

Research article

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Developing Speech and Socio-communicative Skills in Older Preschool Children

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Abstract

Introduction. In recent decades, living conditions, the organization of classes, and the requirements for children both in families and educational institutions (in kindergartens) have changed dramatically, which negatively affects their development. Fragmentary studies do not provide an objective picture of the development of modern preschoolers. In recent decades, there have been no comprehensive population-based studies covering socio-communicative development and all the components of the cognitive development of children. Therefore, the relevance and timeliness of this study is obvious. The results of foreign studies are of interest. However, they cannot always be used for comparative assessment due to high variability of educational processes in different countries. This determines the need to study age dynamics and the relationship between speech and socio-communicative development in older preschoolers living in different regions of Russia. **Methods.** To conduct the study, the tasks for assessing speech and socio-communicative development of the Comprehensive Technique for Diagnosing the Development of Preschoolers were used. There were examined 1650 children aged 5–6 years old (in 2019) and 1982 children aged 6.5–7.5 years old (in 2020), residing in 7 regions of Russia. **Results.** As a result of the population-based study, the features of speech and socio-communicative development of 3632 preschool children aged 5–6 and 6.5–7.5 years old were studied and identified. The study revealed positive dynamics in the development of all components of speech from 31.3 % in 5–6-year-old children to 66.5 % in 6.5–7.5-year-old children. However, 33.5 % of future first-graders showed insufficient speech development, which creates the risk of school difficulties. Most preschoolers of both age groups had an optimal level of socio-communicative development; however, one fifth (19.9 %) of preschoolers at the age of 6.5–7.5 y.o. had difficulties in social adaptation, which can complicate their adaptation to school. **Discussion.** The results of the study indicate positive age-related dynamics of sound-letter analysis, the formation of correct sound pronunciation, and socio-communicative skills (understanding various emotional situations and actions of other people, ability to seek help, apologize, etc.). However, it should be noted that with the increase in the development of almost all speech features in children from 5–6 years old to 6.5–7.5 years old, a fairly large number of future first-graders demonstrate limited vocabulary and inability to build sentences correctly, which characterizes general speech development.

Keywords

population-based study, developmental diagnostics, developmental level, speech development, sound pronunciation, vocabulary, social development, communication skills, correlations, preschool age

Highlights

- ▶ Approximately 20 % of future first-graders have difficulties in communication skills, which can cause long and difficult adaptation to the new schooling environment.
- ▶ A reliable correlation between speech and socio-communicative development was established. It increases from 5 to 7 years old.
- ▶ When planning game lessons with preschoolers, teachers need to pay special attention to expanding their grammar and vocabulary.
- ▶ Child adaptation to society occurs not only among peers, but also with the help of parents who actively participate in daily communication using a variety of speech formulas in different contexts.

For citation

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Introduction

Abrupt changes in socio-cultural life conditions of modern children, associated with digitalization, limited communication and ultra-early child education creates the illusion that cognitive and social development of preschoolers is thus being stimulated (Batenova, 2017; Andreeva, 2015). Speculations about extraordinary abilities of generation Z children need to be confirmed (or refuted), but this requires data not from fragmentary, but from representative population-based studies, including the study of different aspects of development. In 2019–20, such a comprehensive study including the analysis of speech, cognitive, socio-communicative, artistic, aesthetic and physical development and health was conducted in seven regions of Russia. This article presents a fragment of this study, in particular the analysis of speech and socio-communicative development.

Older preschool age is one of the most important periods of speech development. Most children have clarity of articulation, correct pronunciation, and phonemic perception developed precisely by this age. Coherent monologue speech, ability to have a dialogue with peers and adults, ability to talk about past events and their own impressions is available to most children at the age of 6.5–7.5. Language proficiency is an important factor contributing not only to cognitive development, but also to a child's personality. Almost a hundred years ago, L. S. Vygotsky, when discussing the importance of speech, wrote that both intelligence and personality development, including character and emotions, depend on speech (Vygotsky, 1984).

Clegg, Law, Rush, Peters, & Roulstone (2015) found the impact of early language development (rich active vocabulary at the age of 2) on the favorable development of emotional and regulatory functions at the age of 6–7. A number of studies of voluntary functions conclude that both during

school and older preschool years, specific speech impairments lead to difficulties in working memory, emotional development, control and switching, and action planning (Visser, Koolen, Hermans, Scheper, & Knoors, 2015; Vugs, Hendriks, Cuperus, & Verhoeven, 2014).

