THE DEVELOPMENT OF MODERN LEARNING THEORIES: COMPARATIVE ANALYSIS

Elena Mikhailovna Ibragimova
Kazan Federal University

Liliya Talgatovna Bakulina
Kazan Federal University

Marat Gasanguseynovich Ibragimov
Kazan Federal University

ABSTRACT
The article reveals the nature and content of the basic theories of learning that are in demand in national higher school (the theories of problem-based, context, modular, concentrated, project-based learning); determines their place in the task of training, meeting modern requirements. It gives a brief analysis of the major tendencies in the development of learning theories in Western schools and schools of the USA .It has been concluded that, despite some differences in the key ideas, the methods used and teaching techniques, home and foreign learning theories are interrelated to a certain extent. The main vector of the development of modern theories of learning in Russia and abroad is their focus on the development of thinking and motivation for self-development. Worthy of attention is the tendency in the development of learning theories in the U SU which is associated with reliance on a multidisciplinary approach, the use of neuroscience data for the development of the learning process.

Keywords: *learning theory, problem-based, modular, context, concentrated, project learning; development of learning theories in pedagogy of the West and the United States.*

1. INTRODUCTION

The development of modern society is characterized by an increasing dynamism, penetration into new levels of cognizing nature, the change in the framework of society and the emergence of qualitative activities in previously unknown areas. Under these conditions, there is actualized the problem of research of modern trends of development of learning theories that make up the foundation of a flexible system of professional training, allowing to form the high level of culture of thinking, communication and behavior, receptivity to changes in the labor, the ability to act in situations of uncertainty and contradiction, the readiness for realizing creativity to business in future specialists. Therefore, the theory and practice of the learning process today needs to seek a new level to the basic problems of learning theories and ways of solving them.

2. MATERIALS AND METHODS.

To solve the problem, theoretical research methods are used: analysis, comparison, contrasting, synthesis, generalization, extrapolation. The basic didactic works which give the substantiation of learning theories were studied. Since didactics (both home and foreign) has accumulated a solid furniture of scientifically based theories of learning, so for the analysis there were selected the didactic theories to be the most well-known and used only in practice of teaching: problem-based, modular, context, project, concentrated learning.

3 .RESULTS.

The theory of problem-based learning. This learning theory was developed extensively in the 70-80s of the last century with the efforts of I. Ya. Lerner, D. V. Vilkeev, M. I. Makhmutov, A. M. Matyushkin, M. N. Skatkin. Problem-based learning is defined as "a system of specific techniques and methods facilitating both an independent extraction of knowledge and its independent use in solving new cognitive and practical problems. The problem-based learning combines systematic search activity of students with their assimilating ready conclusions of science, and the system of teaching methods is built according to the principles of goal-setting and problematicity" [1, p.127]. One of the most characteristic features of problem-based learning is the formation of knowledge and lines of action in the course of an independent search of cognitive activity of students themselves. However, this does not mean that all learning is built as an independent search by students. Here we have a focus on an optimal combination of the reproductive and productive cognitive activity through the use of appropriate methods and techniques of training .

At the present stage of development of education the theory of problem-based learning plays the key role in improving the quality of learning meeting the requirements of the 21 century. And this is understandable, because this theory is aimed not only at raising the scientific level of teaching but also influences the development of motivation, improves the emotional appeal of the learning process .

The realization of problem-based learning implies consideration of a number of psychological and didactic conditions. One of the most important conditions is to comply with the requirements of the principle of simplicity, according to which, the academic problems posed before students should be at a level that would be feasible for pupils of a particular class or learning group. In this case the opportunity of independent acquiring knowledge by students and development of new knowledge or action will be provided, which in turn leads to emotional upheaval. If there is a considerable progress in solving the academic problems, as it captures the consciousness of the student, it is perceived as a value significant.

The theory of contextual learning. The author of this learning theory is A. A. Verbitsky who defines the contextual learning as "training, in which with the help of the whole system of didactic forms, methods and tools of the subject and social content of future professional activity of a specialist are modeled, and mastering of abstract knowledge as a sign systems is laid on canvas of this activity" [2, p. 40]. The main point of the theory of contextual learning is to immerse of the student into the context of future professional activity, bearing in mind its social constituents. It is a successful attempt to solve this contradiction between the academic nature of learning activities and holistic nature of professional work of the future specialist. The means of resolution of this contradiction are consistent purposeful combination of forms and methods of active learning (problem-based lectures and seminars, didactic and business play, etc.), in the process of which there takes place an entry of the student into the context of future professional activity.

