

## Effectiveness of a language training program using Discrete Trials Training Strategy in improving expressive language for children with autism disorder

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**Abstract:** This study aimed to examine the effectiveness of a language training program using discrete trials strategy in improving expressive language among a sample of children with autism, has been selected members of the study of autistic children enrolled in the Saudi Autistic Society in Jeddah city in Saudi Arabia. The sample of the study consisted of (20) children of males aged between (6-12 years), and were divided randomly into two groups of equal rate of ten children in each group, has been selected one of the two groups were randomly assigned to be the experimental group and subject to the program of improvement of expressive language, and the other to be the control group. The study results indicated presence of statistically significant differences in the improvement of the expressive language among the children of the experimental group and the control group and these differences in favor of experimental group, and the results indicated a statistically significant differences in the skill of naming vocabulary between children of the experimental group and the control group and these differences in favor of experimental group. With regard to skill of naming the sentences, the results of the study indicated that there were statistically significant differences in favor of the experimental group. Finally, the result of current study indicated that there were no statistically significant differences in the means of naming vocabulary, the naming sentences and the overall score on post –test and follow-up test.

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**Keywords:** Language training program; Discrete trials training strategy; Expressive language; Autism.

### 1. Introduction and Literature Review:

Autism is one of a group of developmental disorder that causes quantity impairment in social interaction, quantity impairment in communication, and present unusual behaviors and interests (DSM-IV-R, 2000). The American Psychiatric Association (2013) reported that impaired communication and social interactions, limited interests and activities, and repetitive behaviors are most pronounced among those with autism spectrum disorder. Autism disorder is one of the fastest growing disabilities in Kingdom of Saudi Arabia (K.S.A). A study conducted in 2006 revealed that the number of children diagnosed with autism was 4-6/1000 birth (Al-Jarallah, et al., 2006). Researches indicate that about half of the individuals with autism disorder cannot develop speech (Charlop-Christy, et al., 2002; Dogoe, 2008). Children with autism may experience significant language delays. These children may hesitate to start communication with parents, peers, and teachers, and they may have difficulty ending the conversation (Myers & Johnson, 2007).

Children with autism have communication disorders such as expressive or receptive language disorder. Communication is very important area due to the relationship between communication and prognosis for children with autism (Sullivan, 2002). Discrete trial training (DTT) is guided by behavioral

learning therapy and applied behavioral analysis (ABA). It was strongly supported by Ivar Lovaas who recommended it be used as an early intervention for children with autism. In DTT the child is presented with a discriminative stimulus, upon responding to the stimulus, he/ she receive a consequence (e.g., a reward) depending on the response (Delprato, 2001). DDT is commonly carried out on a one – to – one basis for teaching children with autism expressive and receptive skills, conversation skills, and pre-academic tasks (Leaf et al., 2011).

Leung and Wu (1997) reported that language delay is principle criteria of diagnostic of autism. DDT strategy is a method of teaching in which the adult uses adult directed, massed trial instruction, reinforcers chosen for their strength, and clear contingencies and repetition to teach new skills (Bogin, et al., 2010). Smith (2001) stated that DDT have five elements: (a) Cue, the teacher present a brief, clear instructions or question such as “What is this?”, (b) Prompt, the teacher assist the child in responding correctly to the cue, (c) Response, the child gives a correct or an incorrect answer to the teacher’s cue, (d) Consequence, if the child has given a correct response, the teacher immediately reinforces the response with praise, (e) Intertrial interview, after giving the consequence, the teacher pauses for short

time (1-5) second before presenting the cue for the next trial.

Hung (1980) study conducted to train and generalize the use of “yes” and “no” as mands. The procedure used systematic modeling and reinforcement. The results showed that the nonverbal needed to be trained on five sets of food items before generalization occurred. The study demonstrated that the procedure was effective in training two useful mands for the autistic children and after training, the behavior may generalize to other items. Also, the Ben – Ariea (2003) compared the effectiveness of two intervention programs – joint action routine and discrete trial training in teaching receptive language skills to three preschool children with autism. The results indicated that two out of the three children needed fewer repetitions in the joint action routine than in DDT to learn to follow one step instructions. But all of students demonstrated better generalization of the instructions acquired in DDT than of those acquired in joint action routine. In general, both methods resulted in improved following instructions.

