

MATHEMATICAL DEVELOPMENT OF STUDENTS WITH HEARING IMPAIRMENTS IN THE GENERAL DEVELOPMENT SYSTEM IN THE ELEMENTARY GRADES

Yakubjanova Dilobar

The researcher of Tashkent State Pedagogical University
Tashkent, UZBEKISTAN

ABSTRACT

This article highlights the mathematical development of students with hearing impairments in general development systems, and the ways in which they can create learning opportunities that take into account the specifics of students in teaching mathematics.

Keywords: Students with hearing impairments, elementary school mathematics teaching, system knowledge, activities, cognitive processes.

INTRODUCTION

As the whole history of pedagogy shows, its leading figures have always carried out research aimed at defining the principles, conditions, factors, methods, and organizational forms of education that ensure harmonious development of human beings in accordance with the socio-historical conditions of society. This also applies to research on ways to teach math to students with hearing impairments. The concept of education has two aspects: on the one hand, it is the process of transferring social experience to the younger generation, that is, the process of teaching, and on the other hand, it is the process of acquiring social experience. [6, 19, 25, 26 ва б.]. At the heart of this interpretation of education lies the understanding of its meaning as one of the factors in the development of society. The analysis of thematic literature has allowed us to identify the most important approaches to learning, which are considered by succession as a continuous process involving preschool and school education. The education system must provide the child with a hearing impairment the opportunity for self-expression in leading age-specific activities [1, 10, 22, 31, 32, 37, 39, 43, 44, 45]. This possibility is defined as a two-way process: on the one hand, it is understood as the transfer of mathematical knowledge, skills, and mental activities, and on the other hand, the positive emotional perception and conscious acquisition by the subjects of the educational process. "The mathematical development of students is to understand the shifts and changes in the cognitive activity of the individual as a result of the formation of elementary mathematical representations and related logical operations." [49]. This definition of mathematical education is accepted as the basis in our work.

ANALYZE OF REFERENCED LITERATURES

The literature review allowed primary students to identify the main tasks of mathematics teaching, which were defined as:

- to develop the ability to find direction in the dimensions of space, time, and quantity;
- to form and develop the concepts of space and time, collections, numbers, sizes, and forms that form the basis of mathematical development;
- formation and development of skills in calculation, calculation, measurement, modeling;
- formation and development of general educational skills;
- to master mathematical terms;

- development of interests and abilities for knowledge, logical thinking, general intellectual development of students [3, 5, 9,10, 12, 16, 27, 30, 33,43, 51].

Along with the specific tasks related to teaching mathematics in the literature, a wide range of issues related to the formation of a whole "picture of the world" in students on the basis of mathematical development was considered. In various activities during the preschool and school years, the child begins to form relationships with the underlying realms of existence, such as the human world, nature, creating a foundation for understanding the world, and the child begins to understand itself at that time, in other words. The picture of the world is formed. In the present study, we take the notion of a "world view" as an image of the mental world, which is reflected in the mind and created in the mind. [34, 52]. Studies show that the formation of a "world view" is largely dependent on the child's position on the child's worldview. Formation of worldview, in turn, is the ultimate goal of modern education. Many researchers have argued that worldview, as a new personality trait, is manifested in the development of personality during adolescence. [8, 24]. At the same time, no study has denied that worldview begins with childhood. When we look at the regularities of mathematical education for school-age children, we rely on the idea that the worldview plays an important role in their development. Most definitions given to the notion of the development of worldview derive from its cognitive component, namely the position of exploring mental behaviors and practices that promote the development of worldviews. It is interpreted as the differentiation and perception of the phenomena of nature and social life as a subjective image (reflection) of the common, basic patterns of interaction between the child's inner world and the outside world. [36, 38, 52]. Thus, the distinctive feature of the worldviews is that there is a correlation between the outside and the outside world. As Vigotsky points out, the first ontogeny occurs before the worldview is "creating the world." This means that the scientist understands the way a child expresses his or her attitude to the environment [7].

