

In the Implementation of State Educational Standards Based on Competency Approach in Mathematics the Problem of Membership and Continuity



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ABSTRACT: This article provides information on the problem of continuity and continuity in the teaching of mathematics and the extent to which it is provided in education. The concepts of continuity and continuity in education are explained in terms of topics in mathematics. The consistent, sequential, coherent placement of mathematical knowledge and its delivery to students is demonstrated by explaining the topics. This means that if a sequence is not maintained in any subject, that is, if the acquired knowledge does not complement the initial knowledge, if it is not enriched in content, if it is not interconnected, it does not form a certain understanding in the student and shows the effectiveness of such teaching. Also, factors influencing the implementation of state educational standards based on the competency approach introduced in our schools have been developed.

KEYWORDS: continuity, sequence, continuity in education, interdisciplinary connection, competence, subject, factor.

INTRODUCTION

At present, special attention is paid to improving the content of education in the ongoing reforms in secondary schools of the country. This requires the improvement of the self-education management system as well. In particular, mathematics teachers must be able to teach mathematics, its various modern methods and be based on them, the direction of ideas, be aware of the achievements of science and technology.

At a meeting of the President of the Republic of Uzbekistan Shavkat Mirziyoyev on March 2, 2020 to discuss priorities in the public education system, it was emphasized the need to develop practical skills in teaching specific subjects and pay more attention to interactive lessons. The need to pay more attention to the teaching of specific subjects in secondary schools and the introduction of mathematics as a separate core subject in all areas of education in the entrance exams to higher education institutions also indicates the need to pay special attention to the teaching of this subject¹.

It is well known that the history of mathematical science goes back to the history of mankind, that is, the emergence of arithmetic. Just as the science of mathematics has come a long way so far, so has the consistent, coherent arrangement of mathematical knowledge and its delivery to students. If a sequence is not maintained in any subject, that is, if the acquired knowledge does not complement the initial knowledge, if it is not enriched in content, if it is not interconnected, it will not form a certain understanding in the student and will not be effective. The sequence of discoveries in science is the basis of the program, the plan, which must be created on the basis of the same coherence, coherence, and coherence that we seek.

MAIN PART

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated April 6, 2017 No 187 "On approval of state educational standards of general secondary and secondary special, vocational education" In accordance with the laws of the Republic of Uzbekistan "On Education" and "On the National Training Program" In order to ensure the continuity and consistency of teaching subjects, to create a modern methodology, to improve the state educational standards of general secondary and secondary special, vocational education on the basis of a competent approach, to organize the development and implementation of a new generation of teaching materials.

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Continuity and continuity between subjects taught in general secondary schools is an important factor in improving the quality and content of education.

It is known that the system of continuing education expands the spiritual and intellectual potential of society. Ensures sustainable development of production as a factor in improving the social and scientific-technical development of the state. It strengthens one's professional training and skills in the process of rapid change (change) of information technologies for everyone.

Continuing education is a deep, comprehensive education, a perfect combination of different forms, methods, tools, techniques and directions of training. The interrelationships between its various components, the rational application of certain methods and techniques to the educational environment ensure the quality of continuing education.

Also, the system of continuing education is based on the principle of continuity and continuity, and aims to ensure the connection between the types and stages of education.

Therefore, the problem of ensuring membership in education will never lose its relevance.

The solution of this problem is especially important in the general secondary and subsequent stages of education (secondary special, vocational education, etc.).

Continuity is an integral part of something, closely related to it, and the word continuity is interpreted as one after another, consecutively, continuously, regularly, consistently 3.

Ensuring continuity and continuity in the curriculum and textbooks helps students to master the topics easily, quickly and efficiently. This contributes to the gradual improvement of their knowledge, skills and abilities. In particular, the "king of sciences" in mathematics is important because of the close connection and sequence of topics, as well as its relevance to other disciplines.

The history of the development of curricula and textbooks in mathematics is connected with the history of arithmetic, the first science of arithmetic. For example, after numbers were discovered, arithmetic operations emerged. So, with the invention of the modern decimal number system, the science of arithmetic began to develop.

The development of arithmetic is based on the mathematical ideas of Pythagoras (570-500 BC) and the "Fundamentals" of Euclid (365-300 BC), the "founder of geometry". For example, if 5th graders are not taught operations on natural numbers and operations on fractions are not taught, the relationship will be broken⁴. Even if the operations on fractional numbers are passed first and then the operations on natural numbers are taught, it prevents continuity. However, in the science of mathematics (e.g., algebra or geometry), for many years, the continuity and continuity (sequence) of topics has become an acceptable system for a particular group of educators. This integrity can be explained by the fact that in mathematics one subject is closely (organically) connected with another and that the sequence of topics (continuity) is rigid.

In the creation of educational and methodological complexes, there is a need to go from simple to complex, from known to unknown, to restructure the teaching of mathematics as a whole system based on the principle of membership.

What is membership in education? How is it provided in the curricula created in mathematics?

In education, membership is used in two different senses.

