

STIMULATION OF ASSOCIATION DEVELOPMENT IN PRESCHOOL PERIOD THROUGH MOVEMENT

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Abstract:

According WHO definition of the human health children's development can be defined as conceptual changes in biological, psychological and social behaviour, when the development is a constant and dynamic process. The changes occur because of the growing-up process under the influence of experience and learning. Especially in the early period of the child's development exist very tight connection between physical and psychological development. The aim of the presented study is to analyse how influenced regularly provided physical activity on association's skills of a child personality in preschool period. The purpose of the experiment is to research the associative grouping of 10 words on the theme fruit and sport. The selected words are: football, pear, cherries, swimming, banana, disabled sportsman, ball, athletics, apple, sports friendship. Which relations are mentioned by test subjects depends on the content of the stimulating word and on the knowledge of the person. The lower their knowledge is the more frequent super ordinate answers are. But if they have a lot of knowledge we expect subordinate answers to be more frequent.

Key words: *Childhood, play, associative grouping*

1 Introduction

Movement is one of the most basic qualities, needs and conditions nature has given us. It is so elementary that without it we cannot imagine mankind as a biological species and it is so indispensable that without it people's creativity would not exist. When children discover their environment through motor activity they simultaneously learn to explain sensory information. Gradually, they are able to differentiate themselves from others; they discover space relations and gain theoretical notions and knowledge. The development of speech is also tightly connected to motor activity. When we think we begin to understand and recognize things in their uniqueness.

Wellness upbringing and education in preschool period can include two systems that affect the child's development. In this way, the systems mentioned above are meant to "pull" the development ahead and also consider the child's development needs and specifics, connected to particular development periods. Vigotski says: "It's more important to know what a child is able to do with a little help than what he or she is able to do successfully without our help.". Children are able to meet some of their basic needs: washing, clothing, going to the toilet, eating, waking up and going to bed in time. They also take on some basic responsibilities at home and in kindergarten or school. Associations can be understood from the subjective or

objective point of view. According to subjectivists, associations are relations between mental contents, whereas objectivists affirm that they are relations between impulses and verbal or motor actions. The latter tried to bring associations on a common denominator with conditioned reflexes.

Associations exist in internal and external form. When talking about internal there should be a logical relation between the impulse and the response (subordinate or super ordinate). On the other hand, external associations are regarded as occasional, because of the joint events that occur in a certain moment or place. Later, specialists added also other rules to the old ones (frequency, clarity...) and tried to classify the relations between impulses and responses. Associatively connected parts tend to occur together in the summary. This happens also in free speech. In fact, speech itself is a motor activity. Verbal communication – speech is also tightly linked to movements of the whole body. It is already known that with the help of different motor types we can influence the ability to read and the development of the language. Many psychologists stress that there is a tight connection between the use of the body and the development of other conceptual abilities.

The most intense development of the language occurs in the preschool period but it improves through the whole life. In the preschool period children learn to speak, but when they go to school they consciously start to learn the language in order to follow the already determined language norms. When children start to go to school their speech resembles the speech of adults. They are very talkative. They learn how to form different types of

sentences and they are very creative in the use of language. Their vocabulary contains 1500 words or more. They are able to tell a story when they look at pictures. They talk on the phone (answer the phone, call). They understand the use of singular, dual and plural forms. They are able to tell where they live, their birth date and the names of their parents. According to the abilities listed above, we must take care that children develop different speech functions (instrumental, imaginary, informative, interactive...) and we also have to encourage their speech creativity and the ability of independent storytelling.

Nowadays children put together a series of objects (put them in order) according to their size. They identify the objects according to their specific position in a series (e.g. first, second, last). They count aloud to 20 or more. They recognize numbers to 20. They are able to use operations of addition and subtraction with numbers from 1 to 10. They form some notions connected to amount and dimension (big - small, short, equals, less than, etc.).

2 Aim of the study, hypothesis

The main aim is to find out the number of written or drawn words and their associative connection during the first and the second reading. The particular aim is to find out the differences in associative connection between groups of children from different sport clubs and a group of children who are not engaged in any out-of-school activities.

On the base of aims following hypotheses were formulated:

- H1 Children at the sport clubs are going to draw or write more words belonging to the series of word on the theme sport and fruit.
- H2 School non sport children (1st class) are going to draw almost same number of words of associative grouping on the theme fruit and less words on the theme sport.
- H3 The sum of the associative grouping will be higher after the second presentation of words in both groups of age, in the athletic, swimming, football club, in Primary School and kindergarten.

3 Methodology

3.1 Characteristics of samples

Together 47 children, in age period 6 years old, took part in the study. The sport sample consisted of 18 six years old children from the first class and 13 five years old children from the littoral primary schools and kindergartens who belong to the athletic, swimming or football club of Koper (16 boys, 15 girls). The non-sport sample consisted from 16 children (8 boys, 8 girls) from the Regional Primary school and Kindergarten Šmarje (8 children were 6 years old, 8 children were 5 years old).

