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Influence of Electronic Gadgets on the Formation of School Adulthood in Older Preschoolers

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Abstract--- *The paper deals with the development of intellectual readiness of children for school in the context of common computerization. The aim of the study is to determine the conditions under which the electronic means can be used for the development of intellectual readiness for school in children of preschool age. The model of the organization of such development with use of electronic means is described. On the basis of the theoretical analysis of psychological and pedagogical literature, this study considers the basic concepts like "readiness for school" and "intellectual readiness". Intellectual readiness here is a structural element of general readiness for school, which in modern psychology and pedagogy is defined as a multicomponent education with three aspects of school readiness that are intellectual, emotional and social readiness. The components of intellectual readiness to school are considered in the context of achieving the targets of the FSES PE that implies the development of differentiated perception, analytical thinking, rational memory, different approaches to knowledge, to reality, to the process of their logical acquisition through additional efforts, mastering the auditory perception of language, and the ability to understand and use symbols in preschoolers. The study identifies the conditions that ensure the development of intellectual readiness for school in the process of interaction between senior preschoolers and electronic means.*

Keywords--- *Gadget, Computerization, Information Technology, Education, Readiness for School, Intellectual Readiness, School Adulthood, Preschool Educational Institution.*

I. INTRODUCTION

The formation of school adulthood in preschoolers is one of the top urgent pedagogical tasks of modern preschool educational institutions. This is confirmed by the targets of the Federal State Educational Standard of preschool education, which ensure the continuity of preschool and primary general education. According to the FSES PE, in the end of preschool education, preschoolers should have the following indicators insuring their school adulthood: 1) developed gross and fine motor skills; 2) being capable of doing the main movements; 3) controlling their movements; 4) ability to willpower; 5) following the social norms and rules in different activities, in relationships with adults and peers [3].

This implies forming the respect for teachers, acceptance of their personal goals, requirements and interests, as well as creating the most favorable conditions for revealing and developing the abilities of the students and their self-determination. It is a training system focused on the priority development of common cultural components in the content, forms and methods of training and, thus, on the formation of personal adulthood of students, the

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development of their creative abilities and disclosing their full potential [9, 10, 11].

Currently, it is difficult to imagine the modern world without computers, mobile phones, tablets and other advanced gadgets. In many families, as soon as the child has learned to sit, he is sitting in front of the TV, computer, or tablet. A vivid changing picture accompanied with a variety of sounds attracts baby's attention; gradually computers and TVs become an indispensable nannies. Fairy tales, lullabies and games are replaced with these gadgets, live communication is reduced. All this requires considering the impact of electronic gadgets on the development of school adulthood of preschoolers. There is an assumption that the enthusiasm of preschoolers in using electronic gadgets leads to the fact that children are mainly included in computer games, watching cartoons, while missing active games, role-playing games, handmade and other children's activities leading to the formation of school adulthood. That is why social values that determine the cognitive work of both the student and the teacher with information obtained from electronic sources become the basis for the structure of their value-loaded categorical guidelines [6]. At the same time, in any conditions, it is important to study individual historical experience, including the one presented by modern information technologies [7].

Issues of forming school adulthood of preschoolers are considered for many decades by a number of researchers, thus many of them correlate the concept of school adulthood with preschoolers' readiness to learning at school. This position describes the school adulthood as emotional, intellectual, and personal readiness and willinginess, as indicated by L.I. Bozhovich and A.V. Zaporozhets [4, 5]. An important aspect of readiness for school is the degree of development of child's cognitive, analytical and synthetic activities and the formedness of mechanisms of volitional control in preschoolers. It is also important that electronic gadgets and information from them form a certain rejection of traditional family values in children, while computers often 'replace' one of the parents [8].

II. Methodology and Research Methods

The methodological basis of the study are the ideas and principles of systemic and synergetic approaches that contribute to the disclosure of the new learning model as a guide to natural integration, based on the idea of diversity of social unity. The study also used such general scientific methods as analysis, synthesis, transition from the abstract to the specific, and analysis of psychological and pedagogical literature. The study analyzed the interviews of 60 children and 40 parents, as well as experiments, including ascertaining and forming stages.

