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The Role of Memorization Activities in Language Development in Preschool Children

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Abstract. Preschool age is an important and decisive stage in terms of stimulating and optimizing communication skills and cognitive abilities. Language education is the main concern of teachers in preschool education, on both the formative and informational dimension. The formation of correct expression skills begins in kindergarten. The role of the educator is to help the children to have a correct, clear, and precise expression. The instructive-educational process involves the enrichment of new knowledge and is an action of memory development. The main activity of the pre-schooler is playing and through this activity he learns about the world and about himself. Thus, the major objective of the educational communication achieved in the educational process is the formation and development of the general capacities of communication, of relation with the peers and with the environment of which they are part. A sample of 15 children, aged 4, were part of a pedagogical experiment regarding the impact of memorization in the development of language skills. Established tests, adapted on Romanian population were used in both an initial and final assessment. The hypotheses assumed the existence of differences in the evolution of prerequisites of schooling, cognitive skills, language, and memory between the two assessments. The screenings were answered by both parents and teacher and improvements were registered and discussed in the context of human development and of the impact of the ameliorative programme proposed by the teacher.

Keywords. Memorization, language, preschool children

1. A few considerations about cognitive processes in preschool children

Preschool brings important changes in terms of somatic development, mental development, and psychosocial development, as well. Differences in demands from family and teachers, by comparison with the other developmental stages, require new ways of adapting from children, and deepen the contradictions between external demands and internal possibilities of children (Crețu, 2009). The child's mental development shows natural contradictions for the development at any

stage, but for this age group it poses important problems due to the magnitude and diversity of its conditions (Balint, 2008).

Thinking in the preschool stage trains all other psychic functions, capitalizes, leads, directs all other psychic processes (Buzdugan, 2006). Preschool children are eager to discover, to find out, curiosity being one of the main coordinates of the thinking process. Leaving the symbolic phase, after the age of 3, intelligence goes through a stage of inventiveness that prepares complex operative thinking (Verza & Verza, 2000). The *Why* questions that preschool children raise show a desire to know and report relationships manifested by preschool thinking and marks the moment of establishing causal thinking. The main feature of thinking is intuition. The essence of this thinking is that the pre-schooler may think what he perceives, but his thinking does not go beyond representation the perceived element (Osterrieth, 1976, apud Crețu, 2009). In other words, not thinking it still has operations and does not extend beyond the perceptive. Thinking is rigid, not having the possibility of reversibility.

Pre-concepts gain generalization and precision because they are based on a richer perceptual experience. The process of communication with others strengthens their integrative power. Pre-schooler's notions are expressed in a subjective form of overall configurations, based on clearer criteria and great support on representation. Imagistic thinking is based only on pre-operations and preoperative schemes, which are practically reduced to articulated intuitions, to successive balances resulting from analysing successive perceptions. The principle of causality stipulates that, usually, events have identifiable causes and is important because it allows predictions and control over the environment (Papalia, Wendkos Olds & Duskin Feldman, 2010). The transductive reasoning achieved by children during this period correlates only 2 events, especially events close in time, whether there is a logical causal relationship.

The world is systematised as pre-schoolers better understand identity, which is the idea that the people and objects around them are essentially the same, even if they change shape, size or appearance. This understanding underlies the emergence of the concept of self, which we will talk about a little later. Children are engaged, at this age, in an experiential learning, which takes place after reflection on what was done. Experiential learning is related to experiential education, learning through action, adventure, through free will, through cooperation and community service (Enache & Călin, 2016).

Children are making progress in the efficiency and speed of information processing, and they begin to form lasting memories. Memory is therefore a very important mechanism of the cognitive evolution of the pre-schooler. The numerous acquisitions of this stage are also conditioned by memory transformations. Encoding involves assimilating information and attaching a code or tag identification of this information (Zlate, 1999). Storage involves storing information in memory, and the update occurs when that information is needed. Information processing models describe the brain as having 3 "stores": sensory memory, working memory and long-term memory (Papalia et al., 2010). Sensory memory is a temporary reservoir for current sensory information, the shortest element of memory, in terms of its extent in time, and has the ability to retain the impressions of the sensory information after the action of the stimuli has ended. Encoded information is stored in working memory, a short-term deposit for the information with which the person is actively working. Working memory capacity increases rapidly in the pre-school developmental stage. In motivating tasks, pre-schoolers turn to strategies to improve memory performance from the age of 3-4 years, even if they are not as complex and effective as those used

by older children. Therefore, the use of mnemonic pre-strategies in learning, such as the selectivity of the information on which it focuses, the categorization or the strategy of external cues can be introduced and practiced from the age of 3 years (Visu-Petra & Cheie, 2012).