Halpern (2004) study was aimed to compare discrete trial training to other naturalistic intervention methods. The researcher used two children with autism in a multiple base line across subjects design to compare the effectiveness of the base line condition of DDT to the effectiveness of more naturalistically designed methods for teaching children with autism to use words functionally. The results indicated that both children demonstrated a significantly higher frequency and rate of correct verbal mands during the mand training phase than the discrete trial instruction phase. Owen (2004) examined the effect of implementing Lovaas' (1987) applied behavioral analysis intervention on one student with autism. The researcher used observation in classroom to collect percentage data on: play, self-help, motor, computer, social, eating, receptive language, and expressive language, imitation, and communication skills. The treatment provided was ABA, one – on – one instruction. The results indicated that the child's behavior improved in all skills.

Jones, Feeley and Takacs (2007) demonstrated the effectiveness of intensive intervention by using DDT strategies in establishing verbal responses to (2) three year old children diagnosed with autism. The results indicated that both of children were taught spontaneous communicative responses. Bartman and Freeman (2003) also examined the rate of communication acquisition of a two year girl diagnosed with autism using Applied Behavioral Analysis. The result indicated that the child began to use targeted signs to mand items.

Leaf, et al. (2011) evaluated the effectiveness of a no-no prompting procedure implemented in a group

instructional format to teach five children diagnosed with autism to correctly label facial expressions. The result indicated that all participants learned to expressively label facial expressions.

Other study conducted by Eksi (2011) aimed at compare the effectiveness and efficiency of two discrete trial teaching procedures for teaching receptive language skills to children with autism. The result of the study reveled that discrete trial teaching procedure were combined with simple gestures and/or signs more effective and efficient on prompting the acquisition of receptive language skills for participants.

### **Statement of the Problem**

The problem of current study lies in the difficulties faced by children with autism in their inability to communicate with others and disturbances in social relations as a result of this disorder, which limit their children's ability to learn the skills and achievement in the future. So, the study problem can be identified in the examination of the effectiveness of language training program using discrete trials training strategy in improving expressive language among a sample of children with autism.

### **Purpose of the study**

The purpose of the study was to examine the effectiveness of language training program using discrete trials training strategy in improving expressive language among a sample of children with autism. Specifically, this study aimed to answer the following questions:

1. Are there significant statistical differences at ( $p \leq 0.05$ ) in improving expressive language between the experimental group and the control group on post test related to the training program and these differences are in favor of the experimental group?
2. Are there significant statistical differences at ( $p \leq 0.05$ ) in improving naming of vocabulary between experimental group and the control group on post test related to the training program and these differences are in favor of the experimental group?
3. Are there significant statistical differences at ( $p \leq 0.05$ ) in improving naming of sentences between the experimental group and the control group on post test related to the training program and these differences are in favor of the experimental group?
4. Are there significant statistical differences at ( $p \leq 0.05$ ) in the mean scores of expressive language among the experimental group in the post and follow-up test?

## **2. Methods**

### **Participants and Including Criteria**

In this study, the researcher selected the participating students according to the following criteria:

1. Participants should be diagnosed with autism spectrum disorder.
2. They should not have previous exposure to discrete trials training strategy.
3. Be between six and twelve years.
4. They have the ability to imitate verbal speech.
5. Children have delayed in expressive language.