The validity and reliability of the research results is provided by the basic theoretical provisions, the set of correlated subject, aim and objectives of research methods and their validity, the versatile test of theoretical provisions and practical recommendations, as well as actual positive results of experiments. The study describes the data of questioning parents on the interaction of their children with electronic gadgets, as well as the problem of insufficient children's activities that ensure the development of school adulthood in preschoolers, and the results of the put forward research hypotheses. The identified problem poses a new pedagogical task for preschool education, which is how to ensure the formation of school adulthood in the conditions of the excess use of modern gadgets.

The study puts forward the following hypothesis: electronic means can be a tool for developing intellectual readiness for school if they form the basis for the set of certain classes. The conditions of these classes are:

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- The classes are a system of digital interactive play exercises, taking into account the individual characteristics of the development for each child;
- Play exercises are aimed at developing all components of intellectual readiness for school;
- The classes will be provided by an extensive (consistent) bank of e-resources.

III. RESULTS AND DISCUSSION

The relevance of the problem of forming school maturity in preschool children is confirmed by the results of the study of school readiness of first year schoolchildren, conducted by the Regional Center for assessing the quality of education. The following components of school adulthood were considered as the indicators of readiness:

1. General development of a first-grader;
2. Formed background for learning activities;
3. Skill of sounds accent in a word.

The Regional Center of assessing the quality of education used the following methods was diagnostic means:

1. "Drawing a stick figure»;
2. "Written dictation»;
3. "Example and rule»;
4. "Initial letter".

In 2015, 29 393 first-graders from 866 regional schools took part in the initial diagnosis carried out by the Regional Center for assessing the quality of education. In 2016, 30 056 first-graders from 857 schools of the Krasnoyarsk Krai participated in the diagnosis.

Starting diagnosis of first-graders in 2015 showed the following results of children's readiness to studying at school.

Results on "Drawing a stick figure" method (general development)

Good result	Average result	Low result
19.00%	57.89%	23.11% (including 9.23% – lowest)

Results on "Written dictation" method (forming the background for learning activities)

Good result	Average result	Low result
59.66%	22.96%	17.38% (including 8.62% – lowest)

Results on "Example and rule" method (forming the background for learning activities)

Good result	Average result	Low result
38.91%	40.16%	20.93% (including 9.26% – lowest)

Results on the method of "Initial letter" (skill of sound accent in a word)

Good and average results	Low result
61.10%	38.90% (including 21.17% – lowest)

The initial diagnosis of first-graders in 2016 showed the following results of children's readiness to studying at school.

"Drawing a stick figure" (general development)

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Good result	Average result	Low result
18.62%	56.74%	24.63% (including 10.05% – lowest)

Results on "Written dictation" method (forming the background for learning activities)

Good result	Average result	Low result
60.37%	22.76%	16.87 % (including 8.50 % – lowest)

Results on "Example and rule" method (forming the background for learning activities)

Good result	Average result	Low result
39.06%	39.62%	21.32% (including 9.78% – lowest)

Results on the method of "Initial letter" (skill of sound accent in a word)

Good and average results	Low result
62.14%	37.86% (including 20.21% – lowest)

The analysis of the results of the initial diagnosis conducted by the Regional Center for assessing quality of education concluded that probably more than 80 % of children showed average and low levels of general development, and only 14.25% had high level of readiness for school. It is quite clear that the formation of school adulthood in older preschoolers is an urgent task of modern preschool education.

The study was conducted on two preparatory groups of the municipal budget preschool educational institution № 11 of Krasnoyarsk that engaged 60 preschoolers. The study consisted of two stages.

The first stage aimed at studying the main activities of modern preschoolers in their spare time. This study consisted of interviewing parents of preschoolers attending preparatory groups; a total of 40 parents were interviewed. The purpose of this survey was to confirm or refute the hypothesis of excess use of electronic gadgets by children.