Increasing working memory allows the development of the executory function, conscious control on thoughts, emotions, and the implementation of actions to achieve goals or solve problems. The executory function, which allows children to plan and carry out mental activities aimed at a certain purpose, it is thought to appear towards the end of the first year of life and develops in waves with age. Changes in the executive function between the ages of 2 and 5 allow children to develop and develop use complex rules to solve problems (Papalia et al., 2010).

Working memory operations are controlled by a central executor that transfers the encoded information in long-term memory, a storage with unlimited capacity, which keeps the information for a long time (Zlate, 1999). This central executor retrieves the information from long-term memory and undergoes new processing actions with that information.

There are several characteristics of the memory process that appear in this developmental stage, such as (Mitu & Antonovici, 2005): the memory has an active and selective trait, based on wishes, preoccupations, and interests. There is also a situational memory based on the peculiarities of each situation the child faces. Memory is intermediated, and thus, to facilitate reproduction, certain stimuli must be used (like words, images, or real objects). One of the first visible changes in memory, during preschool, is an increase in its volume.

Involuntary memorization is still very extensive. Everything that arouses children's interest and pleasure it is quickly imprinted. Rhythm and sound also make it easier to memorize, often with neglect of meaning, and thus remaining at the expense of mechanical memory. Crețu (2009) states that the contents of the memory are: the results of direct observations, of the dialogue with the adult, stories, short stories, songs and poems, personal experiences, and data about the child and his family. All the stored information is of a concrete nature. The child cannot memorize ideas abstract and complex logical relationships.

Storage is becoming more extensive over time. Up to 4-5 years, remembering some special events may last for a few months. After 5 years, the memories are constituted, that is, those special events, with a great emotional load, or situational details are remembered, but the spatial-temporal reports are relatively vague and with gaps that give memories a fragmentary character. Even so, owning one is still beyond the reach of the average person realization of self-identity.

A specific phenomenon at this stage is reminiscence, especially in young pre-schoolers (Cretu, 2009). If they attended a very special event, they cannot describe it in the next immediate moments, but the next day, they will be able to reproduce aspects of that event that impressed them so much. The phenomenon is explained by the negative induction generated by the strong impression caused by that event.

Last, but not least, voluntary memorization occurs around the age of 5. Initially it occurs in gameplay, then it extends to another activities. Even reproduction will be voluntary.

Recognition is ability to identify something previously encountered, and reproduction is the ability to reproduce knowledge from memory (Zlate, 1999). Recognition is relatively difficult for young pre-schoolers, which is explained by the limitations of preservation and by the global character of perceptions and representations at this age. On the other hand, recognition is much easier process than reproduction. However, both abilities improve with age.

Reproduction has many similarities to the imprinting process. Children easily reproduce what they are impressed about, what has rhythm, rhyme, what is related to their universe. Little pre-schoolers need more help, either in the form of the beginning of the sentence given to them by an adult, or in the form of successive questions about the information they are supposed to remember. The big ones have better results. They manage to reproduce, without fail, the sequence of events and to restore the order of the images that illustrate them, using appropriate epithets with which to draw expressive characters and memorize their characteristic expressions.

The last important variable of our study is language. In preschool, a spectacular development takes place in terms of language and differences between the beginning and the end of the stage are remarkable. This rapid expansion of vocabulary can occur by rapid decipherment, which allows the child to grasp the approximate meaning of a new word after hearing it only once or twice in the conversation. Based on the context, the children can make a quick hypothesis about the meaning of the word, which was later refined by subsequent contacts and use (Sion, 2007).

