strategies evident in expressing feelings and self-disclosure.

E. strategies that have been avoided are evident in silence, criticism, excessive praise, and excessive fun.

Preparation, construction and arbitration of the program:

The first: Determine the preferred activities.

The second: Preparing and building stories. Therefore, a questionnaire was applied to a sample of experts in dealing with behaviorally disturbed female students (Arabic language teachers). It aimed to identify the type of stories and the students' favorite topics. The most important characteristics and attributes that must be available in the short story, in addition to applying a questionnaire to experts and arbitrators in psychology and mental health on how to present stories and their contents in accordance with the nature of the objective of preparing them, and the different characteristics and features of the study sample.

The third: Presenting a conceptual form of the program as a whole, including sessions, goals, and activities for the experts in psychology and mental health, in order to judge it.

Program sessions:

The researcher conducted (17) group sessions, two sessions per week, the duration of the session was (45) minutes, for a period of about two months, and it was as follows:

Table 9: Demonstrates the training sessions for a program of thinking skills for behaviorally disturbed students

session number	Techniques used in the session	Session topic
1	Collective participation. Showing feelings discussion	The researcher and the students get to know each other, introduce the students to the program, the group standards and the sessions, agree on the dates of the sessions, and urge them to be present.
2	Encouragement comparison imagination	By offering the students the chance to present comparisons between desired and unpleasant behaviour and encouraging them to share their findings, you may help the kids enhance their cognitive thinking abilities..
3	modeling Offer alternatives Comparison. Imagination discussion	The researcher requested the students to offer various answers or strategies to get out of a dilemma or a perplexing scenario in order to develop their meta-cognitive processes.
4	Verbal	To develop linguistic and symbolic processing, the

session number	Techniques used in the session	Session topic
	guidance. discussion Encouragement and Relaxation. Home activity	researcher trained the students to control their emotions, know their causes and how to control them, and develop their ability to relax, and finally the student could express her emotions in a positive way. Then the researcher asked the students to write a very short story about good and evil as a home activity to discuss in the next session.
5	discussion. Showing feelings group participation	In order to foster learning by discovery, the researcher gave the students a specific issue, like the child's low academic achievement level, and asked them to break it down into smaller topics and identify the crucial component in each one.
6	Encouragement and Reinforcement relax discussion	To develop systematic thinking, the researcher first trained the students to control their emotions, know their causes and how to control them, and develop their ability to relax, and finally the student was able to express her emotions in a positive way. Then the researcher presented about three pictures, including subtle differences, and asked them to identify these differences.
7	Meeting of the eyes. Transmission of experience Analysis and comparison. discussion	Helping students develop their cognitive skills by giving them the opportunity to categorize their positive and negative feelings Hurting the reactions of others (teachers at school, family) from their unwanted behavior.
9	Verbal guidance. Dialogue, Self-disclosure	For the development of linguistic and symbolic treatment, the researcher told the students a short story and then asked them to analyze the different situations included in the story.
10	Transfer of experience. discussion Show feelings group participation	To develop learning by discovery, the researcher asked the students to express each element of the problem of poor academic achievement with a symbol indicating it.
11	Encouragem	To develop systematic thinking, the researcher showed

session number	Techniques used in the session	Session topic
	ent and reinforcement Analysis and comparison	the students a large painting that includes different pictures, and asked them to connect the related pictures to each other.
12	Meeting of the eyes. Transmission of experience Analysis and comparison. Discussion	The researcher provided the students the chance to tell a story about a picture, what has happened in the past, what is occurring now in terms of the events depicted in the picture, and what would happen in the future in order to enhance cognitive processes.
13	Modeling. Facial expressions Encouragement	To develop extra-cognitive skills, the researcher created a story that included some behaviors, and asked them to comment on those behaviors (evaluate them).
14	Verbal guidance. Feedback discussion. Self-disclosure	The researcher gave the students a variety of scenarios to practice verbal and symbolic processing, such as: A child was being thrashed by others and resorted to using a stick to protect himself. What are the possible defenses in this circumstance?
15	Transmission of experience. Expression of feelings group participation	To develop discovery learning, the researcher asked the students to try to express a problem they face by drawing a picture. Then, they analyzed it collectively by knowing the opinion of each student about the picture drawn by her classmates.
16	Encouragement. Reinforcement Self-disclosure Dialogue.	In order to foster systematic thinking, the researcher taught the female students how to identify, comprehend, and express their inner feelings. She also taught them how to observe their tools, build their self-confidence, and change their negative internal dialogue into a positive one. good or bad
17	This is as a kind of support for the process of evaluating	Party (which included the distribution of cakes and sweets to the students, some school specialists and arbitrators who were hired by the researcher in the school - and symbolic prizes were distributed through the Tambouleh game)

session number	Techniques used in the session	Session topic
	the respondents and enhancing their positive impact	

Program evaluation:

Prior to implementing the program's procedures, the programme was evaluated using pre-measures, which involved administering tests of thinking abilities to behaviorally disturbed female students, lying tests to elementary school children, and child behaviour tests to a sample of female teachers. These tests were used to estimate levels of aggression and introversion in the same sample of children from the experimental and control groups. Additionally, using telemetry, the same measures were applied to the same sample of kids and female teachers after the programme was over, and using follow-up measurement, they were applied to the same sample of kids and female teachers after a two-month follow-up period.