#### Participants

(20) Male children students were diagnosed with autism at Saudi Autistic Society in Jeddah city

participated in the study (N=20). They were distributed randomly into two equal groups. Every group consisted of (10) participants. One of these groups was chosen randomly to be the experimental one to enroll in the language training program in order to achieve the goal of the study. The other group was chosen to be the control group. The researcher did homogeneity between the experimental and control groups in chronological age, I.Q, and expressive language using the Mann-Whitney statistical method. Table No. 1 illustrates this:

**Table 1. Mann – Whitney test and U value to homogenization between experimental and control groups in chorological age, I.Q and expressive language**

Variable	Group	Number	Means Ranks	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z value	Sig
Chorological age	Experimental	10	6.73	45.0	16.0	35.0	0.341	.246
	Control	10	6.17	37.0				
I.Q	Experimental	10	6.21	40.60	11.500	36.500	0.280	.246
	Control	10	6.65	36.30				
Expressive language	Experimental	10	4.5	45.00	15.000	36.000	0.969	.556
	Control	10	5.4	34.00				

As shown in table 1, findings revealed that there were no statistically significant differences before the administration of the training program between the two groups (experimental and control) in each of the chronological age, I.Q, and Expressive language indicating the homogeneity between two groups.

#### Setting

The study was conducted at Saudi Autistic Society in the city of Jeddah in Saudi Arabia. Specifically, the participants of experimental group responded to pre-post test and received the training program within three sessions per week for 30 minute for each session in four months. The sessions were conducted individually in a room with child – size table and chairs that enabled the trainer and the child to sit facing each other.

#### Experimental Design

The researcher in the current study adopted experimental approach, and distributed the study sample randomly into two equal groups. Every group consisted of (10) participants. One of these groups was chosen randomly to be the experimental one to enroll in the language training program in order to achieve the goal of the study. The other group was chosen to be the control one.

#### Statistics

Researcher used descriptive statistic principles of means and standard deviations to find out the performance of the participants on pre-post test as well as the T-test to know if there are statistically significant differences between the participants' responses means to the post and follow up test or not.

Also, the researcher used Analysis of Covariance (ANCOVA) in analyzing the participants' responses to the pre-post test to explore statistical differences between means, and Multivariate Analysis of Covariance (MANCOVA) to find out significant differences between dimensions means.

#### Instrument

The researcher was prepared a tool to measure expressive language for the purposes of the present study. The tool consisted of (20) items distributed into two dimension: the first dimension is naming vocabulary, which included: body parts, clothes, colors, geometric shapes, fruits, means of transport, the professions, tools of the home, animals, seasons of the year, vegetables, verbs. The second dimension is naming sentences, which included: spatial conditions, numbers, attributes, emotions, pronouns, parts, and the sequence of events.

#### Validity

To check the validity of the tool and the appropriateness of the items, the researcher presented the tool to ten raters holding Ph.D in special education and speech therapy at faculty of education in king Abdulaziz University. They rated the tool in terms of: (a) relation items to the dimensions and how far they represent it, (b) appropriateness of language phrasing (wording). The researcher took their comments into account, and the necessary changes were done. The rater's agreement ratios ranged between (80-100%). For further validity, correlations Coefficients between tool items and the total score of the tool were

extracted. The correlations coefficients ranged between (0.36-0.78).

### Reliability

The final version of the tool was administered to the exploratory sample consisted of (30) students.

Cronbach's alpha and test-retest were used to calculate the reliability for the dimension areas and the "Overall". It should be noted that all reliability coefficients were statistically significant and acceptable for objectives of this study (Table 2).

**Table 2.** Reliability Coefficients (Test-Retest and Cronbach's alpha) for dimensions and Overall

Content area	Test-Retest	Cronbach's alpha
Naming vocabulary	0.95	0.96
Naming sentences	0.94	0.97
Expressive language	0.96	0.98

### Answer coding schemes

The researcher was prepared a form to encode participants' responses to the (20) items. The form included five responses for each item ranging from 0 - 5. So given the degree of (zero) when the child cannot name any of the picture displayed, and the degree of (1) when the child be able to name one picture, and the degree of (2) when the child be able to name two pictures, and the degree of (3) when the child be able to name three pictures, and the degree of (4) when the child be able to name the four pictures. The total score of the tool ranged between (zero - 80) degrees.

### Trainers

The trainers' team is from special education teachers supported with researcher supervision. All of them have sufficient clinical experience in working with students with autism. They all have particular training in the implication of DDT strategy.