The relationship between speech and communication skills is confirmed by numerous recent studies (Rosenqvist, Lahti-Nuuttila, Laasonen, & Korkman, 2014; O'Neill, Thornton, Marks, Rajendran, & Halperin, 2016; Bakopoulou, & Dockrell, 2016). At the same time, reliable data on the development of these functions in today's children is lacking, which determines the need for population-based studies of age speech characteristics and socio-communicative skills in 5–6-year-old preschoolers and their developmental trends dynamics by the age of 6.5–7.5.

Methods

The participants of this study were pupils of preschool educational organizations from seven regions of Russia: Arkhangelsk, Kaliningrad, Moscow, Novosibirsk, Penza regions, the Republic of Bashkortostan, and Moscow. In 2019, the diagnostics of children aged 6.5–7.5 years old was carried out in 75 preschool organizations of the regions mentioned above. After collecting the data on 1.760 children, a unified database was created; the results were mathematically processed, and the final statistical analysis of 1.650 examined children was made. In 2020, a comprehensive diagnostics of the development of 2017 5–6-year-old preschoolers was carried out. When the overall database was made, and the outlying values were removed, the final statistical analysis included the results of diagnostics of 1982 children.

Differences in total scores for each section between preschoolers of different age groups were assessed using the Mann–Whitney test using Z-value analysis, a normal approximation of the Mann–Whitney statistics for large samples.

The Technique for Comprehensive Diagnostics of the Development of 5–6 and 6–7-year-old Children (Bezrukikh, Filippova, & Verba, 2021a; Bezrukikh, Filippova, & Verba, 2021b) corresponds to the five areas of development of preschoolers presented in the Federal State Educational Standard for Education and includes seven blocks. This article presents the results of the diagnostics of socio-communicative and speech development. Each block includes 5 tasks, which were evaluated on a five-point scale. Each task was assessed depending on how well the task was performed. Depending on the amount of points received, the following 4 groups were distinguished: high level of development (high LD), average level of development (average LD), level of development below average (LD below average), low level of development (low LD).

Diagnostics of speech development included the assessment of sound pronunciation and phonemic perception, skills of sound-letter analysis, lexical and grammatical structure of speech, as well as speech coherence when making up a story based on pictures.

Socio-communicative Development Survey included tasks assessing the ability to communicate with peers and seek help when needed; the ability of a preschooler to correctly identify and distinguish emotions in schematic drawings; read pictures, understand familiar emotionally significant situations and adequately respond to them.

Results

The study showed that the level of optimal speech development was noted in 31.3 % of preschool children aged 5–6 y.o. and 66.5 % of children aged 6.5–7.5 y.o. The positive dynamics of speech development in older preschoolers occurs together with significant decrease in the

number of children with low speech LD from 42.1 % at the age of 5–6 to 11.8 % at the age of 6.5–7.5 (Fig. 1).