The nouns are easier to decipher than verbs, which are less concrete. In fact, nouns predominate the vocabulary of the child at this age. The meanings of the words, though still narrow, are much clearer and more accurate (Crețu, 2009). But the figurative meanings of verbal structures are not yet understood. Pre-schoolers have a great preference for diminutives. They develop an important attitude towards language, they are confident in understanding the fact that language can be used to communicate anything. If they come across new objects or situations and don't know the right words, they don't hesitate to create them.

Papalia et al. (2010) state that at the age of 3, children begin to use plural forms, possessive pronouns, and the past tense. They know the difference between *me* and *you*, they can ask questions using *what* and *where*, and they are also able provide answers to such questions. Question like *why* and *how* are harder to understand at this point. The sentences they form are usually short and declarative, indefinite articles are omitted, and some pronouns, adjectives and prepositions are included. Mistakes are often made because children have not yet learned the exceptions to the rules. Children tend to overgeneralize a rule they discover, applying it to words that are not comply with that rule.

Sigelman and Rider (2010) argue that at 4-5 years of age, sentences contain, on average, 4-5 words and can be declarative, negative, interrogative, or imperative. At this stage, complex sentences are used, and the sentences are lined up one after the other, in long and continuous stories (... and ... and ...). After the age of 5, speech becomes more to that of adults, and sentences are longer and more complicated. Children use many conjunctions, prepositions and articles, complex sentences are expressed, and although the speech is fluent, intelligible, and quite grammatically correct, many of the finesses of grammar are not yet mastered.

Another important event at this stage is the emergence of inner language. It is preceded by egocentric language, but based on it, the child can mentally pursue taken actions, to adjust his conduct according to the purposes proposed by the situations that arose (Verza & Verza, 2000).

In this context, we state that memorization is an important activity in kindergarten, because it develops children's language (Mitu & Antonovici, 2005). Memorization is an important means of knowing, developing speech, cultivating moral and aesthetic feelings, practicing memory, and stimulating the creative imagination. As a result, it contributes to the education of children's language, because through literary language children assimilate new words and expressions that

they then use in different structures or literary expressions, and it also contributes to the development of children's thinking.

Memorization activities are mandatory activities that help the pre-schooler to consciously learn the poems, for example, to repeat or verify them. With the help of poetry, pre-schoolers can understand the beauty of nature, art and human life. By reciting the verses of the poem, the children enrich their vocabulary with the new words, they understand them, they acquire literary expressions. Starting from the consideration that the whole psychic activity, from the simplest to the most complex processes, is largely based on memory, the educator must follow that the memorization activities are stimulating so that the child will participate as actively as possible in when learning poetry.

During a memorization activity, the tasks of the educator include (Vărzari, Taiban, Manasia & Gheorghian, 1970): awakening the interest of pre-schoolers and desire to memorize poetry; enriching the content of children's emotional life; facilitating the active appropriation of poetry; the development of the skills needed to memorize and reproduce voluntarily and logically the poems, and of the detachment to render them in an expressive fashion; practically mastering the content and beauty of literary language.

Mitu & Antoninovic (2005) state that memorization purposes include the development of skills (like logical thinking, attention and capacity of concentration, voluntary memory, phonemic hearing, capacity to store and reproduce knowledge), raising children's awareness of language expressiveness and form skills that will allow children to recite correctly and expressively.

The child acquires information, interacts with colleagues and teachers, participates actively in solving of the various learning tasks, while the teacher, as an educational advisor, has an important role in identifying educational experiences to optimize students' learning opportunities (Moraru & Stoica, 2016).

The determination and choice of children to learn, the generosity, and the continuous effort for their socialization, are desirable values for any human person, values that structure them, develop their autonomy, and give them the opportunity to actively participate in social life (Casangiu & Iftime, 2017). In this context we can see some of the bases of self-awareness that are being constructed throughout this stage and that are being involved in the exploration and structuring of personal characteristics (emotions, abilities, beliefs, motivations, etc.) that facilitate the construction of a realistic self-image (Enache & Matei, 2017), which will guide the general track of the future adult.

2. Objectives and hypotheses

The purpose of the research is developing language through memorization in pre-schoolers. Our objectives are: 1) Identifying a relationship between the development of language expressiveness in pre-schoolers and memorization activities in language education; 2) Identifying the differences between the initial assessment and the final assessment, carried out by parents and teachers, regarding the prerequisites of schooling, cognitive skills, language, and memory.