### Materials

Training stimuli were Color Cards, large photographic illustrations (15 × 15cm) represents vocabularies which included: body parts, clothes, colors, geometric shapes, fruits, means of transport, the professions, tools of the home, animals, seasons of the year, vegetables, verbs. The second dimension is naming sentences, which included: spatial conditions, numbers, attributes, emotions, pronouns, parts, and the sequence of events. A range of reinforcers, including edible items, toys, and games were identified for each child.

### Procedures

#### *Phase 1: preparation of the study tool*

The researcher was developed a measure of expressive language, so as to be used as a measurement tool for the purposes of this study, and the tool consisted of (80) pictures were selected these pictures to fit the child and environment which facilitates knowledge.

#### *Phase 2: pretraining*

*The process of gathering information:* been at this phase to ensure the availability of the necessary for the implementation of the training program requirements for the participants of the study, by

reviewing the medical reports, the selection of participants of the study, and randomly assigned into two groups experimental one of them and the other control one, and then provide the necessary materials and tools to apply the training program.

#### *Phase 3: pre test*

*Pretesting Expressive labeling performance:* children were tested on their expressive labeling skills by requiring them to name the picture from an array of four pictures cards of familiar every day things. This test has been applied to participants of the experimental group and the control group.

#### *Phase 4: training*

Training trials for each expressive label were initiated by teacher saying "what is this?", "what he is doing?" where he is sitting"? where he is standing?" how many...?" etc., and verbally prompting the child to name the picture correctly. Only unprompted responses were reinforced with preferred foods; prompted responses were reinforced with praise. After giving the response, the teacher pause briefly 1-5 second before presenting the cue for the next trial. Prompts withdrawn as soon as possible. The mastery criterion for all trained labels was (3) consecutive unprompted correct responses.

#### *Phase 4: post test*

*Post testing Expressive labeling performance:* children were re- tested after finishing training on their expressive labeling skills by requiring them to name the picture from an array of four pictures. This test has been applied to participants of the experimental group and the control group.

#### *Phase 5: stop training*

At this phase, the program has been stopped for one month and then follow-up the participants of the experimental group, and was re-apply them expressive language measure (follow-up measure).

#### *Phase 6: analysis*

At this phase, the researcher was analyzed the data and extract the results and discuss and make recommendations.

### 3. Results

The study was conducted to achieve the main objective was to examine the effectiveness of a language training program by using discrete trials training in improving expressive language for children with autism.

The results which obtained after analyzing the data acquired in accordance the study's questions as following:

Q1. Are there significant statistical differences at ( $p \leq 0.05$ ) in improving expressive language between the experimental group and the control group on post test related to the training program and these differences are in favor of the experimental group?

To answer this question, means, standard deviations and estimated marginal means for experimental and control groups participants were extracted (Table 3).

**Table 3.** Means, Standard Deviations, and Estimated Marginal Means of the Participants' Responses to the Pre-Post Test According to Groups.

Group	Pre Test		Post Test		Estimated Marginal Mean
	Mean	Std.	Mean	Std.	
Experimental	6.07	1.67	54.33	2.47	54.33
Control	6.07	1.16	8.87	1.81	8.87

As shown in Table 3, the mean score of participants in experimental group on pre test was 6.07 and a standard deviation of  $SD = 1.67$ ; whereas the mean score on post test was 54.33 and a standard deviation of  $SD = 2.47$  and the estimated marginal mean was 54.33. Regarding the control group, the mean score of participants on pre test was 6.07 and a

standard deviation of  $SD = 1.16$ ; whereas the mean score on post test was 8.87 and a standard deviation of  $SD = 1.81$  and the estimated marginal mean was 8.87. For the purpose of investigating the significant differences, the ANCOVA was extracted as shown in Table 4.

**Table 4.** Results of Analysis of Covariance (ANCOVA) for the participants responses

Variation Source	Sum of squares	df	Means squares	F	Sig
Covariate	1.46	1	1.46	0.30	0.585
Group	15504.13	1	15504.13	3229.93	.000
Error	129.60	27	4.80		
Overall	15635.20	29			

The results of ANCOVA indicated that there were a statistically significant differences ( $p=0.05$ ) attributed to effect of method, F value was  $F = (3229.93)$  at  $p=0.000$ , for  $p = 0.05$ . These differences are in favor of the experimental group.