Analyzing the globalization of "creating the world", we conclude that the child's behavior towards the world and how they are perceived by the world first appears in the affective-image field. [14, 35]. We can only talk about the initial conditions of worldview in the elementary school age. But even then, the child strives to summarize his actions and attitudes around the world to the best of his ability. [4, 5, 7, 8, 11, 38]. Thus, the physical and social picture of the world (the "world model") is formed, which gradually becomes the basis of the child's life through the help of symbolic structures. [15, 24]. As Vigotsky argues, for a preschool child, thinking is an understanding of connections, and for a schoolgirl, it means understanding their vision. During mathematical development, not only certain concepts and concepts are formed, but also symbolic structures. [27, 49]. That is why it is so important to clarify approaches to the process of mental development and to identify its main directions.

RESEARCH METHODOLOGY

Before we begin to explore the problem that is the subject of our research, we have studied various theories and research programs on mental development of children, which allowed us to understand this psycho-pedagogical phenomenon from the perspective of modern approaches, and how to teach students with hearing impairments.

When analyzing the theoretical sources, we note that many scholars believe that mathematical activity based on the acquisition of mathematical concepts is very flexible and that it can be used in other activities. [7, 17, 21, 48]. We liked this idea and found it useful in developing an integrative model of teaching math to students with hearing impairments. In the study, students' mathematical activity is viewed as an activity aimed at shaping and transforming mathematical

experience by the active, voluntary, and conscious acquisition by children of the landscape of the natural and social world. This activity of students at work is based on the subject-practical, game, work, speech, and educational activities. Experience has proven that the activity based on the use of mathematical material is more accurate in the unknown and in the result obtained than in other material. Successful completion of tasks in mathematics teaching is due to the need to take into account all the circumstances included in the problem. [6]. Cognitive activity plays a leading role in children's mathematical education. It is important to note that education and cognitive processes are inseparable [41]. Cognitive activity differs from subjective activity by the specificity of the result, that is, the object and its features are reflected. Modification of an object in scientific knowledge is a prerequisite for understanding important features of an object. This process is carried out in subject-cognitive activities that have their own means of learning. The need for new knowledge serves as a motivating force for such activities. The need for new knowledge is stimulated by the need for other activities (labor, games, etc.). Analysis of the components of cognitive functioning shows that when cognitive motivations and orientation of cognitive activity in primary school students depend on the needs of the subject, cognitive activity in older students can be classified as an independent goal setting [1, 2, 19, 23].

ANALYZE AND RESULTS

Research also shows that in a relatively short period of time, the child will actually go through a centuries-old way of developing human mathematics and will be able to symbolically represent mathematical representations and change the world around them [42, 48]. Thus, we can speak of how large and distinctive the role of mathematical education for schoolchildren during the most sensational years of childhood. The child's perceptions of mathematical beginnings are shaped by the systematic knowledge that he or she receives in the process of interacting with the environment, with adults and peers. In our research, we rely on the notion of a "system of children's knowledge" and refer to it as a set of knowledge that is similar to the structure of theoretical knowledge [23, 28, 29, 47, 48]. Systematic knowledge can perform various functions in children's mathematical experience. However, the functions of mathematical knowledge are not mentioned in the literature.

CONCLUSION

In our view, they may in some ways be equivalent to the child's socializing functions [18, 19, 40]. They can also be attributed to their arithmetic tasks: 1) systematic and consistent thinking; 2) accuracy of thinking; 3) make connections between mastered mathematical knowledge and life events; 4) remembering numbers, memory [13]. The scientific work is justified by the students' ability to acquire social, specifically mathematical experience.

REFERENCES

[1] Бабаева Т.И. Социокультурный ресурс современного дошкольного образования /Перспективы развития дошкольного и начального образования. СПб.: Изд-во РГПУ им. А.И.Герцена, 2002. - С. 3-4.

[2] Буре Р.С. Детский сад: проблемы гуманизации педагогического процесса // Дошкольное воспитание. - 1994. - № 3. - С. 33-35.

[3] Венгер Л.А. Восприятие и обучение (дошкольный возраст). - М.: Просвещение, 1969. - 365 с.

[4] Веракса Н.Е. Развитие предпосылок диалектического мышления в дошкольном возрасте // Вопросы психологии - 1987. - № 4. - С. 135-139.

