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TEACHING IN A MODERN SCHOOL ON BASE OF COGNITIVE-CONSTRUCTIVE THERORY

Abstract. Sufficient evidence is provided in the modern scientific and pedagogical literature to support the feasibility and success of the developed core principles use in organization and planning of educational work used by many teachers in the world. Among the modern scientific approaches used by different systems of secondary education, the most popular ones all around the world are based on constructivist theories (Hattie, 2009). Peypert S. is the most well-known theorist of cognitive-constructive course. Peypert drew his attention to both two approaches-behaviorist and constructivist. Complex training involves the integration of material and includes interaction with student's personality as well. The analysis of the psychological and pedagogical literature helped to identify existing modern ways in formation of a constructive model of elementary education. Nowadays Kazakhstan's educational community actively accepts constructivist learning system through an understanding of its content, interpretation and application in practice. In this paper we consider two methods of successful teaching put worth into practice in the Republic of Kazakhstan and implementation of constructivist learning ideas. The first method is the effectiveness of the teacher's activity, his in-activity, the nature and frequency of interaction with his students, where teacher activity is aimed at determining compliance with student requirements. The second approach focuses on the process of teaching, which requires considerably more effort than a formal performance of professional duties. In our study we selected 40 participants from Aktobe and Kostanay regions. Selection of participants was made on the following criteria: age range - 30-39 and 40-50 years old with working experience over than 15 years; an elementary school teacher; teachers of the humanities, teachers of natural sciences and exact sciences. To establish the effectiveness of ongoing research pedagogical research methods have been applied such as analysis of school documents (summaries of lessons, pupil's notebooks, and class journal), survey of teachers and pupils, surveillance; interviews, etc.

Keywords: constructivist learning theory, teacher, teaching, technology, training method.

Introduction. Today, the main changes in education system rely on a fact of opposition of two basic theories: the theory of the transformation and the constructivist theory. On the basis of these theories education model is defined. Nevertheless, now, both in western and in eastern pedagogical sciences many teachers still consider that the main way of teaching is a direct transfer of knowledge from a teacher to a student. A starting point of the theory of transformation is the understanding that knowledge of the world is static and fixed and has to be accepted as something self-evident. Thus, a teacher transmits knowledge and concepts, accumulated over the centuries. This model of education is called "transformation model".

Constructivist theory which is widely propagated in western education system is based on the position that knowledge is actively constructed by a human mind. New knowledge is constructed on the basis of existing knowledge and ideas. The main purpose of this theory in terms of education is to develop students' ability to think. Perkins distinguishes two concepts: deep and superficial comprehension [1]. He claims that knowledge which results in superficial studying can be easily forgotten. According to Perkin's theory "the deep understanding is connected with already available knowledge. And we do not only accumulate knowledge, but we are capable to understand and apply it when it is required".

Richardson suggest that definition of constructivist pedagogics is "a creation of conditions in a classroom, the organization of activities and use of methods which are based on the constructivist theory of teaching and also statement of the purposes which are aimed at the development of students, their deep understanding of a subject, and also at development of thinking which is necessary for future studies" [2, p. 1627].

Similar ideas are presented by John Biggs and Catherine Tan in their book "Teaching for quality learning at university: What students do." [3]. Biggs and Tang paid main attention to the role of education. They believed in changes of education which would put a student into the center. The main question that should be asked when considering the education is not that *what does a teacher / lecturerdo?* But in fact *what does a student / learner do?* According to this concept, the authors didn't describe the methods of teaching, rather they concentrated on the joint activities of a teacher and a student (Teaching / Learning Activities). Fedenev and Vogel in their book "Methods of Teaching" compared the two theories, emphasizing the learning process (table 1) [1].

Table 1 – Comparison of traditional and constructivist theories of learning

Traditional behavioral theory	Modern cognitive theory
Education is the accumulation of information and skills.	Education is a holistic process, much more than the accumulation of information.
The teacher can transfer knowledge directly to students.	The student actively constructing their knowledge and comprehension.
Education takes place during the interaction of the teacher and student.	Education is a social process and involves cooperation.
Particular attention is paid to teaching.	Particular attention is paid to training.

Research methods. The pilot study was run on pedagogical staff of Aktobe and Kostanay schools of the Republic of Kazakhstan. These cities are located nearby. At the beginning of the experiment, two working groups of teachers were selected, each group consisted of 20 participants (N=40), see table 2, 3.

Table 2 – Quantitative and qualitative indicators of the teaching staff involved in the pedagogical study (Aktobe)

	Work experience		Pedagogical category			Number of winners (pupils)	Metho-dological manuals	Number of articles	Advanced training courses	Experts
	15-20 years	21-30 years	Highest	I	II					
Primary teachers	3	5	3	3	2	5	8	8	8	2
Teachers natural and exact sciences	2	2	2	2		3	4	4	4	2
Teachers of social and humanitarian disciplines	3	1	2	1	1	2	4	4	4	1

Table 3 – Quantitative and qualitative indicators of the teaching staff involved in the pedagogical study (Kustanay)

	Work experience		Pedagogical category			Number of winners (pupils)	Metho-dological manuals	Number of articles	Advanced training courses	Experts
	15-20 years	21-30 years	highest	I	II					
Primary teachers	4	4	2	2	4	4	8	8	8	1
Teachers natural and exact sciences	1	3	1	1	2	2	4	4	4	2
Teachers of social and humanitarian disciplines	2	2	2	1	1	3	4	4	4	2

Results of study. The data analysis of pedagogical staff show existence of their pedagogical activity, the developed authority both among colleagues and among pupils. Participants according to their age features testify to the sufficient level of pedagogical skills and their positive relation to the conducted pedagogical research.