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INTEGRATION OF MATHEMATICAL KNOWLEDGE DEVELOPMENT IN PRIMARY CLASS STUDENTS

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ABSTRACT

In the article, the issues of interdisciplinary integration, teaching of mathematics in connection with existence, the use of various methods, methods and forms, the connection of other subjects with mathematics in the formation of students' worldview, further improvement of the formation of mathematical ideas in students, students' to make them mature people, especially to form their mathematical knowledge

Keywords: mathematics, method, imagination, attitude, interdisciplinarity, mental ability, competence, creativity, creativity.

INTRODUCTION

Types of continuing education, especially in secondary schools (primary classes), require interdisciplinary organization of lessons. Pupils are armed with the necessary knowledge for life and future activities, acquire practical skills and qualifications with the education they receive in general secondary education. Based on the acquired information, they develop their intellectual abilities, increase their scientific potential, and develop physically. Forming scientific worldviews in students helps them acquire active knowledge. Based on this, it is necessary to further improve the formation of mathematical ideas in elementary school students, to make students mature as well-rounded people, especially for them to develop their mathematical knowledge.

In education, the student must acquire what is necessary for the formation of his basic competencies: learning, self-study, analysis, creation, drawing conclusions, communication skills in his daily life. very necessary. His life and work will help him achieve his future dreams. The formation of such vital competencies requires, first of all, the development of the relationship between mathematics and other disciplines.

Development of inter-disciplinary integration in the development of students' mathematical imagination Firstly, substantiating the need to form mathematical ideas in elementary school students based on an integrative approach, secondly, to study and compare the resources created in the field of integration, thirdly, to identify opportunities that serve to develop imaginations from mathematics, to study methods and forms of education, fourthly, it is necessary to define tasks such as methodical recommendation and development of conclusions.

MATERIALS AND METHODS

The issue of education of elementary school students of general education schools has become an urgent issue at a high level. Forming the knowledge and skills of schoolchildren, educating

them in the spirit of loyalty to national and universal values, broad worldview, most importantly social activation, improvement of textbooks and educational methodical manuals based on the requirements of the times, creation of innovative methods and technologies of lesson organization shows the need.

The topic of using integration in the development of students' mathematical imagination has been studied by many scientists.

The works of Muhammad ibn Musa al-Khorazmi, Jamshid Ghiyaziddin al-Koshi, and Ulugbek, who contributed to the Eastern civilization, contain the first information about the development of arithmetic.

Among Western scientists, some aspects of education and interdisciplinary relations were discussed by famous pedagogues Ya. Comenius, D. Locke, I. Researched by Herbart, M. Pestalotsi, K. Ushinsky, I. Ya. Lerner, M. N. Skatkin focused on the fact that they do not activate the educational process based on mathematical knowledge. The didactic aspects of the formation of mathematical ideas were studied by I.D. Zverev, M.A. Danilov, V.N. Maksimova, S.P. Baranova, and the researches of psychologists E.N. Kabanova, N.F. Talizina are significant. A.M.Matyushkin, V.T.Kudryavtseva, L.S.Vygotsky, B.G.Ananev, G.F.Fedores psychological conditions of formation of mathematical skills and competences in interdisciplinary connection, laws of improvement of students' knowledge scientifically based. Uzbek scientists such as R.Safarova, A.Musurmonov, P.Musayev, A.Ch.Choriyev, A.A.Salomov, B.Abdullayeva based the development of mathematical imagination on interdisciplinary relations in research works. analyzed in terms of.

Research works of Uzbek scientists such as R.Safarova, A.Musurmonov, P.Musayev, A.Ch.Choriyev, A.A.Salomov, B.Abdullayeva are also important on the topic of organizing classes based on interdisciplinary communication.

Scientist L.N. Bakhareva in the article "Integration of primary school training on the basis of local studies" "Integration is the process of connecting the disciplines that are carried out together with the processes of differentiation, which helps to create new, whole, integrated departments, the implementer of integration" , - he says.

The content of forming mathematical ideas is focused on integration. Integration, integrative form of approaches, interrelationship of science, laws, principles, conditions of science, form, method, methods of imparting theoretical knowledge, skills and practical skills, as well as their general and professional knowledge, skills and education the systematic process aimed at forming skills and developing abilities serves the practice of the issue of integration in the initial period of students' learning.

Integrative education creates an opportunity for students to have a more complete and comprehensive picture of the world around us. Children will be able to express their knowledge clearly and clearly in practice, because in this approach, the possibility of widening the essence of knowledge includes concepts such as imagining the world as a whole, interdependent.