Our hypotheses state the following:

- H1: It is assumed that there is a difference in the evolution of the prerequisites of schooling, between the initial and final evaluation made by the teacher.
- H2: It is assumed that there is a difference in the evolution of the prerequisites of schooling, between the initial and final assessment made by the parent.

- H3: It is assumed that there is a difference in the evolution of cognitive skills, between the initial and final assessment made by the teacher.
- H4: It is assumed that there is a difference in the evolution of cognitive skills, between the initial and final assessment made by the parent.
- H5: It is assumed that there is a difference in the evolution of language, between the initial and final evaluation made by the teacher.
- H6: It is assumed that there is a difference in the evolution of language between the initial and final assessment made by the parent.
- H7: It is assumed that there is a difference in the evolution of memory, between the initial and final evaluation made by the teacher.
- H8: It is assumed that there is a difference in the evolution of memory between the initial and final assessment made by the parent.

3. Sample and instruments

The experiment was organized and implemented in the Kindergarten of Traian Vocational School and it lasted 20 weeks. The experimental group consisted in 15 children (8 boys and 7 girls), aged 4 years old, from de class *The Little Flowers*. We obtained the informed consent of the parents and the approval of the school management to conduct this research.

We used two screenings from the Assessment Platform for Children (PedA, Cognitrom Cluj-Napoca): Screening of the prerequisites of schooling for educators and parents and Screening of cognitive skills for educator and parents. And, based on the scientific literature, we prepared an observation grid for the development of language and one observation grid for memory.

4. Experimental design

These instruments were applied both at the beginning and end of the educational experiment, and the results that we obtained were statistically analysed.

The formative stage of the experiment consisted in a series of activities, as follows:

Table 1. Formative stage of the experiment

Activities in the field of Language and communication			
Field		Theme	Objectives
1	Language and communication	<i>Autumn</i> (poem by Lucia Muntean)	To memorize poem, reciting it correctly, expressively, considering intonation, rhythm and pauses.
2	Language and communication	<i>Scented fruits</i> - educational game	To interpret pictures of autumn fruits. To communicate a simple message in the learning activities. To develop oral communication skills by correctly using the meaning of verbal structures.
3	Language and communication	<i>What do you know about...?</i> – educational game	To name the images illustrated on chips. To describe the image illustrated o chips.

4	Language and communication	<i>Chrysanthemum</i> (by Otilia Cazimir) - memorization	To listen carefully to the poem and to retain its ideas. To recite the poetry as correctly and as expressively as possible, respecting the intonation, the rhythm, and the pauses. To remember new words and phrases.
5	Language and communication	<i>Farewell autumn</i> – educational game	To memorize poem with the help of images. To explain the unknown terms from the previously learned poems.
6	Language and communication	<i>Journey through my country</i> -educational game	To answer the questions correctly. To establish the singular and plural forms of some given words. To expressively recite excerpts from poems previously known.
7	Language and communication	<i>Santa Claus</i> - memorization:	To memorize poems logically, based on the educative model. To reproduce poems correctly, clearly, and expressively, respecting the pauses imposed by punctuation and rhythm;
8	Language and communication	<i>Traditions and customs</i> -conversation	To describe the presented images. To actively participate in the activity.
9	Language and communication	<i>Let's help Santa Claus</i> -educational game	To name in a word the images on the chips. To correctly divide the words on the chips into syllables.
10	Language and communication	<i>Winter</i> (by George Coşbuc) - memorization	To carefully listen to the poem. To follow the sequence of stanzas. To memorize and reproduce the poem.
11	Language and communication	<i>The story of the snowman</i> - the story of the educator.	To listen carefully to "The Snowman's Story". To identify the main characters of the story: the little boy, the snowman, the Winter Fairy, the deer, the bunnies, the birds, the dwarfs.
12	Language and communication	<i>The boots of the greyhound</i> (by Calin Gruia)- the story of the educator.	To listen carefully to the story. To reproduce excerpts from the story, using pictures, with the help of questions asked by the educator. To enrich their vocabulary with regionalisms.
13	Language and communication	<i>I say one, you say many</i> -educational game	To name the pictures. To transform the singular into the plural and vice versa using the images specific to the weekly theme.
14	Language and communication	<i>The lame puppy</i> (by Elena Farago)- memorization	To answer the questions asked by the educator. To name the title and author of the poem.

