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The Features of Speech, Thinking and Communicative Competence Development in Preschoolers under Conditions of Bilingual Learning Environment

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Abstract

The purpose of this research is to study the influence of preschool children's bilingualism on their speech and thinking activities, to identify the most common challenges they face and to suggest a technology for developing preschoolers' bilingual communicative competence. The analysis of the data is based on theoretical foundations of sociocultural studies devoted to the educational environment as a source of a person's mental development. We conducted the study in the Republic of Tatarstan (region in Russia), which is populated mainly by Tatars and Russians. One hundred sixty five preschoolers (5-7 years old) took part in the survey. The difference between monolinguals and bilinguals was taken into account. Measures of executive functions were employed. Preschool teachers filled in observation cards. We established that the formation of a strong bilingualism is determined by the specifics of the socio-cultural conditions in which children's speech is developed. The significant factors are children's cognitive development and their age, the level of proficiency in the native language, and their communicative features. The study confirms that bilingual children are distinguished by cognitive abilities, in particular, peculiar "flexibility" of thinking, intellectual lability and non-standard approach to processing information of different levels. Monolinguals have a large lexical reserve and productivity of speech activity. Thus, a specialized educational environment with the features of in-depth foreign language learning is defined as a system of conditions created in order to achieve a specific level of a foreign language communicative competence including prerequisites for personal and cognitive development at a younger age.

Keywords: bilingualism, cognitive development, communicative competence, early bilingual exposure.

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Introduction

Bilingual education becomes increasingly important having broad perspectives in the modern educational system. Supporters of the sociocultural approach, developmental education (Bronfenbrenner, 1993; Davydov, 1995; El'konin, 1972; Galperin, 1969; Veraksa, 2011; Vygotsky, 1983), and the theory of early bilingual education (Belyanin, 2004; Bialystok & Martin, 2004; Bialystok & Shapero, 2005; Gabdulkhakov, 2014; Goetz, 2003; Protasova, 2003) believe that early second language learning in preschool educational institutions makes sense, as at preschool-age basic personality qualities develop and the foundations are laid for physical, moral and cognitive development. The earlier the child comes into contact with the second language, the higher the child's potential thrives in the future. However, the practices of bilingual competence development provide examples of "semi-lingual" preschool children, the cases when a thought cannot be fully expressed in any language. Such bilingualism inhibits not only speech production in the mother tongue, but also the child's intellectual development in general.

According to Zinchenko, Shaigerova, Dolgikh, and Savelieva (2019), we need to conduct a comprehensive study of the advantages and limitations, associated with the acquisition and usage of two or more languages.

Purpose and objectives of the study

In the present study we wanted to study the influence of preschoolers' bilingualism on their speech and thinking activities, identifying the most common challenges they face and suggesting a technology for developing preschoolers' bilingual communicative competence. In this research we attempted to link the multicultural language development of preschool children with their cognitive development, outlining the typical difficulties they experience.

Literature review

Bilingualism is understood as a competence in two languages when both languages are commonly used in communication. Nelyubin (2003) understands bilingualism as an equal competence in two languages; Minyar-Beloruhev (1999) defines bilingualism as the knowledge of two languages; Schweitzer (2008)

specifies that the first language is usually one's mother tongue, the second one is unrelated but widely used by one or another ethnic community. In this case, the competence in two languages can be different – oral speech skills, or literary written skills, or both forms. Weinreich (1972) understands bilingualism as the

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alternate use of two languages and clarifies that bilingualism is usually understood as the knowledge of two languages with regular switching from one to another depending on the communicative situation.

According to Leontiev (2010), to be a bilingual is to be able to carry out speech activities (more precisely, separate types of speech activities or their complex), using language means of one, or two languages depending on the immediate social environment, the purpose of communication, awareness of the interlocutor, and having more or less free choice of language for communication.

Mayorov (1997) offers the following interpretation of bilingualism: coexistence, interaction and mutual influence of two different languages in a single bilingual communicative space of a multinational state during a certain historical epoch. According to Amshokov (1999), the main problem of bilingualism is interactions of contacting language structures. However, the researcher points to its various aspects as the most important moments of these interactions.

Currently, numerous studies are devoted to the problem of bilingualism. The analysis of the works, related to the issue under study, suggests that there are three approaches to the influence of bilingualism on the mental and cognitive development: positive, negative and neutral (Bogus, 2008; Gabdulchakov & Shishova, 2017). Bilingualism can be good or bad but it has a major impact on intellectual, communicative, and moral development of children (Marian, Blumenfeld, & Kaushanskaya, 2007).

To improve bilingual development in children and their communicative competence in a multicultural education, we need to create the system of integrated psychological and pedagogical support for the formation of early bilingualism.

