

TAXONOMY OF B. BLOOM AND ITS BASIC CONCEPTS

The problem of reliable assessment of students' knowledge, skills and abilities is extremely important and significant for the entire education system as a whole and for each individual individually.

Benjamin Bloom tried to construct a hierarchy of educational goals. In his seminal work *Taxonomy of Educational Goals: The Realm of Cognition*, Bloom attempted to construct a hierarchy of educational goals, encompassing the cognitive domain, that would describe, step by step, the levels of human thinking and the resulting learning objectives. From Bloom's point of view, learning goals directly depend on the hierarchy of thought processes such as remembering, understanding, applying, analyzing, evaluating, and creating. According to each level, a set of tasks can be proposed using certain verbs. So, for example, for the level of memorization, tasks starting with the verbs remember, repeat, list, name, write, imitate, define, learn, etc.

Today there is a problem of objective assessment of students' mental activity in the classroom, using the developed tasks, according to Bloom's taxonomy. I think that this problem is most fully solved by B. Bloom's taxonomy, since one of the main principles of taxonomy is that it should be an effective tool in the hands of a practicing teacher in assessing learning outcomes. The problem lies in identifying the question of how the multilevel tasks on the taxonomy of B. Bloom contribute to the identification of the assessment of the success of training. The problem of organizing goals is solved by constructing taxonomies. Currently, the most popular taxonomy developed in 1956. B. Bloom, later supplemented by D. Kratvol and other scientists.

Taxonomy is the classification and systematization of objects based on their natural relationship. Used to describe categories that are arranged sequentially in increasing complexity. Taxonomy is a theory of classification and systematization of complexly organized areas of reality that have a hierarchical structure. Taxonomy is

needed to: correctly set goals in training; correctly formulate problems and tasks for students; correctly select adequate assessment tools; correctly reflect on the learning outcomes.

B. Bloom developed a hierarchy of thinking skills, in which higher levels of thinking include all cognitive skills of the lower levels. Bloom's taxonomy defines the ways of classification, from the simplest learning activities to the most complex.

According to Bloom's taxonomy, educational goals are broken down into three areas: cognitive, affective, and psychomotor. These areas cannot be accurately described as "knowledge / head", "feelings / heart", "doing / hands".

The taxonomy distinguishes three groups of goals in the cognitive, affective (emotional-value) and psychomotor areas. In the cognitive area, goals related to the assimilation of knowledge are presented, in the affective area - goals related to the formation of an emotional-value attitude to the phenomena of the surrounding world, the formation of interests, inclinations, beliefs, etc. The psychomotor area includes goals related to the formation of various types motor activity and neuromuscular coordination, as well as the goals of developing speech and writing skills.

Cognitive (cognitive) area. This includes goals from memorizing and reproducing the studied material to solving problems, during which it is necessary to rethink existing knowledge, build new combinations of them with previously studied ideas, methods, procedures (methods of action), including the creation of a new one. The cognitive sphere includes most of the learning goals put forward in programs, textbooks, in the daily practice of teachers.

Cognitive skills and abilities relate to knowledge, understanding and critical thinking. There are six levels here.

1. Knowledge. This category denotes the memorization and reproduction of the studied material - from concrete facts to a holistic theory. Specific student actions: reproduces terms, specific facts, methods and procedures, basic concepts, rules and principles.

2. Understanding. An indicator of understanding can be the transformation of material from one form of expression to another, interpretation of the material, an

assumption about the further course of phenomena, events. Specific student actions: explains facts, rules, principles; converts verbal material into mathematical expressions; presumably describes the future consequences arising from the available data.

3. Application. This category denotes the ability to use the learned material in specific conditions and new situations. Specific student actions: applies laws, theories in specific practical situations; uses concepts and principles in new situations.

4. Analysis. This category denotes the ability to break the material into components so that the structure appears clearly. Specific student actions: removes parts of the whole; reveals the relationship between them; defines the principles of the organization of the whole; sees errors and omissions in the logic of reasoning; distinguishes between facts and consequences; evaluates the significance of the data.

5. Synthesis. This category denotes the ability to combine elements to create a whole that is novel. Specific student actions: write an essay, speech, report, abstract; proposes a plan for conducting an experiment or other actions; draws up the problem diagrams.

6. Evaluation. This category denotes the ability to evaluate the value of a particular material. Specific student actions: evaluates the logic of constructing a written text; evaluates the compliance of conclusions with available data; evaluates the significance of a particular product of activity.

Affective area. Skills in this area reflect how a person reacts emotionally, how much he is able to feel someone else's joy or pain. Affective goals are associated with human relationships, emotions, feelings. Psychomotor area. Skills in this area describe the ability to manipulate tools or tools. Psychomotor goals are usually associated with changing or developing practical skills.

References:

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