Educational Technology of B.I. Vershinin: the Content and Features

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This paper presents the main provisions of educational technology B.I. Vershinin, based on the method of the implementation brain capability. A comparative analysis of common pedagogical practices can be recommended for widespread use in all phases of training.

Keywords: educational technology; educational system; methodology of teaching.

Introduction

The development of the modern student, being itself a very difficult task, is much more complicated in terms of modernization of education and the introduction of new state standards. Teachers solve it every day, in every class, using the pedagogical techniques, methods and training technologies as the primary means, and bringing something individual and authorial into the educational process. If we consider that in the theory and practice of modern schools today there interact several dozen of educational technologies, it becomes clear that not only the teacher but the teacher-researcher can easily get lost in such a manifold and it is difficult to make a reasoned scientific choice in favor of some particular approach. Moreover, in such a situation there is some particular opportunity to make an error in the analysis of the statements and principles of technology, which can lead to too low estimation or, what is worse, to make it forgotten.

In this regard, the classification of educational technology is not only of scientific interest, but is an invaluable practical significance. On-giving tribute to the huge efforts of German Konstantinovich Selevko (Selevko, 1998) to systematize the teaching technologies and on the basis of some of his provisions, we try to highlight the key features of a number of well-known teacher education technologies and in this way we present the authorial technology of Boris

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Ivanovich Vershinin, the National Teacher of the USSR .

First of all, we denote the content of the concepts which we use in the article.

Teaching technology means a set of methods, techniques, exercises and procedures to ensure productive interaction of subjects of the educational process and to achieve the planned result (Andrienko et al., 2008; Evsikova, 2008; Tikhomirova, 2011). Educational technology is based primarily on the prognostic knowledge about the mechanisms of obtaining such a result. It is based on a new technique, which is the source of the appearance, as a rule, a generalization of the positive practical experience of in-novation of the teacher. Therefore, the educational community sometimes confuses the term "technique" and "technology", forgetting that the latter is much broader. The other broader concept is the "educational technology", it includes, besides teaching, a variety of management of the social, cultural, psychological, educational, medical, educational, economic, and other related aspects of the social sphere.

In the article we analyze in the way of the classification of G.K. Selevko the educational technologies of Amonashvili, Montessori, Shatalov, Sukhomlinsky and Vershinin.

Description
of educational technologies

1. Technology of Shalva Alexandrovich Amonashvili (Amonashvili, 1986, 1988, 1995), teaching children the age of six is based on the dictum: "Every child is a phenomenon in the Earth's life. He was born because it was he who was missing in the world. We – adults need to create such conditions that the child is able to find room for the development of his true nature, showing initiative, independence, creativity, and disclosure of his unique character and identity."

Considering the child in the prism of the modern human world, which has the value of human life, the author of the technology refers to the student as an individual, enjoys the process of his development and achievements, which, like the magic influence of an experienced teacher, not forced to wait long. The child "disclosed", opens his world, his vision of things, which are often different from the adult point of view to the better way. "It is not me, who gives them a lesson, but they give me!" – Says Amonashvili, treating the child as an equal; a student can easily argue with the teacher, defending his or her views and feelings of gratitude for this opportunity, which in itself is a great incentive for further development.

An important thing in Amonashvili approach is the interest to the child and the interests of the child himself: "Do you like the task? Do you like the poems? No? Find others that you like!" The main role of the teacher is to organize the educational process so that the child constantly is in need of overcoming the difficulties of the situation, but – and this is very important! – these difficulties are consistent with his individual capacity, that is to be according to student's possibilities.

Foundations of educational technology of Amonashvili can be described by the following directions.

• Training without marks. School grades are the external motivation of training, so they are uses very limited, giving the major role to a qualitative evaluation.

• They refuse explanatory and illustrative method of training that leads to passivity and loss of student interest in learning.

• They create a lesson atmosphere of mutual trust, love and respect, encourage and enable a creative, independent learning and cognitive activity, encourage students to share creative work with the teacher.