The results of a survey showed that 85% of preschoolers are immersed in communication with electronic gadgets, and only 15% do not have cell phones or tablets; however, they constantly watch TV.

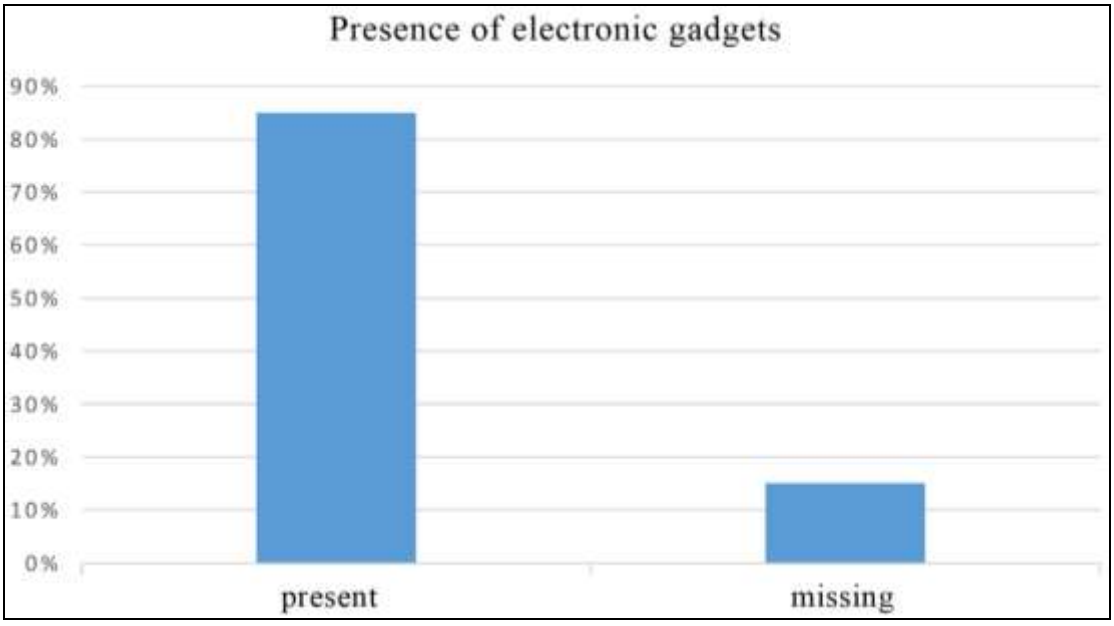

Figure 1

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In addition, it was necessary to see what activities children usually perform with electronic gadgets. The survey showed that 49% of preschoolers are constantly watching cartoons, 42% are playing games, 27% use the phone for communication, and 40% of preschoolers are surfing the Internet.