Methodology

This work is based on the research by Bialystok and Martin (2004), showing that bilinguals outperform monolinguals, the study by Protasova (2003) and the works on a positive impact of bilingualism on the cognitive development (Belyanin, 2004). The analysis of data is based on theoretical foundations of sociocultural theories (Bronfenbrenner, 1993; Vygotsky, 1983).

The research was conducted in the Republic of Tatarstan (the region in Russia), mostly populated by Tatars and Russians. As for the environment of the Republic of Tatarstan, it is reasonable to discuss the issue of

bilingualism (the Russian language and the language of the national republic, i.e. the Tartar language) or multilingualism (the Russian, Tartar, and foreign languages). One hundred sixty-five preschoolers (5- to 7-year-olds) took part in the survey. They were classified into two groups, Russian-Tatar bilinguals in one

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group and Russian-speaking monolinguals in other group. The difference between monolinguals (group A) and bilinguals (group B) was taken into account. The children were tested on well-known measures of executive functions. The preschool teachers filled in observation cards.

The tests were used in Russian because this was the common language of the participants. The questions of the “Language Knowledge Questionnaire” were adapted from the Language Experience and Proficiency Questionnaire (LEAPQ) (Marian et al., 2007). We asked questions in Russian (based on the English questionnaire), which revealed how many languages the individual spoke, which was the native language, when the person had started to learn these languages and the use of those in a daily basis given as a percentage. We also assessed divergent thinking using a Creativity Assessment Packet (CAP) (Williams, 1980), the Russian version was adapted by Tunik (2003).

Only the children, attending the kindergartens for more than 6 months, received the cards. Under these conditions, the teachers assessed the competence of the children whom they knew well enough, while those, passing the period of adaptation in the kindergartens, were exempt from the procedure.

All the participants received a consent form for signing and an information sheet. The informed consent was agreed with the children involved and was re-established during the study. Pseudonyms have replaced the names of the participants. The participants were given the opportunity to withdraw from the study at any time. The research was carried out in accordance with Code of Ethics of the Russian Psychological Society <http://xn--n1abc.xn--p1ai/rpo/documentation/ethics.php>

Results

We gathered data on the participant’s knowledge of the language from the Language Knowledge Questionnaire. The native language was Russian in both groups. The difference between monolinguals and bilinguals was taken into account according to the theory of second language acquisition (SLA). The main difference between the groups was the starting point of exposure to the second language (L2). The study shows that the bilingual group started to use second language L2 (Tatar language) between the age 1-6 (early bilinguals according to Lenneberg’s theory (Lenneberg, 1967), and the monolinguals after the 8th year (late bilinguals because they started to use L2 after the critical period of SLA). The conducted studies show that after the age of eight to nine years the flexibility of the speech mechanism is lost in children.

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At the initial stage, with the help of the selected diagnostic tool, we identified the features of the preschoolers' cognitive development in different groups. IBM SPSS Statistics 23.0 was used for the data analysis. Tables 1 and 2 present the analysis of average values of indicators in Groups A and B.

Table 1. The results of ANOVA analysis of variance: indicators of preschoolers' cognitive development

Indicators of preschoolers' cognitive development	Average values in Group A	Average values in Group B	F emp.
Mental flexibility	5,35	7,56	19,72
Verbal fluency	2,17	2,75	3,56
Figurative thinking and logic	3,10	3,75	10,77
Imagination	2,51	3,15	3,89
Auditory memory	3,00	6,2	71,74
Visual memory	4,22	5,3	2,06
Figurative memory	4,15	7,1	44,66
Productivity of speech activity	4,55	2,41	25,67
Lexical reserve	6,45	4,78	15,14

Note: Significant differences in the severity of cognitive development indicators for preschool children in the experimental groups are given in bold type (a given confidence level is $p \leq 0.5$).

Table 2. The results of ANOVA analysis of variance: indicators of preschoolers' divergent thinking development

Indicators of preschoolers' divergent thinking development	Average values in Group A	Average values in Group B	F emp.
Fluency	11,23	11,14	3,04
Flexibility	7,37	9,13	20,47
Originality	17,76	14,12	14,02
Elaboration	12,61	8,57	13,80

Note: Significant differences in the severity of cognitive development indicators for preschool children in the experimental groups are given in bold type (a given confidence level is $p \leq 0.5$).

With the help of a single-factor analysis of variance (ANOVA), we found significant differences in the values of a lot of the studied indicators in the experimental groups.

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The results of the comparative analysis allow us to conclude that there are significant differences in the development of the preschoolers' cognitive processes in different groups. A bilingual educational environment is considered to be the condition for the cognitive, intellectual and personal development of children. Language is closely related to thinking. It reflects both how a person thinks, and shapes the process of thinking. In the course of learning a foreign language, memorizing a large number of words and rules helps the development of memory and attention. The ability to express one thought in several languages gives children an opportunity to see their language as one particular system among many others,

which leads to special cognitivity in their linguistic strategies. According to Vygotsky (1983, 1999), the two languages that the child speaks do not collide mechanically with one another and do not obey the simple laws of mutual inhibition; on the contrary, there is a positive correlation between these types of speech abilities.