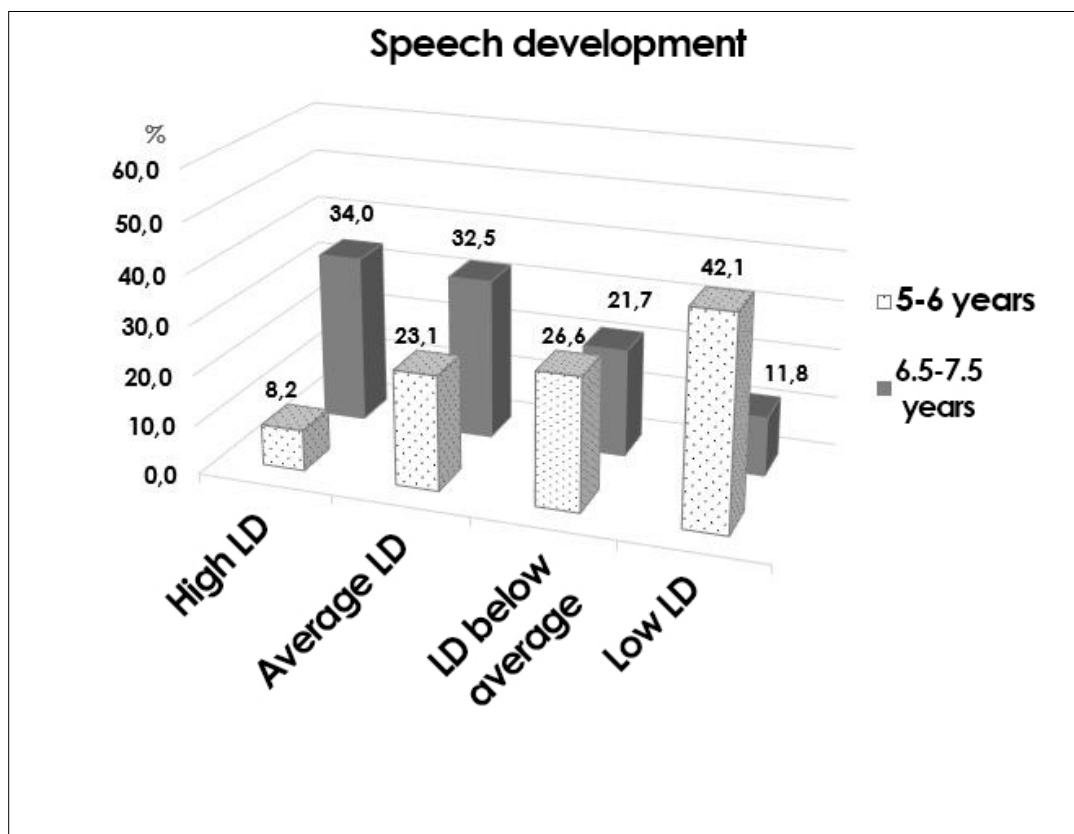


Figure 1. Distribution of 5–6 and 6.5–7.5-year-old children (in %) by the level of speech development

For the in-depth analysis of speech development, the results for each task were mathematically processed (Table 1). From the age of 5–6 to 6.5–7.5 years old, significant changes for each indicator were revealed (see Table 1). 5–6-year-old children demonstrate significantly lower results in speech and socio-communicative development compared to those at the age of 6.5–7.5. The diagnostics of the speech development of preschool children showed that more intensive development from 5–6 years old to 6.5–7.5 years of age occurs at the level of sound-letter analysis, sound pronunciation, and articulation (Table 1). This may result both from age-related features of the development of sound pronunciation, and from regular speech therapy, which begins at the age of 5–6, and it is these aspects of speech that speech therapists pay the most attention to. Only 2 % of preschoolers before school have problems in pronouncing sounds clearly and correctly. The same favorable dynamics applies to the ability to distinguish sounds: at the age of 5–6, low LD was found in 27.0 % of children, and among 6.5–7.5-year-old children, the number was only 3.1 % of children. However, the total number of future first-graders with LD below average and low LD in completing task 1, which characterizes phonetic-phonemic perception, is 14 %, which can cause problems in sound-letter analysis in elementary school.

Table 1
 Comparative analysis of assessment of different components of speech development in 5–6 and 6.5–7.5-year-old children (%)

<u>Indicators of speech development</u>	<u>Levels of development</u>	<u>Number of children (%)</u>	
		5–6 y.o. (n = 1982)	6,5–7,5 y.o. (n = 1650)
Task 1. Recognizing sounds in words (***)	High LD	19.1	61.5
	Average LD	26.8	24.5
	Below average LD	27.2	10.9
	Low LD	27.0	3.1
Task 2. Making sentences from words (***)	High LD	11.4	33.7
	Average LD	27.1	35.3
	Below average LD	30.7	22.9
	Low LD	30.8	8.1
Task 3. Use of prepositions/ability to ask questions	High LD	39.2	33.4
	Average LD	30.5	33.2
	Below average LD	20.3	20.8
Task 4. Making up a story based on pictures (***)	High LD	10.4	33.2
	Average LD	33.9	45.1
	Below average LD	34.6	17.6
Task 5. Pronunciation of sounds (***)	High LD	24.8	61.6
	Average LD	34.6	28.1
	Below average LD	23.6	8.3
	Low LD	16.9	2.0

Note: * – $p \leq 0.05$; ** – $p \leq 0.001$; *** – $p \leq 0.0000$.