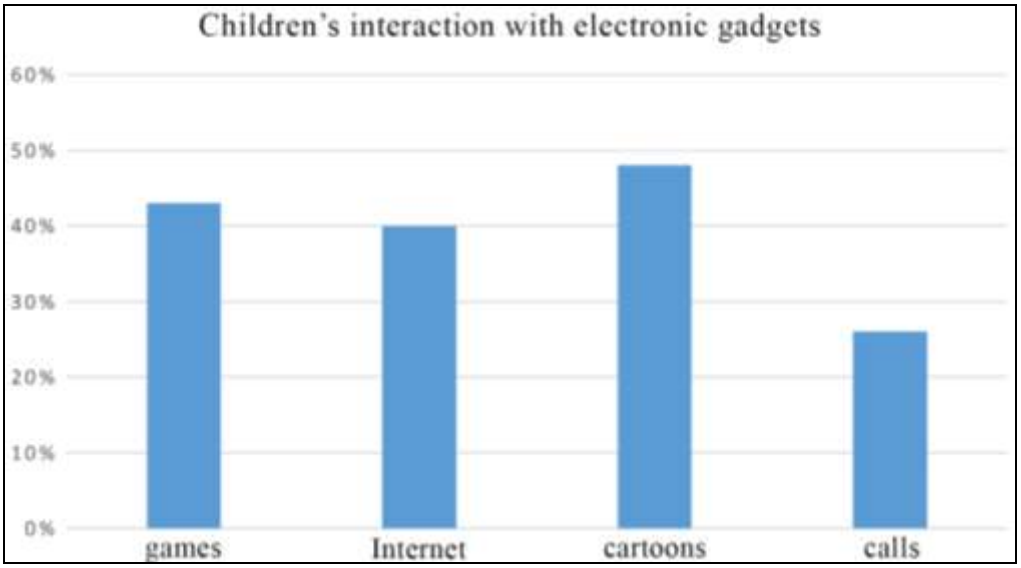

Figure 2

The results confirm that most of the time preschoolers are in computer games, the Internet, cartoons, and phone calls.

Also, the first stage of the study showed that the environment and the world view, in which the child develops, is has excess presence of electronic gadgets. Today's children are more advanced in digital technologies than their parents in childhood. At the same time, the constant immersion of preschoolers into the world of gadgets prevents their involvement in activities that lead to the formation of school adulthood.

The second part of the study considered the influence of "strangle" of gadgets on the development of school adulthood of preschoolers. The study involved children of the same groups, a total of 60 children aged 6 to 7 years. Diagnostics of school adulthood was carried out in the context of the application of diagnostic methods of readiness for school, which included the test on school adulthood of Kern - Erasik [2].

The test revealed the general level of mental development of preschoolers, developmental status of thinking, the ability to listen, memory and understanding, as well as the ability to perform tasks as per sample. It also included assessing personal adulthood of a child, fine motor skills and visual coordination, as well as the visual-spatial perception of the future first-graders and their visual memory. Below are the results of the diagnosis of school adulthood.

The results of performing the test "Drawing a stick figure" allowed assessing the personal adulthood of preschoolers.

The assessment showed that the majority of preschoolers have an average level of personal development (30%), and only 15% have good level.

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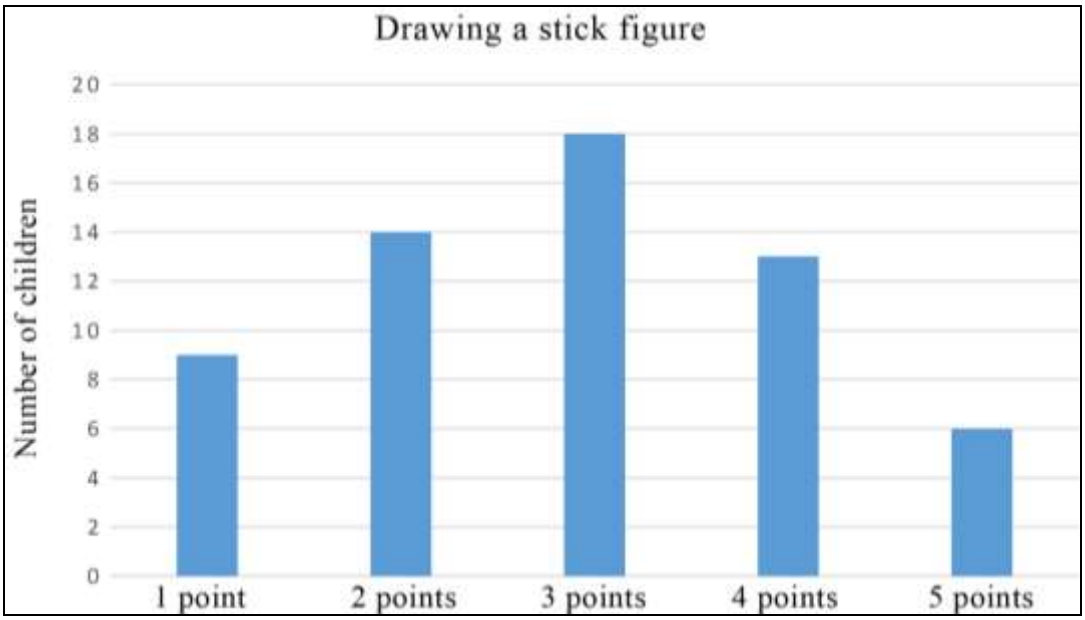