- [5] Веракса Н.Е. Формирование единых временно-пространственных представлений // Дошкольное воспитание. - 1976. - № 5. - С. 46-48.
- [6] Вергелес Г.И. Дидактические основы формирования учебной деятельности младших школьников: Дис.... д-ра пед. наук. - Л., 1990. - 383 с.
- [7] Выготский Л.С. Педагогическая психология. - М.: Педагогика, 1991. -497 с.
- [8] Выготский Л.С. Собр. соч. - М.: Педагогика, 1983. - Т. 2. - 504 с., Т.3. - 367 с.
- [9] Давыдов В.В. Требования современного начального обучения к умственному развитию детей дошкольного возраста //Дошкольное воспитание. -1970.- №4.-С. 50-54.
- [10] Дадаходжаева Н.Х. Методика обучения слабослышащих школьников арифметическим действиям над многозначными числами: Автореф. дисс. ... канд. пед. наук. – Ташкент: ТГПИ, 1995. – 18 с.
- [11] Ермакова Е.С. Изучение психологических механизмов гибкости мышления дошкольников // Вопросы психологии. - 1996. - № 1. - С. 124-130.
- [12] Ерофеева Т.И., Павлова Л.Н., Новикова В.И Дети у истоков математики. - М., 1994. - 96 с.
- [13] Естественный эксперимент и его школьное применение / Сборник под ред. А.Ф. Лазурского. - Петроград, 1918. — 191с.
- [14] Зиновьева М.В. Влияние стиля родительского воспитания на развитие предпосылок мировоззрения у детей дошкольного возраста // Психологическая наука и образование. - 2001. - № 1. - С. 37-46.
- [15] Зинченко В.П. От классической к органической психологии // Вопросы психологии. - 1996. - № 6. - С. 6-25.
- [16] Иванова Т.И. Педагогические условия интеллектуального развития старших дошкольников в процессе формирования математических представлений: Автореф. дис.... канд. пед. наук. - Белгород, 2001. - 18 с.
- [17] Кант И. Соч. в 6 т. - М.: Мысль, 1964. - Т. 5. - 510с.
- [18] Козлова С.А. Теория и методика ознакомления дошкольников с социальной действительностью. - М.: Академия, 1998. - 160 с.
- [19] Козлова С.А. Формирование элементарных математических представлений у детей младшего возраста: автореф. дис.... д-ра пед. наук. - Москва, 2003. - 50 с.
- [20] Корнийченко Т.Ю. Развитие навыков профессионального общения у будущих логопедов: – дисс. ... канд.пед.наук. – Казань, 2004. – 204
- [21] Кривец А.Н. О математических задачах и задачах обучения математике // Вопросы психологии. - 1998. - № 1. - С. 32- 41.
- [22] Крулехт М.В. Конструирование образовательного процесса детского сада как актуальная проблема современной дошкольной педагогики / Стратегия развития дошкольника и младшего школьника в XXI веке. - СПб.: Изд-во РГПУ им. А.И. Герцена, 2001. - С.14-16.
- [23] Крулехт М.В. Проблема целостного развития ребенка-дошкольника как субъекта детской трудовой деятельности: Автореф. ... д-ра пед. наук - Л., 1996.-41 с.
- [24] Леонтьев А.Н. Избранные психологические произведения. - М.: Педагогика, 1983. - Т.1. - 392 с., Т. 2. - 320 с.
- [25] Лернер И.Я. Дидактические основы методов обучения. - М.: Педагогика, 1981. - 186 с.
- [26] Лернер И.Я. Зачем учителю дидактика // Народное образование. - 1990.- №12.-С. 74-83.
- [27] Леушина А.М. Формирование элементарных математических представлений у детей дошкольного возраста. - М.: Просвещение, 1974. -368.

[28] Логинова В.И. О критериях оценки знаний у детей дошкольного возраста // Содержание знаний и умений в обучении детей дошкольного возраста. - Л.: Изд-во ЛГПИ им. А.И. Герцена, 1984. - С. 3 -11.