Integration It is the process and result of achieving the integrity of the educational content by establishing interdisciplinary relations and interactions between different educational programs. The content of the educational process organized on the basis of an integrative approach is based on interdisciplinarity. Therefore, like other subjects, mathematics studies the world around us, the phenomena of nature and society.

For example, the science of measurement studies the shape and size of objects, its other properties: mass, color, hardness, etc. are not taken into account, they are abstracted. Therefore, instead of the word "subject" in geometry, it is called "measurement form". Section, beam, straight line, angle, square are geometric figures. The result of abstracting mathematical concepts is also reflected in "Number" and "magnitude".

The separation of quantitative and spatial properties and relations from objects and phenomena of the surrounding world and their abstraction from all other properties is the result of any mathematical objects. So, mathematical objects do not exist in reality, there are no geometric figures, numbers, etc. in the world around us. All of them were created by the minds of people in the course of the historical development of society and exist only in the thinking of people and in the signs and symbols that make up mathematical education.

The formation of students' mathematical ideas is necessarily carried out through methods. Although the methods are divided into active and passive, active and interactive methods, their use in activities ensures the effectiveness of education.

There are many game methods that develop mathematical imagination. We will provide information about the characteristics of some of them below. For example.;

MIRACULOUS FOREST. This game helps to develop creative imagination. To do this, you will need several trees and paper with various dots, lines, numbers and pre-drawn "squiggles". The task of the child is to turn everything into a forest. In addition, at the request of adults, it can be a real forest or an imaginary one. Make this point clear when you give your child assignments.

Using the same principle, you can create "miracle meadow", "miracle ocean", "miracle Africa" and other "wonderful" pictures. After drawing, you can continue to "work" with the obtained images. For example, ask your child to write a story based on a picture he drew. And again, whether the story is fictional or realistic is up to you.

CHAIN OF ASSOCIATIONS. This game reminds everyone of the famous game "Words". But unlike him, the child should not choose the word with the last letter, but the word that corresponds to the epithet. For example, such a chain may look like this: "cat-tabby-mattress-soft-fur coat-..." You can continue the game as you like.

It is also good to play a modified game to develop imagination - "Chain of Contradictions".

GAME "COOK". Purpose: to expand vocabulary, develop attention, imagination, improve communication skills.

Everyone stands in a circle - this is a pot. Now we will prepare soup. Everyone will come up with what will be (potatoes, cabbage, carrots, etc.). The owner of the house takes turns telling the ingredients he wants to put in the soup. He who knows himself jumps in a circle; the next jumps up and takes the hands of the previous one. The game continues until all the "components" fall into the circle. The result is a delicious, beautiful dish - just delicious.

FUNNY LETTERS GAME. Purpose: to develop imagination, emotional and expressive movements, attention, memory. The teacher invites the children to invent and take poses

similar to the contours of the letters G, K, F, X, R. Children do the task. The teacher checks and determines the poses. Then he turns on the music, the children move in a circle. When the teacher turns off the music and names one of the listed letters, the children must quickly take the corresponding pose.

TASK "FINISH THE DRAWING". Purpose: to develop imagination, imaginative thinking, finger motor skills.
In front of each child on the table there is a card with meaningless images and a simple pen. Teacher children invites you to fill in the images to get a complete picture.
After finishing the drawing, the children take turns about the pictures they drew they speak.

THE GAME. Purpose: voluntary control and self control, thinking, imagination, emotional and expressive movements, communication develop skills.
Teacher:
"Imagine, children, you have become an astronaut, and our chairs
became a rocket. We have to go on a trip to another planet. We
we wore spacesuits. We line up one after another and slowly, a special suit
as we wear, move towards the rocket. We take our place and
the timer starts. Only five, four, three, two, one to start
left! Children imitate the movement of the engine.
Teacher: "General
preparation will be announced. The ship lands on an unknown planet. Be careful. There are many interesting and unknown things on this planet. Attention: returnthe time has come. The rocket flies." Children imitate the sound of the engine.
Teacher: "We we are preparing to land. Bye Bye! We came down to Earth. The flight is quiet and it was successful."
Assignment: "Figdraw." The psychologist asked the children what they saw on an unknown planet asks to draw. Also, mathematic riddles and proverbs are important in the development of mathematic ideas.