Q2. Are there significant statistical differences at ( $p \leq 0.05$ ) in improving vocabulary naming between the experimental group and the control group on post test related to the training program and these differences are in favor of the experimental group?

Q3. Are there significant statistical differences at ( $p \leq 0.05$ ) in improving naming of sentences between the experimental group and the control group on post test related to the training program and these differences are in favor of the experimental group?

To answer these questions, means, standard deviations and estimated marginal means of dimensions according to experimental and control groups were extracted (Table 5).

**Table 5.** Means, Stds., and Estimated Marginal Means of dimensions According to Experimental and Control Groups

Dimensions	Group	Pre Test		Post Test		Estimated Marginal Mean
		Mean	Std.	Means	Std.	
Naming Vocabulary	Experimental	5.60	1.40	41.33	1.50	41.34
	Control	5.73	1.16	7.93	1.33	7.93
Naming Sentences	Experimental	0.47	0.64	13.00	1.60	13.02
	Control	0.33	0.62	0.93	0.88	0.91

As shown in Table 5, the results showed differences in means, standard deviations, and estimated marginal means for dimensions on pre and

post test as result of difference of methods (experimental and control), these differences are in favor of the experimental group. For the purpose of

investigating the significant differences between means, the MANCOVA of dimensions was extracted (Table 6).

**Table 6.** Results of Multivariate Analysis of Covariance (MANCOVA) for the participants responses According to dimensions.

		Sum of squares	df	Mean squares	F value	Sig
Naming Vocabulary	Vocabulary/ pre	0.11	1	0.11	0.05	0.824
	Sentences / pre	0.09	1	0.09	0.04	0.840
	Group	8245.91	1	8245.91	3823.88	0.000
	Error	56.07	26	2.16		
	Total	8422.97	29			
Naming Sentences	Vocabulary/ pre	0.11	1	0.11	0.06	0.808
	Sentences / pre	1.21	1	1.21	0.69	0.414
	Group	1082.61	1	1082.65	617.13	0.000
	Error	45.61	26	1.75		
	Total	1138.97	29			

As shown in table 6, the results indicated that there were statistically significant differences ( $p = 0.05$ ) attributed to effect of program in all dimensions, these differences are in favor of the experimental group.

**Q4.** Are there significant statistical differences at ( $p \leq 0.05$ ) in the mean scores of expressive language

among the experimental group in the post and follow-up test?

To answer this question, means and standard deviations for both post and follow-up test were extracted, and For the purpose of investigating the significant differences between means, T-test was extracted. (See table 7)

**Table 7.** Means, Stds., and T-test of Participants' Responses to the Post – Follow-up Test

Content Area		Mean	Std	T	df	Sig
Naming vocabulary	Post test	41.33	1.496	0.56	14	0.582
	Follow-up test	41.27	1.280			
Naming sentences	Post test	13.00	1.604	1.00	14	0.334
	Follow-up test	12.87	1.685			
Expressive language	Post test	54.33	2.469	0.90	14	0.384
	Follow-up test	54.13	2.386			

As shown in Table 7, the mean scores differ based on the participants' responses (post and follow-up test). In post test the naming vocabulary had a mean of  $M = 41.33$  and a standard deviation of  $SD = 1.496$ ; whereas the naming vocabulary in follow-up test had a mean of  $M = 41.27$  and a standard deviation of  $SD = 1.280$ . A T-test between the means showed  $t(9) = 0.56$  at  $p = 0.582$ , for  $p = 0.05$ . Thus, no significant differences were found in the means of naming vocabulary between post and follow-up test. For second dimension, in post test the naming sentences had a mean of  $M = 13.00$  and a standard deviation of  $SD = 1.604$ ; whereas the naming sentences in follow-up test had a mean of  $M = 12.87$  and a standard deviation of  $SD = 1.685$ . A T-test between the means showed  $t(9) = 1.00$  at  $p = 0.334$ , for  $p = 0.05$ . These results indicate that there were no statistically significant differences in the means of naming sentences between post and follow-up test. Finally,