• They use a variety of pedagogical techniques, allowing the complex to solve educational, pedagogical, developmental problems ("summer" and "secret" letters, "a collective search for truth," "design lessons," "pedagogisation of the environment", "choral response", "work in the dark", "Lessons of ethics, courtesy", "3 minutes of poetry at the lesson of mathematics", etc.);

• The use of pedagogical expression sources that allow you to make a "lesson full of vitality, and communication is sincere; to deepen the perception of the content of the material, moral standards, to reach the minds and hearts of everyone, cause emotional attitude to knowledge."

• The active involvement of parents in upbringing and education of their children.

Thus, "according to Selevko", the technology of Amonashvili can be classified:

✓ the level of use – general pedagogics;

✓ to the philosophical basis – the materialist, dialectical, humanistic, progressive education, existentialistic;

✓ the concept of assimilation – the associative-reflexive;

✓ the focus on the personality structure – with a predominance of emotional to the moral aspect;

✓ the nature of the content – learning and educational, general education, humanitarian;

✓ organizational forms – the traditional class-lesson division with the elements of differentiation and individualization;

✓ to the child – humane, personal pedagogy of cooperation;

✓ the predominant method – plays with elements of problem-based learning, creative;

✓ the category of educable – mass, advanced on the basis of personal-face approach to children.

2. Technology of self-development of Maria Montessori (Andrushchenko, 2010, Montessori, 2005; Bordovsky, 2010), an Italian physician, educator, psychologist, as a major problem is determined in the creation of school educational environment for the natural process of self-development of the child who chooses his favorite type of activities, that is, has the freedom to choose what to do.

To supply that choice, Montessori practice should involve a wide variety of materials, manuals and training aids. The space and furnishings in it are very important, they should help a student to get carried away and immerse themselves in the selected type of work without time restrictions and controls at their own pace, not dependent on the skills of other children.

The role of the teacher in the technology of Montessori is incredibly complex. On the one hand – his field of activity is very limited, since the main goal is not to interfere with the child to do their work. On the other – it is necessary to form a coherent, balanced personality: they should be at the right time to learn to deal with this or that material (tools, manuals and so on), if a child is successful, the teacher offers some more sophisticated type of activity and supports in case of failure. In such circumstances, the construction of a line of conduct of the teacher is more intuitive.

Foundations of the educational technology of Maria Montessori can be described by the following directions:

• The technology is implemented in large groups of 30-40 students, since the number at 25 and less the results decline, and there positive results are not fixed in a class of 8.

• The Montessori environment is a clear logic of construction, based on the psychological needs of the child and in the first place are cognitive ones.

• The main condition for the rapid development of the child is the activity with pleasure interaction, which is provided by an independent selection of what he is going to know, what to study at the moment, how much time to devote to this.

• Philosophical concepts in the field of Montessori are the driving forces of the child's personality, and the personality is formed through the work.

• The Montessori materials are something in between a study guide and educational games. They are divided into groups: exercise for the development of life skills; sensory material; the material for the development of speech; Mathematics material; material for space education.

• There are no any clear time limits: the child must complete the work to the end and only then it will be useful and may help for the development the child. The artificial division into fixed time lessons can lead to objectively unreasonable interruption of the (physical or mental), the effect of the latter may reduce to zero.

• There is the connection between the various stages of training, which is realized through the principle of open doors, where students from different classes and different age can communicate freely with each other.

• There are no any uniform training programs, everyone follows his unique way of development. After a common discussion (it usually reflexive) at the beginning of the day a student chooses what and how long he will do some subject: mathematics, mother tongue, astronomy, history, some chemical experiments or something else. The results are shown to the teacher and discussed. On the way of work when there is the need there is used a common didactic circle, which helps to make students' knowledge systematic, all the students and the teacher listen

to the reports and work results of children, it clarifies the concept, introduces new terminology and there is a plunge into a new subject. All information is fixed in notebooks on the three integrated subjects: mother tongue, mathematics and space education.

• There is the priority of auto-evaluation; the traditional marks are not used.