Mathematical riddles.
1-riddle. 3 fir trees grew. Each has 7 horns. Each branch has 3 apples. What is the total number of fruits of all the trees? Answer. Not even one. Juniper apples do not bear fruit.
2- riddle. A ruler, a pencil, a circle and an eraser are on the table. Draw a circle on the sheet. What will you get first? The answer is The paper.
3-riddle. How many eggs can you eat on a very hungry stomach?Answer. Can you eat one egg?

RESULTS AND DISCUSSION

The idea of integration of education began to be discussed in public education along with differentiation and individualization. If the level of preparation for independent work with books, textbooks and other literature, based on the classification of junior school education, and the active formation of interests at junior school age, deepening and clarifying some common concepts that are the objects of learning various subjects as the basis of integration

and expandable. The main goal of the integration of education is to form a good image of nature and society in primary school and direct one's attitude to the laws of their development. That is why it is important for a junior high school student to see the subject or events from several angles. Mastering basic subjects and teaching intra-subject and inter-subject connections in understanding the laws of things in the world is the methodological basis of the approach to the integration of education. This can be achieved by returning many times to the concepts of different lessons, deepening and enriching them, identifying important signs that are understandable to this age. Thus, any lesson that is well-formed, structured and conducted, and includes a group of concepts related to this educational subject can be used as a basis for integration.

However, the results of the analysis of concepts related to other subjects and other educational subjects are included in the integrated lesson. For example, concepts such as "winter", "cold", "storm" are considered in the lessons of reading, Russian language, science, music, visual arts. Lessons in which analysis of concepts refers to the knowledge acquired in other educational lessons are considered integrated. In addition to being creative and free, the lesson will have a unique, logically sequential methodology. Many concepts in elementary school, which lay the foundation of general education, are common to science, Russian language, music, visual arts, etc. Currently, it is necessary to develop and test an integrated system of lessons, which is a psychological and methodological basis for establishing connections between common concepts for a number of educational subjects. At the same time, interdisciplinary relations should be taught at the level of the curriculum and provided with the necessary teaching tools. Integrated lessons are an interactive educational system that explores the secrets of creating visual skills based on the deepening and expansion of integrative knowledge. The visual education system is built on the basis of various types, forms, methods, and objects. The goals and objectives of the integration course are described in the school natural science education system. Methods and means of integration in the integrated (demonstration) network of knowledge: depending on the amount of time at the place of teaching in the educational plan, the time of full mastery of this course, the level of mastery of students is multi-purpose and color- characterized by color.

CONCLUSION

Analyzing the theoretical and methodological foundations of the subject of forming mathematical concepts in students based on an integrative approach, we found that the subject has been studied by many scientists, professors and teachers, their theoretical and methodological views were observed, compared and analyzed, and the following conclusions were formed.

helps students to understand the beginning of the formation of systematic mathematical ideas in the context of the current natural-scientific landscape of the world;

help students to form knowledge about natural phenomena, the laws of existence and the processes that take place in it, the laws of nature in the system of the doctrine of the unity of nature;

formation of mathematical concepts based on an integrative approach, specific methods of acquiring knowledge, develops mathematical skills;

the development of skills and competences based on integration and the formation of information and the process of formation of worldview leads to the result of organized lesson processes.

they help students to form a firm belief system that provides a clear direction in the system of "nature-technology-human" relations, which is the basis of environmental education and an important link in understanding the nature of global problems of our time.

REFERENCES

1. Constitution of the Republic of Uzbekistan. - Tashkent: Uzbekistan,
2. Law of the Republic of Uzbekistan "On Education" - Tashkent: September 23,
3. Lev Vigotskiy (1931) Adolescent Pedagogy The development of thinking and concept formation in adolescence
4. Matyushkin A. M. Psychology of thinking. Thinking as a solution to problem situations [Text]: textbook. a manual for university students studying in the field and specialties of psychology. - M.: University. Book house, 2009. - 189 p.
5. Mavlonova R.A, Rahmonkulov N.H, "Integrated pedagogy of primary education" - T.: "Imo-ziyo" publishing house, 2009 p. 194
6. Musayev U. Integration is an important principle of optimizing the educational process. //Journal of school education. 2002, No. 6. p. 4-7.
7. Murodova M. M. Pedagogical deontology and competence in the work of future elementary school teachers //Scientific progress. - 2022. - T. 3. – no. 1. – S. 90-97.
8. Artykov O. R. The role and importance of pedagogical deontology and competence in teacher activity //Scientific progress. - 2021. - T. 2. – no. 5. - S. 42-47.
9. Ortikov, O. R. (2020). Mahalla as a socio-cultural center of the people. In Scientific space: current issues, achievements and innovations (pp. 20-23).