The theory of concentrated learning was developed by G. I. Ibragimov, who treats concentrated learning as a "special technology of the educational process, in which an attention of teachers and students is focused on mastering the subject more completely by combining activities into the blocks, reducing the number of parallel disciplines studied during the school day, week (such learning is called "immersion" into the subject, but, from our point of view, the term "concentrated learning" reflects the core of the phenomenon more exactly)" [3, p.101]. The main idea of this theory is to offer such organizational structure of learning that would allow the student to immerse into mastering the discipline, without scattering his attention to many subjects and processes. The essential features of the concentrated learning are: decrease in the number of concurrently studied subjects (no more than three or four); integrity and continuity of the learning process; integration of the theory and practice within one class; complexity and

variation of teaching forms and methods, including regularities of change in capacity of students and teachers for work, etc .

The author has developed three basic models of implementation of concentrated learning, characterized by the degree of concentration. In accordance with the first model it is offered to study one basic subject during certain period. The second model of concentrated learning involves extension of the school day only, reducing the number of subjects to one or two within it. The basic organizational unit in this model becomes a study unit that includes succession of basic forms of learning organization: lecture - independent work of students, practical - test. The third model implies simultaneous and parallel study of no more than two or three disciplines that make up the module, which is based on the principles of interdisciplinary connections, continuity, their focus on the formation of a certain group of competences.

Generalization of existing experience of the concentrated learning gives reason to highlight some of its advantages: to provide in-depth and lasting mastering of completed holistic blocks of the studied material; to create opportunities for differentiation, individualization and professionalization of learning; prolonged set for the study of the discipline is formed in students, which, in turn, actualizes the motivational basis of learning.

The theory of modular learning. The main point of modular education is that the student has the opportunity for independent mastering of training program, presented in the form of modules. Each module usually includes the invariant elements such as: a task program of action, a block of information and study guide on organization of learning activity aimed at achieving the objectives of the module. Learning is controlled by testing via using the rating system of control.

In our country, modular learning became widespread in the late 80-ies of the last century, thanks to the efforts of P. A. Yutsyavichene [4, p. 68]. M. A. Choshanov [5, p.160]   and others. An important advantage of the theory of modular learning is its providing opportunities to give flexibility to the content and process of learning. Modular learning on that ground creates favorable conditions for the formation of individual educational programs and educational routes. In addition, modular learning is integrative in nature, it allows to combine in its structure the elements of problem-based, individual and differentiated, programmed and active learning.

The theories of learning in Western pedagogy. V. Y. Pilipovsky distinguishes at the level of methodology the leading paradigms in the western learning theories: traditionalist ideology in learning theory; rationalist model of the school and learning process; phenomenological tendency [6, p.107]. The author shows the main goals of learning strategies within these paradigms and arrives at the conclusion that the strategy of learning within the traditionalist-conservative paradigm is put in the forefront in the West, which "represents the backbone orientation in the field of education in the West ..., is the protection of the functions of education, school as a stabilizing social institution that preserves and protects the cultural heritage of the past and - and what is equally important - passes it to successive generations" [6, p.108].

From our point of view, here are a few more important points in this article. American pedagogical psychologist R. Ebel issued a direct challenge to neopedagogy-centered ideas in his paper "What are schools for?" [7, p. 3-7). He writes, in particular, the following. "Schools are not the place for social experimenting, where the society could delegate the responsibility to find the necessary ways and solutions aimed at eliminating various defects of social life. The schools should not also be considered as adoption agencies to deal with emotional problems of youth, juvenile crime prevention, diversion of youth from "influence of the street" or from too early entry into the world of work. Schools should not be "adaptation" centers, undertaking the mission of direct adjustment to life, development of positive self-awareness, etc

Another American pedagogue N. Postman wrote that "the school should not adapt to the chaotic tendencies in society. On the contrary, it should be a place where triumphs order and discipline aimed at implementing very strictly selected and clearly defined academic tasks" [6, p.110].