Figure 3

The results of the study of the level of school adulthood according to the Kern – Erasik test showed that only 18% of children have this adulthood, 29% of children belong to the group of maturing, and 53% of preschoolers belong to the group of conditionally adult and immature.

Diagnosis of the formation of school adulthood in older preschoolers confirms the hypothesis that the immersion of children into electronic gadgets leaves them no time for games and other children's activities leading to the development of school adulthood. It becomes clear that electronic gadgets replace plot role-playing games, design, drawing and other activities that ensure the formation of school adulthood from preschoolers' life.

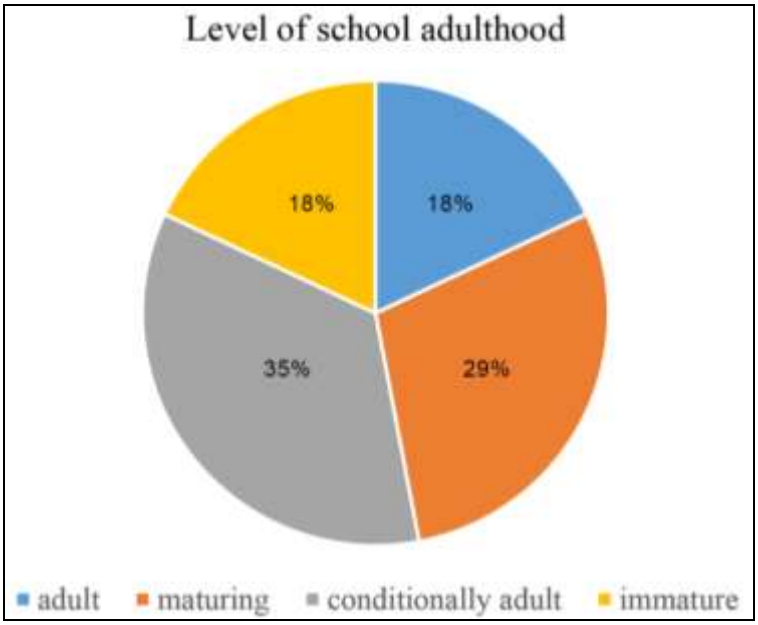

Figure 4

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The hypothesis is also confirmed by research conducted by the United Nations, Educational, Scientific and Cultural Organization "UNESCO", which showed that 93% of modern children aged 3 to 5 watch the screens 28 hours a week, that is about 4 hours a day, which is much greater than the time they communicate with adults. The considered problem puts a new pedagogical task for preschool education, which is how to ensure the formation of school adulthood in the conditions of the excess use of modern gadgets [1].

A number of kindergartens solve this problem by banning the use of electronic gadgets in their subject-developing environment. Such actions seem to suspend children from learning and using modern digital technologies and tools in the context of modern digital space. It becomes clear that modern teachers need to structure their pedagogical activity to be aimed at forming school adulthood, not taking away gadgets from children, but integrating them into the educational environment, rich in a variety of preschool activities.

IV. CONCLUSION

It can be concluded that the following organizational and pedagogical conditions contribute to the development of intellectual readiness for school using electronic means:

- The work over the development of intellectual readiness should be carried out as a set of classes integrated into the subject-developing environment of kindergartens;
- Interactive game sessions should contain exercises and games as a system taking into account each child's digital individual development;
- Game exercises and games should be aimed at developing all components of intellectual development;
- Classrooms should be equipped with sufficient base of electronic resources that allow teachers and children choosing from a variety of digital resources according to the developmental status of each child.

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