			To reproduce correctly, fluently, and expressively the verses, respecting the rhythm and pauses, in accordance with the message.
15	Language and communication	<i>The bear fooled by the fox</i> (by Ion Creangă)- the teacher's story.	To name wild animals. To listen carefully to the teacher's story. To understand the message of the story.
16	Language and communication	<i>Say what it does!</i> - educational game	To name domestic, wild, and aquatic animals. To answer the questions asked by the educator, saying the words clearly and correctly.
17	Language and communication	<i>Mother</i> (by Elena Dragoș)-memorization	To recite clearly, correctly, and as expressively as possible the verses of the poem, respecting the intonation, the rhythm and the pauses. To answer adequately the questions regarding the content of the poem.
18	Language and communication	<i>The legend of the snowdrop</i> (by Eugen Jianu)- the story of the educator	To remember the title of the legend. To retain the main ideas of the legend. To answer correctly the questions asked by the educator.
19	Language and communication	<i>Answer quickly and well!</i> - didactic game	To correctly divide the given words into syllables. To identify the number of syllables in a word. To express oneself clearly, coherently, and grammatically correct.
20	Language and communication	<i>Spring painting</i> - didactic game.	To understand and convey simple messages. To discuss the pictures as they express themselves coherently, pronouncing correctly the sounds of the Romanian language; To answer correctly the riddles proposed by the educator.

5. Findings and results

The first step was to identify the normality of the distribution of scores. We obtained a normal distribution for prerequisites for schooling (teacher version), cognitive skills (teacher version), observation grid for language (parent version), and observation grid for memory (both teacher version and parent version). For these variables we used parametric comparison tests. For all the other variables we used Mann-Whitney U Test. The statistical results are shown in the table below:

Table 2. Group Statistics

Statistical tests				
Variable	Assessment	Mean	t-test	Sig. (2-tailed)
Prerequisites for schooling (teacher version)	Initial	5.07	-6.100	.000
	Final	10.53		
Cognitive skills (teacher version)	Initial	42.00	-8.747	.000
	Final	81.13		
Language grid (parent version)	Initial	61.93	-4.190	.000
	Final	80.47		
Observation grid for memory (teacher version)	Initial	29.67	-8.685	.000
	Final	60.47		
Observation grid for memory (parent version)	Initial	47.13	-6.051	.000
	Final	69.40		
Variable	Assessment	Mean	U-test	Sig. (2-tailed)
Prerequisites for schooling (parent version)	Initial	9.43	21.500	.000
	Final	21.57		
Cognitive skills (parent version)	Initial	9.77	26.500	.000
	Final	21.23		
Observation grid for language (teacher version)	Initial	8.87	13.000	.000
	Final	22.13		

All hypotheses were confirmed, with significant differences between the two assessments, identified in the development of each variable.

6. Discussion

The prerequisites for schooling assessed in the initial stage showed overall difficulties regarding the appropriate use of working tools like crayons, playdough, or watercolour, but after the final assessment, pre-schoolers showed increased skills of properly using those tools. Studies show that an important factor is constituted by the individual differences in cognitive skills with which children enter kindergarten (Leppänen, Niemi, Aunola & Nurmi, 2004). Furthermore, longitudinal data from other studies link the cognitive prerequisites of pre-schoolers with environmental variables, like parental reinforcement, especially the maternal one (Tiedemann & Faber, 1992).

A significant progress in mathematical knowledge has been observed: initially, only few children had the ability to classify objects based on different criteria, but after the final assessment, most pre-schoolers were able to appropriately form and name lots of elements based on multiple criteria, like form, size, colour, etc. Also, a large progress was made regarding counting between 1 and 5. Parents also acknowledged that their children were able to better classify, to draw lines, to better use colours and to handle work tools much easier. This result is important because it is sustained by other studies that have concluded that mathematical skills are strongly influenced by inhibitory control (Espy, McDiarmid, Cwik, Stalets, Hamby & Senn, 2004). Our results suggest that attention also was increased. In the beginning of the activities children were not able to stay focused for more than 5 minutes, but by the end of the formative program they were able to