It is clear from these considerations that researchers are giving the alarm in the connection that school performing multiple functions (social, ideological, adaptation, etc.) evades the completing of its main mission – solving its academic problems, forming the system of scientific knowledge of the reality.

Modern learning theories in the USA. Their analysis is given in I. A. Tagunova's paper, who notes that the theoretical foundation of the learning process in the United States consists of the following theories: 1) constructivism; 2) social theory; 3) transformation; 4) humanistic - cognitive theory [8, p. 115].

The theory of constructivism. Its backbone is that the knowledge, abilities, skills are not transferred as the finished product, but they represent a combination of successive and interrelated actions of teachers and students, aimed at their conscious and firm mastering, forming the ability to apply them in practice. The central concepts of the theory of constructivism are self-improvement, self-actualization, self-realization, personal experience in self-construction of new knowledge, individual trajectory of development .

Social Theory. Learning, according to this theory, is the result of: a) supervision of different models of behavior; b) mental repetition of these models; c) subsequent simulation. Social theories of construction of knowledge are based on the following didactic positions: the concept is a combination of different meanings attributed to it; understanding the concept is never final and complete - any concept can be reconsidered; ability to develop different contexts of construction of meanings creates a comfortable environment for inclusion of an individual into the real life; the models of learning should be pragmatically oriented [9].

The theory of socio - constructivist learning focuses on the formation of critical approach in students' to public attitude, the construction of social identity, etc. It is essential: to form the students' understanding that knowledge builds society [10]; to strategically develop the learning process as a goal (motivational learning) [10, p. 149-183]; to maintain a motivational learning technologically (for this purpose, in particular, M. Skardamalia and K. Berayter have created a special computer program via which students form their own knowledge); to promote the development of learning communities (for this purpose multimedia educational environment has been created) [11, p. 393-451]; to apply the form of learning such as the projects based on case technologies [12]; to introduce the methods problem-based, cognitive learning, to focus learning on authentic, real-world problems [12, p. 32-41]; to develop students' cognitive flexibility (R. Spiro stresses the need for a flexible use of existing knowledge and the importance of teacher's appeal to the complexity of the so-called ill-structured domains such as social or economic sciences) [13, p24-33]; to give a good mathematical education [14, p. 2-33]; to rely on intuition in teaching students, to constantly form their metacognitive skills.

One of the most developed theories today is the theory of perspective - transformative learning. J. Mezirov, the author of this theory, says that transformative changes do not take place in people as long as "new raw materials will not fit comfortably into our existing reference systems" [15]. According to him the starting point in transformative learning is life experience of students [16]. He believes that in transformative learning, an important point is the atmosphere of lessons for which characteristic are: familiarization of all students with exhaustive information about the learning process; being free from doing under compulsion and having possibility to choose any role; willingness to accept different views; responsiveness and attentiveness.

Humanistic - cognitive theory. The backbone of this theory is thought processes, research in neurophysiology and neuropsychology. Psychologists George W. Miller and Neisser lay special emphasis not on behavior but on consciousness which is closely interrelated with mental processes. Humanistic - cognitive theory is multi-disciplinary that brings together anthropologists, physiologists, philosophers, linguists, psychologists, teachers, and the representatives of neuroscience of learning. Neuroscience is the science that deals with the nervous system which combines neuroanatomy, neurology, molecular biology, etc .; explains the processes connected with thinking, emotions, consciousness at different levels of organization .

The theory of multiple intelligences was developed by H. Gardner. Its main point is that individuals differ in their natural abilities, numbering eight different types of intelligence differentiated by H. Gardner: interpersonal (ensuring effective interaction with others), intrapersonal (oriented to self-knowledge), logical-mathematical, musical, linguistic, bodily-kinesthetic, spatial and naturalistic [17]. Each of these types of intelligence is important for the individual, and different people may have a dominating intelligence developed (or combined). According to H. Gardner, in schools (regardless of the level and orientation) the focus on the formation of a limited number of types of intelligence is dominated - linguistic and logical-mathematical.