Significant positive dynamics was also noted in the ability to compose 3–4-word sentences. The number of children who had difficulty in performing this task (the total number of children with low LD and LD below average) at the age of 6.5–7.5 is almost 2 times less in comparison with those at the age of 5–6 y.o. (31 % and 61.5 % respectively) (Table 1). However, one third of future first-graders have insufficient vocabulary and experience difficulties in constructing correct sentences. This is also confirmed by the results of the task, in which the children had to compose a story using prepositions. This may be explained by the fact that this task was a little more complicated for 6.5–7.5-year-old children, and in addition to the main task, they were asked to ask questions about the drawing. When assessing the ability to compose a story using sequential pictures, pronounced difficulties were identified in 55.6 % of 5–6-year-old children and 21.7 % of 6.5–7.5-year-old children (the total number of children with low LD and LD below average).

The study of the socio-communicative development of preschoolers showed that the majority of 5–6-year-old children (55.2 % in total) have high and average LD, which allows them to adapt successfully to the group of peers, interact with them and adults. Despite the fact that from 5 to 7 years old there goes active development of socio-communication skills, almost one fifth of older preschoolers (19.9 % of the total number of children aged 6.5–7.5 years old with low LD and LD below average) have a number of difficulties in the development of these important skills by the beginning of schooling (Fig. 2).

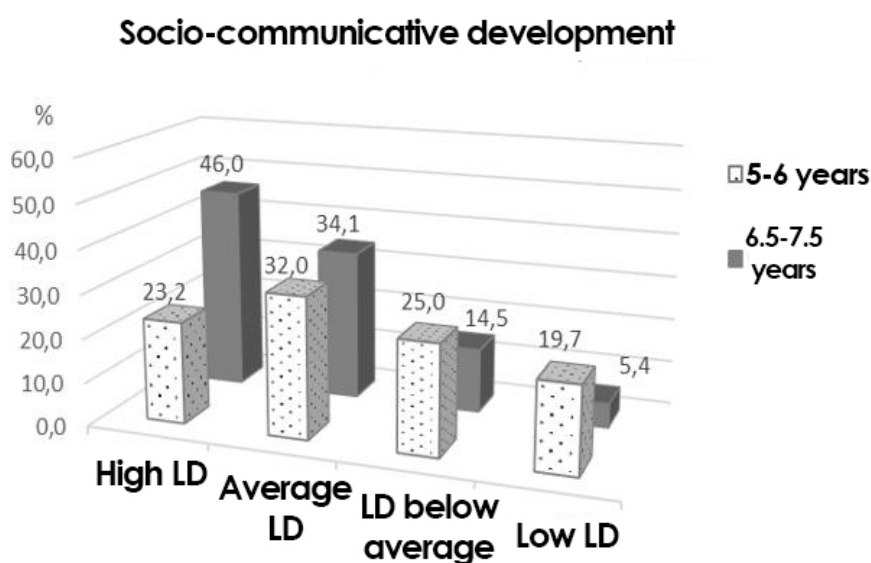


Figure 2. Distribution of children aged 5–6 years and 6.5–7.5 years old (in %) by the level of socio-communicative development

A more detailed analysis of all indicators of emotional and communicative development made it possible to see that the number of children with high LD increased almost 2 times from 23.2 % to 46.0 % (Fig. 2). At the same time, 17.2 % of future first-graders found it difficult to correctly determine and name the mood and expression of graphically depicted faces (joyful, sad, frightened, angry, and surprised), while among 5–6-year-old children 35.4 % of preschoolers

found it difficult to perform the same task (Table 2) (the total number of children with low LD and LD below average is indicated).

From the age of 5–6 by the age of 6.5–7.5, the number of preschool children incapable or having difficulty in understanding emotions, which makes it possible to predict possible reactions of other people (adults and children), has almost halved. If at the age of 5–6 y.o. the number of preschoolers experiencing these difficulties was 32.6 %, at the age of 6.5–7.5 y.o., the number of children who found it difficult to analyze the situation and understand the feelings and actions of other people was 15.9 % (the total number of children with low LD and LD below average).

Nevertheless, older preschoolers are still not able to assess and analyze fully and accurately why some situations and subsequent reactions happen: only half of 6.5–7.5-year-old children (48 %) and 27.2 % of 5–6-year-olds successfully coped with task 4, which characterizes the ability to understand the situation and anticipate the actions of the characters (Table 2).