maintain their attention for 15-20 minutes. This may also be because of the natural development of the brain during this period, with the accent on inhibition processes (Papalia et al., 2010). Studies show that the development of self-regulatory systems increase dramatically during preschool years, based on the continuous ability to inhibit actions based on the directions of others (Jones, Rothbart & Posner, 2003). We found that there were children who became more and more involved and acted in certain problem-situations. They developed a certain awareness about the positive and negative consequences of their acts on others and adapted their behaviour to different situations. Other studies highlight the necessity of the teacher to consider environments that allow children the opportunity to make choices to maximize their attention (DiCarlo, Baumgartner, Ota & Geary, 2014), having in mind the important impact of attention on the development of cognition (Wellman, Phillips, Dunphy-Lelii & LaLonde, 2004) during this period.

Parents have also observed that pre-schoolers have more autonomy, they can focus much better and for a longer time on the activities they carry out at home within the family, and they even manifested more patience. This is particularly important because as children develop skills and abilities related to psychological needs for self-expression and competence, they will claim areas related to the exercise of these abilities, in accordance with the possibilities afforded by different cultural environments (Helwig, 2006). Children also communicated more about their activities in the kindergarten and were able to better integrate in different groups of children or to better collaborate with adults.

In terms of language education, we observed the progress pre-schoolers made, in terms of both vocabulary volume and oral expression. They were able to communicate with the educator and their colleagues, they were able to adjust to the context of communication and they applied a series of rules in communication, like listening to the other's opinion, waiting for their turn to talk, ask or answer simple questions, divide words into syllables, or formulate simple sentences. Parents also observed a difference in the development of language and communication, regarding the use of certain grammar rules and the acquisition of new words. Children were able to express different messages, they use a larger variety of words, some of them new. Literature shows that verbal intelligence and skills, phonological awareness and working memory are the central concepts that explain and influence early literacy in preschool children (Schneider & Näslund, 1992).

Memory was also developed, children being able to store more easily the information they received. We observed their ability to remember some words and repeat them in different contexts. In the case of poems, children demonstrated their understanding of lyrics and message, fact that facilitated memorisation. They remembered the main ideas of a story they listened to, they were able to explain fragments of stories, to recognize characters in the stories, their characteristics and to tell stories based on pictures with the essential elements of the actions that happened in those stories.

Parents observed that their children retain information much more easily and can store that information for a longer period. The emotional impact of the stories played a great role in the learning process. Memory at this age is greatly based on the emotional impact of a certain episode (Verza & Verza, 2000; Muntean, 2009). Children learned to extract the main ideas of a text and to recognize characters that they also depicted in a few simple words, by answering educator's questions.

Conclusions

Preschool is one of the most important stages in a child's life in terms of language acquisition and memory development, the stage of life when many of the deep structures of the personality are woven. Children are introduced to efficient communication which involves a certain organization of the expression by the speaker and an adaptation of it to the partner, so that the message can be easily and completely deciphered by the receiver, listener. In addition, language plays an important part in the psychological maturation, verbal communication, in consistent and rigorous expression skills and in easily acquiring school-type activities, namely writing and reading.

The first objective of the paper was to identify a relationship between the development of language expressiveness in pre-schoolers and the role of memorization activities in language education, a fact confirmed by comparative results from the diagnostic and control stage. There is a relationship between the progress of preschool language in terms of expressiveness and how to perform activities in kindergarten.

For the second objective we have made the selection of attractive themes for children, grounded in the objectives of the Experiential Field of Language and Communication. In the activities carried out during the experiment we used several methods, procedures, strategies, both traditional and interactive, in our attempt to identify the most effective of them. We observed that at this point in their life, both active-participatory and traditional methods are effective for the progress of pre-schoolers. Nevertheless, combining them into more complex strategies lead us to the progress of pre-schoolers in terms of language, its expressiveness and memory development. This underlines the achievement of the last objective proposed in this research.

Our results sustain the fact that the curriculum for preschool education, through the content of knowledge and the ways of organizing language education activities, orients the whole process of stimulation and education of language and oral communication of children to cultivate expressiveness, towards flexibility, intonation and nuance of preschool speech, a correct emphasis and articulation in the current pronunciation, so that it denotes creativity, a high degree of adaptation to new situations.

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