expressive language "Overall" in post test had a mean of  $M = 54.33$  and a standard deviation of  $SD = 2.469$ ; whereas the expressive language in follow-up test had a mean of  $M = 54.13$  and a standard deviation of  $SD = 2.386$ . A T-test between the means showed  $t(9) = 0.90$  at  $p = 0.384$ , for  $p = 0.05$ . These results indicate that there were no statistically significant differences in the means of expressive language between post and follow-up test. In summary, the findings indicate that there were no statistically significant differences in the means between post and follow-up test in all dimensions and overall.

#### 4. Discussion

This study was conducted to examine the effectiveness of a training language program by using discrete trials training in improving expressive language for children with autism disorder. The study was designed to answer the following questions:

Q1. Are there significant statistical differences at ( $p \leq 0.05$ ) in improving expressive language between the experimental group and the control group on post test related to the training program and these differences are in favor of the experimental group?

Results of statistical analysis indicated the presence of significant differences in improving expressive language of children between the experimental group and the control group; these differences were in favor of the experimental group. This is an indication that the use of discrete trials strategy lead to the improvement of expressive language.

The results of this study have been agreed with the results of the previous studies that have been used discrete trials strategy in teaching communication skills in general and expressive language skills in particular. The studies agreed with the results of the current study: study of (Owen, 2003), which aimed to assess the effectiveness of Lovaas based on the principles of Applied Behavioral Analysis in the teaching of playing skills, communication, self-care program, imitation motor, social interaction, receptive language and expressive language with autistic children which indicated that the child's behavior improved in all domains. The current study also agreed with the study of (Eksi, 2011) that aimed to examine the effectiveness of discrete trial strategy in improvement of receptive language skills which indicated that DDT strategy in which verbal instructions were combined with simple gestures and / or signs was more effective on prompting the acquisition of receptive language skills. Also, current study agreed with the study of (Leung & Wu, 1997), which aimed to examine the effectiveness of echolalia in developing receptive language skills by using discrete trial training which indicated that all children achieved right responses. In other hand, the results of the current study disagreed relatively with results of Ben-Ariea study (2003), which aimed to make a comparison between the training through discrete trial and strategy routine joint attention in teaching of receptive language which indicated that two out of the three children needed fewer repetitions in the joint action routine than in DDT to learn to follow one step instructions. But all of students demonstrated better generalization of the instructions acquired in DDT than of those acquired in joint action routine. In general, both methods resulted in improved following instructions.

The researcher attributes the change in the expressive language for participants of the study sample that the program submitted them to a high strategic educational sessions include the organization is based, in addition to providing sessions individually (one to one), which helped to form the correct

responses. In addition, the logical sequence in the transition from skill to another and the impact of skills on each other. Also the discrete trial strategy make on the segmentation the skills into small parts, as it depends on intensive training with the principles of applied behavioral analysis within the organization learning environment in order to teach specific skills.

In addition, the training program sessions included a variety of prompts ranging from low prompt to high prompt, including verbal, visual, modeling and physical prompt. These methods played a major role in improving expressive language for participants. Also the researcher used different instructional through pictures cards, drawings, computer and others with participants, which proved to be effective, especially, the individuals of autism are visual learners.

Q2. Are there significant statistical differences at ( $p \leq 0.05$ ) in improving vocabulary naming between the experimental group and the control group on post test related to the training program and these differences are in favor of the experimental group?

Results of statistical analysis indicated the presence of significant differences in improving naming vocabulary between children of the experimental group and the control group and these differences were in favor of the experimental group. It could be argued that the results of this study agreed with the results of the studies previously reviewed, the results of these studies showed a statistically significant effects attributable to the training program applied using discrete trial training strategy.

Q3. Are there significant statistical differences at ( $p \leq 0.05$ ) in improving naming of sentences between the experimental group and the control group on post test related to the training program and these differences are in favor of the experimental group?

