

THE CONTENT OF MATHEMATICAL CONCEPTS, VARIOUS ASPECTS AND THEIR ROLE IN THE CONSCIOUS MASTERY BY STUDENTS

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Annotation. In order to increase the level of conscious mastery of the learning material, to find important features and connections of the studied subject or event, to separate them from random sets, similarities and differences, influencing the emergence and development of these objects, based on the rules of analysis, synthesis identification of causes, comparison of the received information with the available knowledge.

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INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

Conscious assimilation is always the understanding and access to the original content of human activity, which manifests itself as a form of interaction between what needs to be assimilated and interpreted (especially the text). As a result of this interaction, new content is formed. At the same time, the concept of "content" is the basis for solving the problem of conscious mastery. Below we provide an analysis of the description of the different interpretations of the category "content".

In the process of conscious assimilation, content has a special significance not only as a result of deciphering its essence (code), but also as a means. In other words, content arises where there is a need for conscious assimilation, comprehension, understanding. However, comprehension requires not only understanding the text, but also actually understanding its material, mental, social, and other forms. If the problem of conscious mastery is applied to the teaching of mathematics, it is due to its high content of mathematical knowledge, its specific content, such as the use of special symbols.

Understanding content encompasses a wide range of phenomena - from vital meanings to "symbolic expressions". Content is a complex, multifaceted phenomenon, which is the main reason why it is difficult to define a single value.

If we take a closer look at the definition of content, we can identify the "boundaries" of its field in relation to the relevant concept.

Content and form are philosophical concepts, content is a set of important elements and changes that express things as exactly the same thing. The form represents the presence of content, the internal structure of the method. In the objective world, there is neither pure content nor pure form that does not belong to things and events.

Just as a particular form is always expressed in a certain form, a certain form also has a certain meaning. Everything in existence exists because of its unity of content and form. Content, by its very nature, takes the lead over form. The form, on the other hand, represents the content. The form must conform to the content, otherwise there will be a conflict between them (more

precisely the old form and the new content), this conflict will be resolved by exchanging the old form with the new form corresponding to the new content (or adapting the old form to the new content) [3, pp.385-386].

If we take into account the general feature of belonging to the mental (image of thinking) circle, the meaning is "mind, intellect, intellect, intellect, inner logical content achieved by the mind" [4]. "Meaning is the ideal content, idea, essence, purpose, the ultimate goal (value) of something (the meaning of life), the whole meaning of a statement" [4]. This view defines this category in a narrow sense, but it is very relevant in the context of our study, because mathematics is characterized by the widespread use of the symbolic form in the presentation of data according to its abstraction.

Content is also the subject of research in psychology, pedagogy, philosophy and many other disciplines. Without claiming to analyze the content problem in detail, we will look at some of the work that allows us to solve the research problem from our point of view. In psychology, the concept of content has emerged as a result of attempts to explain human behavior. The essence of this form of explanation is that "... actions and mental phenomena, which have been preserved alone for many centuries, are divided into the connection of content and intention. Defining a goal by a subject in the context of an idea or intention means discovering its meaning and providing a clear understanding ... it is very complex and very fundamental." [1, p.27]

There are two distinct traditions of using the concept of content. In one, content appears as a complete synonym of essence, and these two concepts can replace each other. In the second, "content" and "essence" represent a conceptual contradiction in one form or another.

Also, an etymological analysis of a mathematical concept allows one to determine its lexeme. In many cases, the main idea, the essence, lies in the lexical content of concepts. In mathematics, it is clear from the naming of some terms, such as continuity, limit, product, and so on. In turn, during the practice it will be necessary to balance the definitions of strict mathematical terms in education with words in a natural language that is close to them in essence.

Most concepts in mathematics are relative. They are united by a single uniqueness, that is, they have their own meaning in close connection with another mathematical object. For example, an attempt is a straight line on the one hand, but depending on its position relative to the curve, it will have a quality that the other does not have a straight line. The fact that the mathematical concept does not overlap with its essence as an object and its importance in theory makes it relatively difficult for students to master it consciously. In natural language, this is manifested only in word combinations, without the corresponding use of the corresponding lexeme, which is a syntactic peculiarity, for example, "attempt to curve". On the other hand, it should be noted that the word "curve" is not used to shorten speech, but is always meant.

Sometimes it is helpful to discuss word builders in order to better master mathematical concepts. Some concepts are formed in a morphological-syntactic way, ie in a lexeme by passing from one part to another. In turn, the importance of interpreting the description of an object and of some actions in defining an abstract object changes while partially preserving it.

Thus, the content component of abstract mathematical concepts can be disclosed using a linguistic tool in order to consciously master the learning material, as it is possible to use knowledge in the field of natural language to reveal the essence of the concepts being studied.

The concept of "special meaning" can be distinguished as a key component of the content.

Specific meaning we consider in three aspects: structural, genetic, and functional [1]. The structural aspect involves imagining the place of specific meaning in the structure of activity, defining the mind and the person, his relationship with other psychological organizers, and the definition of this concept. The genetic aspect encompasses the disclosure of the laws, evidences and meanings, processes and mechanisms underlying its formation, development and change. The functional aspect, on the other hand, reflects perceptions of consciousness and activity, its influence on the course of activity, and the importance and place of meaning in the specificity of mental processes.

In conclusion, if we apply the structural, genetic and functional meanings to the methodology of mathematics education, the structural meaning is determined at a high level in the process of goal imagining, genetic meaning changes its appearance in the study of the history of the emergence and development of the object in science. motive and is manifested in conjunction with the previous application.

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