Thus, the technology of Montessori has the following classifications according to Selevko parameters:

✓ the level of use – general pedagogics;

✓ to the philosophical basis – the materialist, dialectical, humanistic anthroposophical, existentialistic;

✓ the concept of assimilation – the associative-reflex in conjunction with the gestalt-technology;

✓ the focus on the personality structure – the technology of self-development with an emphasis on the activity-environment and practical methods of intelligence activities;

✓ the nature of the content – training, general education with a predominance of the humanitarian approach;

✓ the management type of cognitive activity – the system of small groups with elements of "consultant" and "tutor";

✓ the attitude to the child – the technology of free education with elements of cooperation;

✓ the predominant method – play and creativity;

✓ the category of educable – mass.

3. Technology of Viktor Fiodorovich Shatalov (Bordovskaya, 2010; Shatalov, 1987, 1990) is based on the intensification of training (the first place is for memorizing, learning by heart) on the basis of schematic and symbolic models of educational material. Conspectus, made by the teacher, which is the result of

the teacher's tremendous work, the method is abstract – the result of the tremendous work the teacher, consists of short keyword phrases (up to the individual exclamatory words), numbers to remember, schematic drawings, the joined by the general idea of the material location, selection with frames and borders, with color and accented links and arrows, is the main part of this method.

Foundations of the educational technology of V.F. Shatalov may be indicated by the following directions:

• Basic principles of technology are "the leading role of the theoretical knowledge," "conflict-free", "open" and "repetition" – these are the development of learning theory by L.V. Zankov.

• The categories of technology are supportive signals and references, which are based on the identification of an image and text. Most of the teachers associate the system of Shatalov with supporting abstracts, which is not quite true. The pedagogue used the diversity of methodological elements and many of them enriched by new techniques.

• Monitoring and evaluation of knowledge is not only a diagnostic role, but more psychological and motivational. From the point of view of V.F. Shatalov, a mark (grade) is a very delicate and powerful element that requires an intelligent and skillful use, because otherwise it may become an element of oppression of the individual.

• The active involvement of parents during the entire period of study is regardless of the success, achievements and student age.

There are the classification parameters of the technology of Shatalov:

✓ the level of use – general pedagogics;
✓ the philosophical basis – the materialist, metaphysical, humanistic progressive education, pragmatic;
✓ the concept of assimilation – the associative-reflexive;
✓ the focus on the personality structure – information, directed to the acquisition of knowledge and building skills;
✓ the nature of the content – training, comprehensive, technocratic;
✓ the organizational forms – traditional class-lesson system with partial use of small group work and elements of "tutor" technology;
✓ the attitude to the child – cooperation with elements of didactic-centrism;
✓ the predominant method – explanatory and illustrative;
✓ the category of educable – mass.

4. The educational technology practice of Vasily Alexandrovich Sukhomlinsky is unlike all the others (Sukhomlinsky, 1981). Its basic principle is: every education – is the education of the child's wishes, their cultivation. In other words, properly brought up is only that child, the desire and the pursuit of who rely on the moral ideal, and who acts morally not because it should be, but because he wants to do so himself. Thus, at the head of the educational process is put the freedom and inner world of the child.

As the basic principles of technology of Sukhomlinsky the following are mentioned.

• Communication of a teacher and a student is of primary importance. They are practically friends, build relationships on trust and frank dialogue and understanding, up to personal secrets and mysteries of the soul.

• The closeness to nature, which is an active participant in the education process. There are emotional interviews and talks outside, students learn from the nature in the process of knowledge, love the nature and take care about it.

• The interest in the subject matter, according to Sukhomlinsky, is the main motion

power of knowledge, and he spared no effort or time to motivate a student and support his interest in keeping it going on.

• Formation of the moral ideal for the student is for Sukhomlinsky – a teacher and a citizen – one of the most important educational effects of his authorial educational technology.

According to the classification of Selevko, Sukhomlinsky system can be described as follows.

✓ the level of use – general pedagogics;
✓ the philosophical basis – idealistic, dialectical, humanist anthroposophical, existentialistic;
✓ the concept of assimilation – gestalt-technology;
✓ the focus on the personality structure – emotional and moral;
✓ the nature of the content – bringing up, educational, humanitarian;
✓ organizational forms – the traditional class-lesson with a strong personal direction;
✓ the attitude to the child – person-oriented co-operation;
✓ the predominant method – dialogical communicative;
✓ the category of educable – mass, advanced on the basis of personal approach to children.