Only one third of children aged 5–6 years (30.6 %) were able to easily understand emotionally significant situations (task 2) depicted in the drawings, and choose the appropriate facial expression for them, while by the age of 6.5–7.5 y.o. the number of children was 52.9 % (Table 2). These data show that almost half of the children before school do not have a foundation for effective communication. It is interesting to note that situations involving unambiguous reactions did not cause doubts in children. For example, preschoolers assessed the picture of a girl with a cake with candles as a joyful event. Or almost all children named fear and/or fright in a boy who was picking mushrooms and came across an angry dog in the forest. At the same time, children's opinions about the emotion of a fisherman who caught a boot instead of a fish ranged from "surprise" to "disappointment" and "sadness". Negative emotions (frustration and sadness) were named by the majority of children (78.3 %) in both age groups. The predominance of negative emotions when seeing a neutral situation may be the result of increased anxiety under the influence of a large amount of negative information in which modern children are involuntarily involved. Surprise, as a natural reaction to something new or unusual, was very rare in the course of the diagnostics.

Table 2
 Comparative analysis of assessment of different components of the socio-communicative development in 5–6 and 6.5–7.5-year-old children (%)

<u>Indicators of socio-communicative development</u>	<u>Levels of development</u>	<u>Number of children (%)</u>	
		5–6 y.o. (n = 1982)	6.5–7.5 y.o. (n = 1650)
Task 1. Distinguishing between emotions (from pictures) (*)	High LD	29.7	43.5
	Average LD	34.9	39.3
	Below average LD	26.5	14.3
	Low LD	8.9	2.9

<u>Indicators of socio-communicative development</u>	<u>Levels of development</u>	<u>Number of children (%)</u>	
		5–6 y.o. (n = 1982)	6.5–7.5 y.o. (n = 1650)
Task 2. Selection of graphic facial expressions for situations (**)	High LD	30.6	52.9
	Average LD	40.0	36.0
	Below average LD	19.3	8.9
	Low LD	10.0	2.2
Task 3. Choice between collective or individual play (*)	Collective play	54.1	73.6
	Individual play	9.2	3.7
	Both variants of play	36.7	22.7
Task 4. Understanding the situation and characters actions (**)	High LD	27.2	48.0
	Average LD	40.3	36.0
	Below average LD	21.3	12.7
Task 5. Ability to use formulaic expressions (**)	High LD	51.0	73.6
	Average LD	29.5	21.7
	Below average LD	13.9	3.8
	Low LD	5.6	0.9

Note: * – $p \leq 0.05$; ** – $p \leq 0.001$; *** – $p \leq 0.0000$.

When studying such an indicator as “choice between collective or individual play” (task 3), there are also differences between age groups: there is an increase in the number of children (by 19.5 %) who choose collective play (Table 2). However, this indicator rather shows individual preferences of the preschoolers. Therefore, in this subtest, we did not reveal the levels of development, but only noted the child preference. Most children aged 5–6 years (54.1 %) and 6.5–7.5 years (73.6 %) prefer collective play (Table 2).

By the age of 6.5–7.5, the majority of preschoolers (73.6 %) master the simplest speech formulas in various social situations: apologizing, congratulating, meeting a new person, and requesting something (task 5). Among 5–6-year-old preschoolers, only half of the children (51 %) managed

to cope with these situations freely (Table 2). Before school, only 4.7 % (the total number of children with low LD and LD below average is indicated) of children aged 6.5–7.5 y.o. do not know or are not able to use these speech formulas.

The analysis of correlations between speech and socio-communicative development showed that these indicators are moderately connected, which tends to increase from 5–6 to 6.5–7.5 years old ($r = 0.446$, $p < 0.001$; $r = 0.549$, $p < 0.001$). It can be assumed that as speech improves and the repertoire of speech communications expands, the correlation between these indicators of development will increase.

Discussion

The study reveals insufficient LD of speech in 33.5 % of preschoolers (the total number of children aged 6.5–7.5 with LD below average and low LD). Even more than a decade ago, Mürsepp, Ereline, Gapeyeva, & Pääsuke (2009) showed a trend towards a decrease in the level of speech development in older preschoolers compared to the previous years. The data obtained in this study show there are problems associated with vocabulary growth and the development of speech grammatical structure in modern preschoolers. More than half of 5–6-year-old children (61.5 %) and almost a third of future first-graders (31 %) have low LD and LD below average. Insufficient level of speech development can complicate the development of reading and writing skills and cause learning difficulties (Bezrukikh, 2016; Bezrukikh & Kreshchenko, 2013).