4. SUMMARY.

The analysis of learning theories in Russia and the Western countries and the USA shows that, in spite of some differences in the key ideas, the used methods and means of learning, they are all related in one way or another. The main vector of the development of modern theories of learning in Russia and abroad – their focus on the development of thinking and motivation for self-development .

We draw attention to the fact that in home didactics of learning theory we have powerful substantiation in terms of the development of psychological, didactic and methodological foundations. As of the learning theories in the West and the USA, the focus on a multidisciplinary approach involving reliance on the data of neuroscience that combines scientific knowledge of neuroanatomy, neurology, molecular biology and others is distinct.

5. CONCLUSION.

These materials in the article can be useful for young scholars in the field of modern didactics, psychology of learning, because for the first time it shows in a concentrated form the characteristics of the main theories of learning developed in Russia, the West and the USA. In addition, the materials are of interest for the teachers of didactic courses, educational psychology, history of pedagogy, as they will enrich the respective disciplines. They will be useful for the students enrolled in the training programs of future teachers.

ACKNOWLEDGEMENT

REFERENCES

1) Makhmutov M. I. Problem-Based Learning. Theoretical Issues. M.: Pedagogy,1975. – 368 p.
2) Verbitsky A. A. Contextual Learning in Competence Approach / A. A. Verbitsky // Higher Education in Russia. – 2006. - № 11. – P. 39-46.

3)   *Ibragimov G. I. Concentrated Learning: Theory, History, Practice. – Kazan: The Center of Innovation Technologies, 2010. – 364 p.*

4)   *Yutsyavichene P. A. Fundamentals of Module Learning. – Vilnus, 1989. – 68 p.*

5)   *Choshanov M. A. Flexible Technology of Module Learning / M. A. Choshanov. – M.: Popular Education, 1996. – 160 p.*

6)   *Pilipovsky V.Y. Traditionalistic-Conservative Paradigm in the Theory of Learning in the West //Pedagogy. – 1991 . - № 8. – P.106-113*

7)   *Ebel R.E. What are Schools for//Phi Delta Kappan. Sept. 1972. P. 3-7*

8)   *Tagunova I.A. Burning Issues of Modern Theories of Learning in the USA //Pedagogy. – 2015. - №6. – P. 115-124.*

9)   *Jonassen D., Peck H, Kyle L., Wilson B. Learning with Technology. A constructivistic perspective. Upper Saddle River,1999, NJ: Prentice Hall, Inc.*

10) *Scardamalia M., Bereiter C. Adaptation and Understanding. In: S. Vosniadou, E. DeCorte, R. Glaser, H. Mandl (Eds.), International Perspectives on the design of Technology-Supported Learning Environments. Mahwah, NJ: Lawrence Earbaum Associates, 1996,p 149-183.*

11) *Brown A., Palincsar A. Guided, cooperative learning and individual knowledge acquisition. In L.B. Resnick (Ed.), Knowing, learning and instruction Hillsdale, NJ: Lawrence Erlbaum Associates, 1989, p. 393-451.*

12) *Brown J., Collins A., Duguid P. Situated cognition and the culture of learning // Educational Researcher, 1989, № 18, p. 32-41.*

13) *Spiro R., Feltovich P., Jacobson J., CoulsonL. Cognitive Flexibility, Constructivism, and Hypertext: Random Access Instruction for Advanced Knowledge Acquisition in III-Structured Domains. Educational Techology, May 1991, p. 24-33.*

14) *Cobb P., Yackel E., Wood T. A constructivistic alternative to the representational view of mind in mathematics education. Journal of Research in Mathematics education, 1992. № 23, p. 2-33.*

15) *Mezirow J. Transformative learning: Theory to practice. In: P.Cranton (Ed.), New directions for adult and continuing education: No. 74. Transformative learning in action: Insights from practice. 1997, San Francisco, CA: Jossey-Bass, p.5-12.*

16) *Mezirow J. Transformative dimension in adult learning. San Francisco: Jossey-Bass, 1991.*

17) *Gardner H. Frames of mind: The Theory of Multiple Intelligences. New York: Basic, 1983; Gardner H. Multiple Intelligences: The Theory in Practice. New York: Basic, 1993.*