3.2 Procedure

The purpose of the experiment was to research the associative grouping of 10 words on the theme fruit and sport. The selected words were: football, pear, cherries, swimming, banana, disabled sportsman, ball, athletics, apple, sports friendship. The person carrying out the

experiment presents the course of the experiment before it begins. The experimentalist shows a picture and presents every word in the order shown above. The first presentation is given before the training. When the last picture is presented, the experimentalist tells the children to write down or draw the words that they remembered. They have 5 minutes at their disposal. After the experiment children put their papers in a personal folder, the pencil on the folder and leave for the training. The experimentalist puts a new piece of paper on each folder. After 30 minutes, the experiment is repeated. Before the beginning of the second presentation, the experimentalist sums up the course of the experiment. Children have 5 minutes to write or draw the words. The testing of the participants was anonymous. Parents of the participated children received before a letter with the description of the experiment.

3.3 Testing method “Associative grouping test” Bolko, Draškovič, Potočnik, (2002)

The pictorial and word presentation was carried out in the following order: football, pear, cherries, swimming, banana, disabled sportsman, ball, athletics, apple, sports friendship. We can find out the grouping degree if we find the relations between the number of relations and the number of correct summaries $RR = as/n-1$ which usually varies from 0.50 and 0.60.

OR stands for occasional relation of associations - 0.18

n – number of words find out

RR (as) – number of associations

RR-OR – pure effect of associations

The results were processed on a personal computer with the program Excel. Basic statistics was used for the calculation of the sum of the written or drawn words, number of associations, and the average of the pure effect of associations.

4 Results and discussion

During the first reading the kindergarten children in the Athletic Club Koper were not really successful in remembering the drawn words - the average was 5.14 words

per child. Associatively, they grouped the words better after the first reading (2.28 associations) than the second one (1.85 associations).

School children in the Athletic Club Koper drew or wrote more words that they remembered during the second reading (average 5.75 words). Associatively, they grouped the remembered words with an average of 2.25.

First class	First reading				Second reading			
	n	as	RR	RR - OR	n	as	RR	RR - OR
1	4	2	0,66	0,48	5	1	0,25	0,07
2	5	1	0,25	0,07	4	2	0,66	0,48
3	5	1	0,25	0,07	7	3	0,5	0,32
4	5	3	0,75	0,57	7	3	0,5	0,32
Average	4,75	1,75	0,47	0,29	5,75	2,25	0,47	0,29

Table 1 Associative grouping in the Athletic Club – First class

The results were surprising at the Koper kindergarten children who attend the Koper Swimming Club because the results were better after the first reading. The two boys remembered on average 5.5 words, associatively they grouped 3 words. The girls and the boys from the first class who swim at the Koper Swimming Club were, on the other hand, better after the second reading because together they remembered, drew or wrote 6,1 word. Associatively they grouped 3.5 words. The collaboration of the boy (in the table marked with the number 2) who finished

his exercise after the second reading was very interesting. The girl (marked with the number 1) continued to exercise because she belongs to the group of perspective swimmers. After the second reading the girl tried to draw or write the words as soon as possible because her friends were already swimming and she wanted to join them. She finished the experiment quickly and told that she just did not remember any other words. She seemed to me like a fish out of the water.

First class	First reading				Second reading			
	n	as	RR	RR - OR	n	as	RR	RR - OR
1	4	2	0,66	0,48	5	1	0,25	0,07
2	7	4	0,66	0,48	8	6	0,85	0,67
Average	5,5	3	0,33	0,48	6,1	3,5	0,55	0,37

Table 2. Associative grouping of children from the Koper Swimming Club – First class

The results gained from five-year-old children who belong to the Koper Football Club improved the number of remembered words and associative grouping after the second reading. Four children remembered 4.25 words on average. Associatively, they grouped 2.25 words on the theme fruit and sport.

School children from the Koper Football Club improved the results of the number of drawn and written words that they remembered after the second reading - 12 “footballers” drew 4.16 words on average on their papers. They associatively grouped 2.08 words.

After the first and the second reading we expected the results to be a little worse because children drew the words on the field with artificial grass. On the side of the field there were children’s parents and some of the children paid some attention to their parents’ remarks about how to draw an athlete, swimmer, pear... During the second reading we were distracted by an army helicopter and by the members of the Koper Football Club. We believe that these are factors that affect the capacity to memorize and to concentrate when drawing or writing the words.