It is known that parents' speech and communication with children at an early age are of great importance for the development of grammatically correct, coherent speech, for active and passive vocabulary. Children whose parents use extended speech in child-parent communication, give more explanations, and ask questions, have a higher level of speech development in older preschool age (Rowe, 2013; Gurgel, Vidor, Joly, & Reppold, 2014). However, recent studies show that the time of children-parents communication, which was not even that extensive before, is now constantly decreasing because of more time children spend with gadgets (Belousova, Karpov, & Utkuzova, 2014; Agustin et al., 2019). Obviously, much depends on parents and the amount of communication with children, but it is necessary for the preschool teachers to consider this as well. It is educators who can radically change the situation. They might involve children in active verbal activities, encourage free reasoning, use role-playing games and drama effectively.

Our study showed that 68.7 % of 5–6-year-old children have the LD of speech skills below average and low (Fig. 1). This, apparently, is one of the reasons for the underdevelopment of socio-communicative skills in almost 20 % of children aged 6.5–7.5 years with low LD and LD below average (in total) (Fig. 2). This is also confirmed by the works of the last decade, which showed the importance of speech development for the development of cognitive, emotional, and regulatory functions (Ardila, 2013; Vissers et al., 2015; Vugs et al., 2014; O'Neill et al., 2016). Rosenqvist et al. (2014) in their studies revealed that in 5–6-year-old preschoolers, the ability to recognize non-verbal emotions of other people develops simultaneously with other functions, but speech development is the most important for the successful development of this skill.

In addition, complex language development difficulties in older preschool years may have a significant impact on social communication skills and interaction with peers and adults (Foster-Cohen, Friesen, Champion, & Woodward, 2010; Maggiolo, Varela, Arancibia, & Ruiz, 2014). The ability to adequately express one's emotions and the ability to understand the emotional state of other people play a significant role in the development of communication skills in

preschoolers (Grom, 2016; Lapteva & Morozova, 2016). According to the results of this study, 15.9 % of children at the age of 6.5–7.5 (the total number of children with low LD and LD below average) have difficulty in analyzing emotionally significant situations. In their work, Bakopoulou & Dockrell (2016) highlight the importance of emotions in social and communicative activities of preschool children, namely the ability to understand emotions, determine the reasons for other people's emotional states, as well as the importance of knowing conflict resolution models, which in general determines children social behavior. Moreover, emotional development is closely related to the ability to plan and control one's actions (Rints, McAuley, & Nilsen, 2015; Rodrigo-Ruiz, Perez-Gonzalez, & Cejudo, 2017), which is particularly important for school education.

E. A. Zavalko (2012) notes how important it is to address children and to use other speech formulas that perform various functions. According to the author, most often children use greetings, because the very situation of meeting and/or establishing contact is a positive moment in the life of a preschooler, which means that it is absorbed more quickly and used more often. However, our study showed that not only the request, but also the situation of meeting new people and the use of appropriate speech formulas cause difficulties in 5–6-year-old children. When completing task 5 (Table 2), 5.6 % of the children could not pick up a single speech formula, and 13.9 % of the children chose only one formula out of four. These data must be taken into account by specialists of preschool educational institutions and parents when communicating with children.

Some researchers emphasize the role of educators and primary school teachers in developing emotional competence (Ersay, Kaynak, & Türkoğlu, 2014). It is educators who show emotional reactions to different situations and children behavior, being with their pupils for a large amount of time (Morris, Denham, Basset, & Curby, 2013). Herndon, Bailey, Shewark, Denham, & Bassett (2013) showed that preschoolers' ability to control and regulate their emotions is closely related to teachers' assessments of school adaptation. Therefore, there is a need to train teachers to use social-emotional methods of parenting in a group of children, to discuss emotional situations and feelings of other children and adults (Garner, Bolt, & Roth, 2019).

Conclusion

The population-based studies conducted for this research showed that only half of the surveyed children have a high level of socio-communicative development necessary for the successful adaptation to the new student status at the beginning of education.

The features of speech development identified as a result of the study should be considered when planning game classes with preschoolers. Particular attention should be paid to expanding vocabulary and speech grammatical structure.