We have established that the formation of a strong bilingualism is determined by the specifics of the socio-cultural conditions, in which children's speech is developed. The significant factors are the children's cognitive development and their age, the level of proficiency in the native language, and their communicative features.

Discussion

The study confirms that bilingual children are distinguished by cognitive abilities, in particular, peculiar "flexibility" of thinking, intellectual lability, and non-standard approach to processing information of different levels. Monolinguals have a larger lexical reserve and productivity of speech activity.

The children with multi-linguistic training in kindergartens are more successful at school, more sociable, tolerant, and cheerful than those not trained. We are convinced that multicultural language skills are formed during preschool years (Gabdulhakov, 2011). The basis for bilingualism, acquired at this age, is the foundation for a positive influence on the formation of children's linguistic identity and their personality with unique features. The study confirms that the main purpose of children's language development is to build their communicative competence, required for participating in a dialogue in a multicultural language area (Gabdulhakov, 2011). We can observe the process of language and culture integration.

Therefore, bilingual educational space is a developing environment that takes into account external and internal conditions in order to boost a bilingual child development aimed to acquire social and cultural experience. External psychological conditions for the formation of bilingualism include a social environment that contributes to the successful formation of bilingualism, the level of speech culture of the

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people around, the system of bilingual education, and an activity-based approach to learning that takes into account age characteristics. Internal psychological determinants of the successful bilingual development in children are foreign language abilities, cognitive and emotional factors, motivation, and personal qualities of the subjects of learning activity.

When a child encounters the bilingual education system, the problem of choosing one of the models of bilingual education comes to the fore. As a rule, the strongest place, as far as effectiveness of the educational process goes, belongs to the immersion model, i.e. the model of immersion in the language

environment. This model assumes that preschool children acquire a second language at an early age. In the classroom, they "plunge into a foreign language environment", subconsciously acquiring phonetic and grammatical structures. Language learning occurs in the course of their daily activities (singing, drawing, modeling, playing, etc.). One of the most important components of the concept of "immersion" is contextualization when a spoken word or phrase is directly associated with a certain activity and is supported by actions, performed by a foreign language carrier, by flash cards and gestures.

Another model suggests a different approach to organizing bilingual education in pre-school institutions. According to this method, one native speaker speaks a foreign language, and the other speaks the mother tongue, thereby organizing in the mind of a young child the comparability of the language and the person, pronouncing phrases in this language. Such an early study will give the child an opportunity to get used to a foreign language and ensure its successful learning in elementary school.

The "spatial model" implies creating an image of the country, whose language is being learned, in one of the rooms or the premise of a preschool institution so that visual aids, tables and posters, could promote foreign language learning and serve as scaffolding in the classroom. At a certain point, one of the teachers, speaking only the studied foreign language, conducts classes with preschool children in this linguistic "space".

The most favorable model for the development of early bilingualism is the one based on the principle "one person - one language" ("one situation - one language"). The effectiveness of this principle is explained by the fact that children of younger preschool age often identify languages with certain people, thus children connect the studied foreign language with a certain person using this language. This principle is implemented in the family or in the educational environment. In this case, a child speaks one language with certain members of the family and uses the other language with other members, or speaks Russian at home and attends a Tatar group in a pre-school education institution. In the course of time, the child begins to differentiate the two language systems and easily switches from one language to another.

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However, in practice, the principle of "one situation - one language" is not always effective, as it is difficult to achieve a balance of language situations, and one of the languages dominates. Therefore, it is important to consciously approach the formation of children's early bilingualism and to choose the model of bilingual education that takes into account socio-cultural, psycholinguistic, linguistic, and methodological aspects of bilingual development.

Conclusion

Thus, a bilingual educational environment is defined as a system of conditions created in order to achieve a specific level of a bilingual communicative competence, including prerequisites for personal and cognitive

development at a younger age. Formation of early bilingualism is not solely oriented towards learning; its main goal is the comprehensive development of children's personality, the development of their communicative abilities, and cognitive processes. The realization of age capabilities for the development of the child's future foreign-language competence is conditioned by the educational environment, which becomes more effective with the increase of the developmental effect of learning activity.

The obtained results confirm the advisability of early non-native language learning as well as the need to find opportunities to organize foreign language teaching at a preschool age to take advantage of this period favorable for language acquisition (Javor, 2016). Preschool age is the most favorable period for learning a foreign language due to a number of psychological factors. This is the age of potential childhood capabilities, the period of intense perception and formation of language abilities.

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Abbreviations

LEAPQ Language Experience and Proficiency Questionnaire

CAP Creativity Assessment Packet

SLA Second Language Acquisition

L2 Second Language

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