[29] Логинова В.И. Формирование познавательной деятельности у детей в процессе освоения системных знаний // Формирование системных знаний и умений у детей дошкольного возраста. - Л.: Изд-во ЛГПИ им. А.И.Герцена, 1987. - С. 3-11.

[30] Михайлова ЗА., Непомнящая Р.Л. Теоретические и методические вопросы формирования математических представлений у детей дошкольного возраста. - Л.: ЛГПИ им. А.И. Герцена, 1988. - 86 с.

[31] Назарова Д.А. Мактабгача ёшдаги заиф эшитувчи болалар нутқини ривожлантириш: Автореф. пед. фан. номз. ... дисс. – Т.: ТДПУ, 2009.

[32] Назарова Н.М. Теория и практика профессиональной подготовки сурдопедагогов. Автореф. дисс. ... док. пед. наук. – М., 1993. – 30 с.

[33] Непомнящая Р.Л. Формирование представлений о некоторых видах математической функциональной зависимости у детей старшего дошкольного возраста: Автореф. дис.... канд. пед. наук. - М, 1979. - 17 с.

[34] Никитин М.В. Основания когнитивной семантики. - СПб.: Изд-во РГПУ им. А.И.Герцена, 2003. - 277 с.

[35] Обухова Л.Ф. Возрастная психология. - М.: Педагогическое общество России, 2001. - 442 с.

[36] Основы специальной психологии // Под ред. Л.В.Кузнецовой. – М., 2002. – 480 с.

[37] Педагогика. Сост. В.А.Сластенин, И.Ф.Исаев, А.И.Мищенко, Е.Н.Шиянов. – М.: Школа-Пресс, 1998. – 512 с.

[38] Пиаже Ж. Психология интеллекта: Пер. с франц. - М.: Международная педагогическая академия. - 1994. — С. 51-235.

[39] Развитие логического мышления и особенности усвоения основ наук слабослышащими школьниками. // Под ред. И.М.Гилевич, К.Г.Коровина. – М.: 1986.

[40] Рейн А.А. Психология педагогической деятельности. - Ижевск: Изд- во Удмуртского университета, 1994. - 83 с.

[41] Рубинштейн С.Л. Основы общей психологии. - М.: Изд. МП РСФСР, 1946. - 227 с.

[42] Сеченов К.М. Элементы мысли. Избранные философские и психологические произведения. - М.: Госкомиздат, 1947. - С. 398-537.

[43] Симонова Н.В. Состояние пространственно-временных отношений у детей с церебральными параличами (Сообщение 1) // Дефектология. - 1980. -№ 6. -С. 35-41.

[44] Специальная педагогика. // Под ред. Н.М. Назаровой. – Т. 1: Концептуальные основы специальной педагогики – М.: Академия, 2000. – 583

[45] Специальная педагогика. // Под ред. Н.М.Назаровой. – Т. 2: Общие основы специальной педагогики – М.: Академия, 2008. – 352 с.

[46] Специальная педагогика. // Под ред. Н.М. Назаровой. – Т. 3: Педагогические системы специального образования – М.: Академия, 2008. – 400 с.

[47] Стребелева Е.А. Формирование мышления у детей с отклонениями в развитии. - М.: ВЛАДОС, 2001. - 184 с.

[48] Тихомиров В.М. Математическое образование / Проблемы реализации многоуровневой системы образования. - М.: Изд-во РУДН, 1999. - с. 176-186.

[49] Формирование элементарных математических представлений у дошкольников / Под ред. А.А. Столяра. - М.: Просвещение, 1988. — 303 с.

[50] Шаповал И.А. Формирование учебно-познавательных действий слабослышащих школьников при изучении грамматики: Дис.... д-ра пед. наук. - М., 2000.

- 371 с.

[51] Шеннон Р. Имитационное моделирование систем - искусство и наука; пер. с англ. Е.К. Масловского. - М.: Мир, 1978. — 418 с.

[52] Щедрина Г.К. Понятие «модель мира», его междисциплинарный статус // Культурологические исследования. - СПб.: РГПУ им. А.И.Герцена, 2001. -С. 3-12.