A positive correlation was found between speech and socio-communicative development, which increases within the studied age range.

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References

Agustin, R. P., Saidah, Q. I., Anggoro, S. D., Huda, N., Widayanti, D. M., Priyantini, D., ... Nurlela, L. (2019). The relationship between the use of gadget and emotional development of

- preschool children. *The Malaysian Journal of Nursing*, 11(2), 97–102. <https://doi.org/10.31674/mjn.2019.v11i02.011>
- Andreeva, O. S. (2015). Federal state educational standard as a strategy and tool for overcoming the crisis in domestic education in the modern information space. In *Modern science: Problems and ways to solve them: Proceedings of the international scientific and practical conference* (pp. 41–45). Kemerovo: Kuzbass State Technical University. (in Russ.).
- Ardila, A. (2013). Development of metacognitive and emotional executive functions in children. *Applied Neuropsychology: Child*, 2(2), 82–87. <https://doi.org/10.1080/21622965.2013.748388>
- Bakopoulou, I., & Dockrell, J. E. (2016). The role of social cognition and prosocial behaviour in relation to the socio-emotional functioning of primary aged children with specific language impairment. *Research in Developmental Disabilities*, 49–50, 354–370. <https://doi.org/10.1016/j.ridd.2015.12.013>
- Batenova, Yu. V. (2017). Development of the communicative sphere of a preschooler in the modern socio-cultural situation (taking into account active familiarization with information and communication technologies). *Azimut nauchnykh issledovanii: pedagogika i psikhologiya (Azimuth of scientific research: pedagogy and psychology)*, 6(3), 288–292. (in Russ.).
- Belousova, M. V., Karpov, A. M., & Utkuzova, M. A. (2014). Influence of gadgets on the development of communication, socialization, and speech in children of early and preschool age. *Prakticheskaya Meditsina (Practical medicine)*, 9, 108–112. (in Russ.).
- Bezrukikh, M. M. (2016). *Learning difficulties in elementary school: Causes, diagnostics, and comprehensive assistance*. Moscow: Eksmo. (in Russ.).
- Bezrukikh, M. M., & Kreschenko, O. Yu. (2013). Psychophysiological development of writing skills in 6–7 and 9–10-year-old children. *Novye Issledovaniya*, 4, 4–19. (in Russ.).
- Bezrukikh, M. M., Filippova, T. A., & Verba, A. S. (2021a). Comprehensive diagnostics of the development of 6–7-year-old children and risk assessment of school maladaptation. Message 1. *Novye Issledovaniya*, 1, 78–100. <https://doi.org/10.46742/2072-8840-2021-65-1-78-100> (in Russ.).
- Bezrukikh, M. M., Filippova, T. A., & Verba, A. S. (2021b). Comprehensive diagnostics of the development of 5–6-year-old children. Message 2. *Novye Issledovaniya*, 2, 59–79. <https://doi.org/10.46742/2072-8840-2021-66-2-59-79> (in Russ.).
- Clegg, J., Law, J., Rush, R., Peters, T. J., & Roulstone, S. (2015). The contribution of early language development to children's emotional and behavioral functioning at 6 years: An analysis of data from the children in focus sample from the ALSPAC birth cohort. *The Journal of Child Psychology and Psychiatry*, 56(1), 67–75. <https://doi.org/10.1111/jcpp.12281>
- Ersay, E. Kaynak, K. B., & Türkoğlu, D. (2014). How pre-service early childhood teachers respond to children's negative emotions. *European Journal of Research on Education*, 2(2), 238–244.
- Foster-Cohen, S. H., Friesen, M. D., Champion, P. R., & Woodward, L. J. (2010). High prevalence / low severity language delay in preschool children born very preterm. *Journal of Developmental and Behavioral Pediatrics*, 31(8), 658–667. <https://doi.org/10.1097/DBP.0b013e3181e5ab7e>
- Garner, P. W., Bolt, E., & Roth, A. N. (2019). Emotion-focused curricula models and expressions of and talk about emotions between teachers and young children. *Journal of Research in Childhood Education*, 33(2), 180–193. <https://doi.org/10.1080/02568543.2019.1577772>
- Grom, N. A. (2016). Features of the development of the emotional sphere in older preschool children. *Scientific and methodical electronic journal "Concept"*, 10, 86–90. (in Russ.).
- Gurgel, L. G., Vidor, D. C. G. M., Joly, M. C. R. A., & Reppold, C. T. (2014). Risk factors for proper