The statistical methods used:

This study used the Pearson correlation coefficient, to calculate the value of "T.Test" to denote the differences between the means of independent samples, related samples, and the means and standard deviations.

Study results and their interpretation:

First: the first hypothesis: A training program leads to developing the thinking skills of the study sample of behaviorally disturbed kindergarten students. From this general hypothesis, the following sub-hypotheses emerge:

A. There are no differences between the mean scores of the thinking skills of the experimental group in the pre and post measurement of the program, as shown in Table (10-a).

B. There are no differences between the mean scores of the thinking skills of the control group in the pre and post measurement of the program as shown in Table (10-b).

C. There are no differences between the mean scores of the thinking skills of the experimental and control groups in the measurement after the program, as shown in Table (10-C).

D. There are no differences between the mean scores of the thinking skills of the experimental group in the follow-up measurement of the program, as shown in Table (10-D).

Table 10: The results of the first hypothesis

T.test	Significance level	SD	X	measurement		variable
**7.133	($P \leq 0.01$)	3.59	68.40	Pre-measurement	A	Measure of thinking skills
		5.43	75.47	Post-measurement		
1.740		3.89	68.17	Pre-measurement of the control group	B	
		4.83	66.80	Dimensional measurement of the control group		
**6.530		4.83	66.80	Dimensional measurement of	C	

				the control group		
		5.43	75.47	Post-measurement		
1.768		5.43	75.47	Post-experimental measurement	**D**	
		5.30	74.90	Follow-up measurement of the experimental		

SD, standard deviation. X, mean.

The first hypothesis regarding the efficiency of the program's procedures in developing thinking skills has been shown true, according to the analysis of the results from the preceding table.

Additionally, it is evident that there are statistically significant differences in the experimental group's rate of thinking skill development between the pre- and post-program measurements, favoring the post-measurement, and that there are no statistically significant differences in the rate of There were statistically significant differences in the degree of thinking skill development between the control and experimental groups in the post-measurement in favour of the experimental group, but there were also statistically insignificant differences in the degree of thinking skill development of the experimental group between the pre-measurement and after programme application in the control group measurement.

This result is consistent with the study of (Twardy, C. 2004, Pp., 96, van Gelder, T. 2005, Pp.,45, Cullen, S., et al. 2018, Pp.,21), where children can, through programs to develop their thinking skills, modify and expand their thinking horizons to accommodate new and creative concepts, which is reflected in the growth of their creative abilities, as the mind can To organize his experiences in a new way to solve the problems that children face in their school and family life, and to realize new relationships between the topics to be solved.

The positions and activities of the programme were prepared from the actual reality and everything that the sample members preferred and desired, in addition to its focus on all dimensions of thinking skills and dealing with it to develop all aspects of growth - motor, social, cognitive, and emotional. These are additional factors that can be attributed to the effectiveness of the programme in the current study.

Secondly, the second hypothesis:

Hypothesis text: Accompanying the development of thinking skills to reduce the severity of problems (aggression - introversion - lying) among the study sample of behaviorally disturbed kindergarten children. From this general hypothesis the following sub-hypotheses emerge:

A. There are no differences between the average degree of problems (aggression - introversion - lying) for the experimental group in the pre and post measurement of the program, as shown in Table (11-a).

B. There are no differences between the mean scores of problems (aggression - introversion - lying) for the control group in the measurement. The pre and post program for the program as shown in Table (11-b)

C. There are no differences between the average degree of problems (aggression - introversion - lying) for the control and experimental groups in Measurement after the program, as shown in Table (11-C)

D. There are no differences between the mean scores of the problems (aggression - introversion - lying) of the experimental group in the measurement. The post and sequential measurement of the program as shown in Table (11-d) and the following table shows this:

Table 11: The results of the second hypothesis

T.test	Experimental group				Behavioral problem	A
	Dimensional measurement		Tribal measurement			
	SD	X	SD	X		
9.003	3.80	52.50	3.52	58.17	Aggression	
8.749	5.38	47.83	4.97	52.27	Introversion	
9.995	3.46	48.97	4.07	53.60	lying	
T.test	Control Group				Behavioral problem	B
	Dimensional measurement		Tribal measurement			
	SD	X	SD	X		
0.245	4.45	59.13	2.87	59.30	Aggression	
1.421	3.64	53.40	3.82	52.80	Introversion	
0.790	5.37	53.37	3.91	53.77	lying	
T.test	Dimensional measurement				Behavioral problem	C
	Experimental group		Control Group			
	SD	X	SD	X		
6.209	3.80	52.50	4.45	59.12	Aggression	
4.691	5.38	47.83	3.64	53.40	Introversion	
3.775	3.46	48.97	5.37	53.37	lying	
T.test	Experimental group				Behavioral problem	D
	tracer measurement		Dimensional measurement			
	SD	X	SD	X		
0.610	3.49	52.73	3.80	52.50	Aggression	
0.436	5.31	47.70	5.38	47.83	Introversion	
0.643	3.65	49.23	3.46	48.97	lying	

SD, standard deviation. X, mean.

The second hypothesis, regarding the effectiveness of the programme for developing thinking skills in reducing the severity of some problems (aggression, introversion, and lying) in the study sample of behaviorally disturbed kindergarten students, was successfully tested, according to an analysis of the results from the previous table. The lack of statistically significant changes in the severity of difficulties for the control group between the pre-measurement and after the program's application, as well as the pre-measurement and post-application, in favour of the post-application, along with the presence of statistically significant differences in the severity of problems between the control and experimental groups in the measurement following the programme, the experimental group did not experience statistically significant differences in the severity of problems in the post-measurement and the follow-up measurement of the programme.

In order to interpret the findings of this hypothesis, we will focus on three things:

First: Aggression as a behavioral problem is apparent behavior directed towards oneself or others aimed at harming them physically, verbally or psychologically, and destroying property. Its intensity can be reduced by developing thinking skills. This result agrees with what was concluded by the results of the study of (Goldfeld, S., & Oberklaid, F. 2007), where the results of their studies indicated the extent of the effectiveness of their program based on developing the skills of children in the primary stage and their social interaction in reducing the severity of aggression among the members of the study sample.

As children's aggression during this stage is the result of learning through modelling, or transitional education, and the consequences of their behaviors in terms of reward and punishment, children are also acquiring social and emotional behaviors that indicate their enjoyment of emotional intelligence through their

parents as well as the society around them. Thus, parental, societal, and cultural upbringing methods are the common denominator between reducing and acquiring aggression. (Al-Buhairi, M., 2007, Pp., 626)

Second: Introvertedness as a behavioral issue denotes that the youngster avoids social interactions and prefers to play alone. By improving your cognitive abilities, you can lessen its severity. This finding highlights the significance of some introversion-related factors, like thinking abilities, and the researcher thus adds a new perspective on introversion as a psychological issue with behavioral manifestations, in addition to what has already been discovered by earlier research, like the study. (Cain, S. 2013), which focused on the role of Family history and life difficulties, in causing behavioral problems such as introversion.

The speed at which one's cognitive abilities are developing can be used to forecast how well one will fit in with society, be able to adjust to changing circumstances, prioritise changes quickly, and become more effective in social situations. It has a significant role in determining a person's likelihood of success in life. each of these. refers to the youngster overcoming their introversion and seclusion to become sociable beings. (Al-Buhairi, M.,2007, Pp., 626).

Third: The program's techniques aimed at fostering self-motivation, self-confidence, optimism, and training in telling the truth can help reduce the intensity of lying as a behavioral problem in children who engage in behaviors that contradicts the truth in verbal or gestural form. It was feasible to hone thinking abilities and lessen its ferocity. When a child lies, it often happens because she is trying to address a problem that prevents her from achieving a certain objective and shows a decline in her drive. The child may lie as a result of being introverted, feeling neglected, or

wanting to fit in with the group that rejects it, but lying can be lessened by growing this component.

As a result of her untrustworthy behaviors of lying, or as a result of her aggressive behavior, he needs to establish a network of social relations (Al-Buhairi, M., 2007,Pp., 630), Studies on children show that children with the problem of lying frequently engage in other antisocial behaviors, such as aggression and introversion, which means that by developing thinking skills, these problems can be overcome because it is based primarily on forming a network of successful and effective social relations. (Alwar V, 2002,Pp.,165, Talwar V, 2007,Pp., 8), and the aggressive person often lies to justify his aggression or involve himself, away from the world of others that rejects him, which indicates the great positive correlation between them. (Al-Buhairi, M., 2007, Pp., 630).

Hence, the clear effect of the training program carried out by the researcher to develop thinking skills is evident in addressing behavioral problems, including the problem of lying.

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