First class	First reading				Second reading			
	n	as	RR	RR - OR	n	as	RR	RR - OR
1	6	2	0,4	0,22	8	6	0,85	0,67
2	4	2	0,66	0,48	2	0	0	0
3	3	1	0,5	0,32	2	0	0	0
4	3	1	0,5	0,32	2	0	0	0
5	1	0	0	0	5	3	0,75	0,57
6	2	0	0	0	3	1	0,5	0,32
7	4	0	0	0	2	0	0	0
8	8	0	0	0	5	3	0,75	0,75
9	4	2	0,66	0,48	6	3	0,6	0,42
10	2	1	1	0,82	3	1	0,5	0,32
11	4	2	0,66	0,48	8	6	0,85	0,67
12	3	2	1	0,82	4	2	0,66	0,48
Average	3,66	1,08	0,44	0,32	4,16	2,08	0,45	0,35

Table 3. Associative grouping of children from the Koper Football Club – First class

All those problems did not occur in the Regional Primary School and Kindergarten because school children were tested in their own classrooms and kindergarten children in their play room.

In the group of kindergarten children there were two younger ones – 4, 5 years. In the table they are marked with the numbers 2 and 4. After the second reading children remembered 5.62 words and associatively

grouped 2.75 words more than after the first reading.

School children of the Regional Primary School who are not involved in any type of out-of-school activities drew, wrote and associatively grouped less words compared to other children of the same age. After the first reading 8 children remembered 4.87 words and they associatively grouped 0.5 words. After the second reading they drew or wrote 6.12

words on average and they associatively grouped 1 word. The boy who is marked with the number 1 in the table wrote down only the first letters of the words after the first and the second reading literally from dictation. Even though his teacher told him to wait until the end of presentation of the words, he still wrote down the first letters of the words during the presentation

First class	First reading				Second reading			
	n	as	RR	RR - OR	n	as	RR	RR - OR
Dictation 1	6	0	0	0	6	0	0	0
2	6	0	0	0	7	1	0,16	-0,02
3	6	1	0,2	0,02	8	0	0	0
4	5	1	0,25	0,07	7	0	0	0
5	6	1	0,2	0,02	8	2	0,28	0,1
6	3	0	0	0	4	1	0,33	0,15
7	3	0	0	0	2	1	1	0,82
8	4	1	0,33	0,15	7	3	0,5	0,32
Average	4,87	0,5	0,12	0,03	6,12	1	0,28	7 0,1

Table 4 Associative grouping of children from the Regional Primary School – First class.

In the group of kindergarten children there were two younger ones – 4, 5 years. In the table they are marked with the numbers 2 and 4. After the second reading children remembered 5.62 words and associatively grouped 2.75 words more than after the first reading.

School children of the Regional Primary School who are not involved in any type of out-of-school activities drew, wrote and associatively grouped less words compared to other children of the same age. After the first reading 8 children remembered 4.87 words and associatively grouped 0.5 words. After the second reading they drew or wrote 6.12 words on average and they associatively grouped 1 word. The boy who is marked with the number 1 in the table wrote down only the

first letters of the words after the first and the second reading literally from dictation. Even though his teacher told him to wait until the end of presentation of the words, he still wrote down the first letters of the words during the presentation.

The analysis of the results showed that school children who are involved in sports activities drew or wrote more associations on the theme SPORT. The word FRUIT did not cause any problems and occurred similarly in the process of associative grouping in the group of children who are engaged in sport activities and in the group of children who are not engaged in any out-of-school activities.

The word *disabled sportsman* appeared more often in the group of

kindergarten and schoolchildren of the Regional Primary School than in any other group. Children from the first class who belong to the Athletic Club Koper

never drew or wrote the word *disabled sportsman*.

	AG FRUIT	AG ŠPORT	Disabled sportsman
PS Šmarje - kindergarten	35	5	7
PS Šmarje – First class	13	4	7
AC Koper - kindergarten	21	3	1
AC Koper – First class	11	5	/
SC Koper - kindergarten	4	5	1
SC Koper – First class	6	6	3
FC Koper - kindergarten	10	4	3
FC Koper – First class	24	9	1

Table 5. The number of associative grouping of the words SPORT and FRUIT and the number of the words DISABLED SPORTSMAN during the first and the second reading together.

5 Conclusion

The influence of motor activities on an individual's intellectual development is indirect and direct: it is direct because primary intellectual activities are formed from the basic motor actions and indirect because of the development of the image about themselves. Psychologists consider the period until the age of five as the most critical development period. In this period children are completely dependent on their parents regarding the satisfaction of their basic vital needs, and meeting these needs affects their development. When children start going to school they are faced with the need to gain knowledge because of productivity. Every progress in learning how to read, write, calculate and learn other things is awarded in school as well as at home. Therefore, children are

especially hardworking during this period. Teachers and parents are obliged to encourage this state. Children must feel that they are able to master the skills that we expect them to have.

Therefore, children who have better motor abilities start to be more successful also in other psychological abilities because they are more curious and gain more information in less time. Movement is one of the most important factors, especially in school and preschool period. This period helps children to find out who they are because children highly value motor skills and abilities.

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