- oral language development in children: A systematic literature review. *CoDAS*, 26(5). <https://doi.org/10.1590/2317-1782/20142014070>
- Herndon, K. J., Bailey, C. S., Shewark, E. A., Denham, S. A., & Bassett, H. H. (2013). Preschoolers' emotion expression and regulation: Relations with school adjustment. *The Journal of Genetic Psychology*, 174(6), 642–663. <https://doi.org/10.1080/00221325.2012.759525>
- Lapteva, Yu. A., & Morozova, I. S. (2016). Development of the emotional sphere of a preschool child. *Vestnik Kemerovskogo gosudarstvennogo universiteta (The Bulletin of Kemerovo State University)*, 3, 51–55. (in Russ.).
- Maggiolo, M. L., Varela, V. M., Arancibia, C. S., & Ruiz, F. M. (2014). Language difficulties in preschool children with a history of extreme prematurity. *Revista Chilena de Pediatría*, 85(3), 319–327. <https://doi.org/10.4067/S0370-41062014000300008>
- Morris, C. A. S., Denham, S. A., Basset, H. H., & Curby, T. W. (2013). Relations among teachers' emotion socialization beliefs and practices and preschoolers' emotional competence. *Early Education and Development*, 24(7), 979–999. <https://doi.org/10.1080/10409289.2013.825186>
- Müürsepp, I., Erelina, J., Gapeyeva, H., & Pääsuke, M. (2009). Motor performance in 5-year-old preschool children with developmental speech and language disorders. *Acta Paediatrica*, 98(8), 1334–1338. <https://doi.org/10.1111/j.1651-2227.2009.01294.x>
- O'Neill, S., Thornton, V., Marks, D. J., Rajendran, K., & Halperin, J. M. (2016). Early language mediates the relations between preschool inattention and school-age reading achievement. *Neuropsychology*, 30(4), 398–404. <https://doi.org/10.1037/neu0000247>
- Rints, A., McAuley, T., & Nilsen, E. S. (2015). Social communication is predicted by inhibitory ability and ADHD traits in preschool-aged children: A mediation model. *Journal of Attention Disorders*, 19(10), 901–911. <https://doi.org/10.1177/1087054714558873>
- Rodrigo-Ruiz, D., Perez-Gonzalez, J. C., & Cejudo, J. (2017). Emotional facial recognition difficulties as primary deficit in children with attention deficit hyperactivity disorder: A systematic review. *Revista de Neurologia*, 65(4), 145–152.
- Rosenqvist, J., Lahti-Nuutila, P., Laasonen, M., & Korkman, M. (2014). Preschoolers' recognition of emotional expressions: Relationships with other neurocognitive capacities. *Child Neuropsychology*, 20(3), 281–302. <https://doi.org/10.1080/09297049.2013.778235>
- Rowe, M. L. (2013). Decontextualized language input and preschoolers' vocabulary development. *Seminars in Speech and Language*, 34(04), 260–266. <https://doi.org/10.1055/s-0033-1353444>
- Vissers, C., Koolen, S., Hermans, D., Scheper, A., & Knoors, H. (2015). Executive functioning in preschoolers with specific language impairment. *Frontiers in Psychology*, 6, 1574. <https://doi.org/10.3389/fpsyg.2015.01574>
- Vugs, B., Hendriks, M., Cuperus, J., & Verhoeven, L. (2014). Working memory performance and executive function behaviors in young children with SLI. *Research in Developmental Disabilities*, 35(1), 62–74. <https://doi.org/10.1016/j.ridd.2013.10.022>
- Vygotsky, L. S. (1984). Child psychology. In D. B. Elkonin (Ed.), *Collected works in 6 volumes: V. 4*. Moscow: Pedagogika. (in Russ.).
- Zavalko, E. A. (2012). *Development of communication skills in preschool children's speech* (Doctoral dissertation). Samara State University, Samara. (in Russ.).

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M. M. Bezrukikh prepared materials for diagnostics, contributed to the design of the population-based study and analyzed findings.

A. S. Verba prepared materials for diagnostics, coordinated the population-based studies, and made the overall database of the research results.

T. A. Filippova wrote the literature overview and prepared the manuscript.

V. V. Ivanov performed statistical data analysis.

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