- 1) Interdependence between types of education (joints). At the same time, the content of the next type of education should not only continue from the previous one, but also partially repeat and enrich its subsequent types of education in an integral way in terms of content.
- 2) Continuity between academic disciplines. This is usually called an interdisciplinary or interdisciplinary connection. By interdependence, we mean the relationship established by applying the rules (formulas) of a particular subject to another subject.

At the same time, we can also observe some aspects of our textbooks in motion that do not provide continuity and continuity. For example, in the 8th grade algebra textbook, the topics "Concept of Functions" and "Properties of Linear Functions" are preceded by " $y = k/x$ function", and this topic should be followed by "Function" and "Square Function". Similarly, the Grade 8 "Root Concept" is preceded by "The Quadratic Equation and Its Root Properties". This can have an impact on the quality of teaching or students' mastery.

However, the choice of educational content for each stage of education takes into account the age characteristics of students studying in this educational institution, and the corresponding materials are based on the internal coherence described above, ie interdisciplinary, interdepartmental and interdisciplinary. The curriculum of each subject is first created on the basis of this membership, and then the second type of membership, ie interdisciplinary connection, is addressed.

Is it possible to study other sciences without mathematics?

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- Mathematics and geography - scale, statistics, surface area or surface area, coordinates, economy, industry, agriculture, gross domestic product, their growth or decrease (increase, decrease in function);
- Mathematics and chemistry - concentration (percentage and proportion);
- Mathematics and history - the calculation of eras;
- Mathematics and music - arithmetic;
- The basics of mathematics and economics are inextricably linked with the study of mathematical calculations and professions related to these disciplines.

The study of simple geometric concepts is also intended to be studied in the classroom according to the age and class of the student. Giving examples and problems in elementary school is based on this very sequence. Ensuring interdependence, logical coherence and continuity between subjects, subjects and classes in the education system testifies to the establishment of a solid foundation of education.

The integration of our country into the world community, the development of science and technology and the competitiveness of the younger generation in a changing world require our young people to master the sciences. This will be ensured through the introduction of international standards for teaching mathematics in the education system of the country.

The development of modern science and technology places a new approach to the teaching of mathematics in secondary schools, high demands on the content and level of knowledge and skills that students must acquire in this subject. Today, the excessive amount of educational information requires not only imparting knowledge to students, but also teaching them to read and learn. To operate and live in a rapidly changing and evolving information society requires only ready-made knowledge from students requires the acquisition, but also the independent search and processing of information in a variety of forms and their effective use in various life situations.

Also, in recent years, students' mastery of mathematics in school has been relatively low. In a sense, this can be explained by the fact that the content of mathematics has a certain theoretical, scientific, logical and axiomatic structure, the content of mathematics is taught with less connection to vital issues, and the methodology of teaching mathematics is not perfect. Based on this, modern requirements are set for the teaching of mathematics and require its revision on the basis of a competent approach.

From the point of view of the competency approach, the essence of the educational process is to develop students' ability to independently solve problems in the future in different life situations and areas of activity based on their own experience. This, in turn, involves not only imparting knowledge, skills and abilities to students, but also the formation of abilities (competencies) to apply them in their life needs. In this context, the introduction of a competency-based approach is one of the most pressing issues facing the general secondary education system today.

The main goal of the competency approach is to help the school leaver adapt to social life.

In accordance with the requirements of the times, every science teacher must be well-versed in their specialization, pedagogical-psychological and methodological knowledge, skills and abilities, be aware of modern pedagogical and information technologies that increase the effectiveness of the educational process and be able to apply them in education.

Each lesson requires a unique creative approach from the teacher. Currently, the teacher is the author of each lesson. Because the teacher relies on the experience of advanced teachers in the preparation of this lesson, learns methodological manuals, and so on.

In a mathematics lesson, all the elements of the educational process are in harmony. These are inextricably linked with the purpose and content, tools, methods, forms of organization of education.

In non-traditional education, 4 components are implemented in combination. These are purpose, content, activity, result. So, the main features of a modern mathematics course are:

- Conformity of the course to the requirements of the program;
- Clear planning of the objectives of each lesson;
- ensure the distribution of learning materials in the classroom and achieve the planned learning outcomes;
- Ensuring that students work actively in the classroom without being overwhelmed;
- to pay attention to students' interest in science and the process of acquiring knowledge, etc.

CONCLUSION

In conclusion, based on the competency-based approach introduced in our secondary schools today, we found it necessary to conduct a group study of the actors involved in the education system in assessing the factors influencing the implementation of

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continuity and continuity in the requirements of the STS. At the same time, it is expedient to group the factors affecting the quality of education in the subjects of the education system as follows:

- Factors related to the body that develops education policy;
- Factors related to the educational institution;
- Factors related to the teacher;
- Consumer-related factors;
- Factors related to innovative corporate cooperation between the educational institution and consumers.

The state of mathematical literacy of students is characterized not only by the availability of materials in the selected content area, but also by the level of development of "mathematical competence". Students' mathematical competence is assessed as a "set of knowledge, skills, experience, and abilities in mathematics" that allows them to successfully solve a variety of problems that require the use of mathematics.

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