Results of statistical analysis indicated the presence of significant differences in improving naming sentences between children of the experimental group and the control group, and these differences were in favor of the experimental group. The results of this study have been agreed with the results of studies that have already been reviewed.

Q4. Are there significant statistical differences at ( $p \leq 0.05$ ) in the mean scores of expressive language among the experimental group in the post and follow-up test?

Results of statistical analysis indicated that there were no statistically significant differences in the improvement of expressive language among children in the experimental group post-test and follow-up measurement. This shows the effectiveness of the training program using discrete trial training, even after training stopped.

**Limitations and recommendations of the study**

Despite the positive outcomes of this study, two limitations, need to be addressed. First, the study was conducted on male children. Second, the sample size is small. Future studies should include both males and females' children with a relatively large sample as possible. Future research may explore the possibility of training parents to implement discrete trial method with their children to improve communication skills at different environments.

### Conclusion

The purpose of this study was to examine the effectiveness of training language program by using discrete trial strategy. Despite the limited number of participants, the current study indicated that discrete trials strategy could help autistic children with delayed language and can be generalized improvements in the subject's verbal responses to instructions. The major findings were that the children in current study acquired expressive language skills.

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**Expressive language skills measurement**

**Name of child:**

**Age:**

**Examiner:**

dimension	skill	Items	0	1	2	3	4
<b>Naming Vocabulary</b>	Body parts	1. Ask the child to name the four pictures of the body parts (shoulder, knee, neck, and head). (What is this.....?)					
	Clothes	2. Ask the child to name the four pictures of clothing (shoes, trouser, belt, and socks) (What is this.....?)					
	Colors	3. Ask the child to name the four color pictures (red, orange, yellow, blue). (What is this.....?)					
	Geometric shapes	4. Ask the child to name the four pictures of geometric shapes (square, rectangle, triangle, and circle). (What is this.....?)					
	Fruits	5. Ask the child to name the four pictures of fruits (oranges, apples, bananas, mangoes). (What is this.....?)					
	Transportation	6. Ask the child to name the four pictures of Transportation (pilot, train, ship, Cycle). (What is this.....?)					
	Professions	7. Ask the child to name the four pictures of professions (teacher, butcher, baker, and tailor). (Who is this.....?)					
	Home tools	8. Ask the child to name the four pictures of tools (broom, scissors, comb, carpet). (What is this.....?)					
	Animals	9. Ask the child to name the four pictures of animals (dog, cat, camel, and tiger). (What is this.....?)					
	Seasons of the year	10. Ask the child to name the four pictures of the seasons (autumn, spring, winter, summer). (What is this.....?)					
	Vegetables	11. Ask the child to name four pictures of vegetables (tomato, Cauliflower, carrots, peppers). (What is this.....?)					
	Verbs	12. Ask the child to name the four pictures of the verbs (playing, laughing, throwing, combing). (What is this.....?)					
<b>Naming sentences</b>	Spatial conditions	13. Ask the child to name four pictures of spatial conditions (where the boy sit in this picture... up chair, beside chair, under chair, behind)					
	Numbers	14. Ask the child to name four pictures of numbers. (How many balloons carried by the boy in this picture....?(three balloons, two balloons, one balloons, four balloons)					
	Simple attributes 1	15. Ask the child to name four pictures of simple attributes (What is this cup?) (Small cup, large cup, dirty cup, broken cup).					
	Simple attributes 2	16. Ask the child to name four pictures of simple attributes (What is the weather like in this picture?) (rain weather, dark weather, sunny weather, windy weather)					
	Emotions	17. Ask the child to name the four pictures of emotions (How does it feel this boy in this picture? (happy boy, un happy boy, afraid boy, tired boy)					
	Pronouns	18. Ask the child to name the four pictures of pronouns (with whom this boy is playing?) (he is playing with alone, he is playing with her, he is playing with him, he is playing with them)					
	Parts of events	19. Ask the child to name the four pictures of parts (what the size of this cake?) (all cake, quarter cake, two half cake, third cake)					
		20. Ask the child to name the four pictures of Sequence of events) (name the pictures after arranged there).					

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