5. Educational System of Boris Ivanovich Vershinin (Vershinin, 2007, Vershinin et al., 2011) was created in the 90s of the last century. Fundamentally new in it is the very concept of education, defined by the author as "the deliberate, controlled information impact on the brain in order to implement its functionality, i.e. the development, improvement of thinking, memory, speech, and so on." Consequently, as the basis for the developing own teaching practice, each teacher must use rigorous scientific knowledge from different areas of the

human sciences: physiology, neurophysiology, biochemistry of the body, and psychology. As Boris Vershinin thought and confirmed by his example, these increased demands on the teacher-professional are possible for any teacher who is willing to achieve excellence for a long time and hard work. And for the same reason, obviously, the technology has not got the proper distribution, despite the numerous experimental school (several times a year) which took place in Tomsk and Kemerovo regions, series of lectures for teachers and students, and reports at conferences.

We distinguish the following basic principles of B. Vershinin.

• Technology of training should be natural, that is constructed in accordance with natural laws of human development as a whole and its individual structures and systems (especially the brain), with the age peculiarities of the physiological and psychological features of this development. Presentation of information should comply with the laws of perception and processing, to provide identity of information formed on the concrete-figurative and conceptual levels, to promote holistic thinking, which includes an intuitive, imaginative, abstract and subconscious.

• The basis of teaching and learning process is an increasing motivating independent activity, the level of formation of which is the main criterion and the measure of skills of the teacher. This is a kind of a key to achieving real individualization of teaching.

• The richness of the information environment, achieved by a variety of activities (creative and reproductive, theoretical and experimental), is provided for the student to select. However, this choice is not free, like at Montessori's, but within a single discipline, topic, and theme. The dynamism of intellectual activity of the student is a necessary condition for

the optimum development of his higher mental functions, the fundamental abilities.

• A variety of methodological materials: textbooks, manuals, original authorial problem books, photo-, video-, audio materials, interactive installations and more. Boris Ivanovich himself, being a physics teacher, has created many proprietary school of physical devices, some of them marked by the Exhibition of Economic Achievements medals. Informational material plays a dual role: it is a tool for the functionality of the brain and provides memory with vital knowledge.

• Education is based on the emotional and semantic memory in which information is absorbed much faster than during the mechanical memorizing. The learning process takes place in a comfortable psychological, emotional, and well-balanced environment.

• Assessment of mental activity is determined by the success, but not shortcomings and mistakes. They are natural and inevitable, therefore, they are not punished.

Here are the qualifying features of technology Vershinin:

✓ the level of use– general pedagogics;
✓ the philosophical basis – dialectical materialism, humanistic progressive education and in accordance with nature, pragmatic;
✓ the concept of assimilation – the associative-reflexive, internalizational with elements of stage formation of mental actions;
✓ the focus on the personality structure – information and operating, the application;
✓ the nature of the content – training, comprehensive, technocratic;
✓ organizational forms – the traditional class-lesson with active use of hardware and system elements "tutor" and "consultant";
✓ the attitude to the child – person-oriented co-operation;
✓ the predominant method – creative problem-based learning technology;
✓ the category of educable – mass.

Conclusions

Comparison of the classification parameters shows that, taking a well-defined niche, all the mentioned technologies are directed at the formation and development of creative abilities of the child.

The presented system of Vershinin fits well into this series of pedagogical practices, comparing favorably with the scientific foundations of used method, which is based on modern achievements of science in the sphere of brain and human. This fact allows us to say, that the system of Vershinin is a prototype of the natural training technologies, and recommend it for a wide use, regardless of age of a student (from infant to adult), nor of the subject area.

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Педагогическая технология Б.И. Вершинина:

содержание и возможности

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В работе излагаются основные положения педагогической технологии Б.И. Вершинина, в основе которой лежит методика реализации функциональных возможностей мозга. Сравнительный анализ с распространенными педагогическими практиками позволяет рекомендовать ее для широкого использования на всех этапах обучения

Ключевые слова: педагогическая технология; педагогическая система; методика обучения.