FRAME-BASED TECHNOLOGY AS THE WAY OF DEVELOPING STUDENTS' SELF-THINKING SKILLS IN INSTITUTES OF HIGHER EDUCATION

Urazova M.B.

Tashkent state of pedagogical university named after Nizami, e-mail: marina-20053@yandex.ru

The essence of frame-based technology is revealed in this article. Moreover, the efficiency and productivity of it, is considered there which contains main feature, is an increase of volumes of study materials without a rise of class hours. Therefore, this method can be successfully used in comprehensive school as well as in high educational institutions. In Uzbekistan, teachers use frame-based technology in universities and institutes while teaching pedagogical discipline. The frame-based model is an abstract image of standard stereotypic situations in symbols – a strict design containing element as empty window – slots, which are repeatedly recharged by information. Each of slots has its purpose and must be filled by concrete content and painted in certain color. By means of light attention is attracted to particular slot via visual perception. This enables students orientate much more quickly in offered scheme. The efficiency to frame-based model is consisted of its features to compact, structure and systematize information in the manner of tables and matrixes. Moreover, this method allows students to develop independent thinking, cognitive and creative abilities. It also helps students to develop capability to select from mass flow of information the main one; to compare, evaluate; to find the relationship between searched information and combine it; actuate students' reasoning while studying new theme and finally, this technology stimulates to acquire knowledge independently, changes the nature of educational pedagogical ambience itself by filling it with spirit of cooperation, development of person.

Keywords: frame-based technology, self-thinking skills, student

The humanistic nature of education in High Education System suggests putting personality of student into the center of education process. Teacher's cognitive activity and mutuality to student are the essential things in tandem ***«teacher-student»***. Particularly such education system reflects the humanistic direction in innovational pedagogy (Lozinskaya, 2009).

At present, all developed countries have realized the urgency of reforming their own education system in order to make student as central figure of the scholastic process. In Uzbekistan the reformation of educational system is accomplished along with introduction and using hi-tech as well as in Russia. Teaching technologies such as contextual, vitagenal, differential, integrative and moul are defined in modern pedagogical literature. Also, in this article one of the effective teaching methods will be discussed which is well known as frame. This method successfully applicable by our teachers during classes of pedagogical disciplines in Tashkent Pedagogical Institute named after Nizomi (Burtovaya, 2010).

The word «frame» has several meanings from English translation in electronic dictionary ABBYY Lingvo:

1. As noun, it is a structural unit of intellectual and other objects.
2. As verb, it means to crate statements, plans and imagine.
3. As adjective, it is a framework which has its own scope.

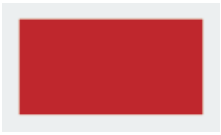
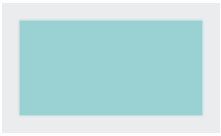
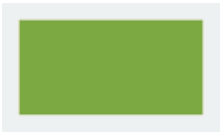
For the first time, the technology of frame education was introduced by Russian scientist Minskiy M. as an attempt to create frame-based network or paradigm in order to reach better performance of understanding (Minskiy, 1999). On the one hand, Minskiy made an effort to construct database which would contain encyclopedic knowledge. On the other hand, he wanted to create the most describing base that contains information in outlined and ranked form (Minskiy, 1972).

The frame is a model of knowledge which activates in certain situation. Moreover, it uses for its explanations and predictions the way of organizing studying materials and studying time while studying the theme of research (Minskiy, 1972).

The image is presented in sign-symbolic and has hypothetical and predictable nature «semantic field» (Gurina, 2004). As a result, such frame or system activates in most cases thereby provides the greater velocity of its recognitions and comprehensions (Kolodochka, 2003). In case if it is not possible to find necessary frame, it occurs the adaption of the discovered frame to real picture and it captures in mind for subsequent uses (Minsky & Papert, 1969). Based on mentioned above information, frame technology means studying scholastic material structured by certain manner in special organized order.

The main feature of this technology is an increase of volume of study skills without a rise of scholastic time. As usual frame consists of several cells or slots and each of them has its own purpose (Gofman, 2003). Thus, the frame presents as a model abstract image of standard stereotypic situations in symbols; hard constriction that contains elements of empty slots which are repeatedly restarted by information. In addition, with the help of frame-based model it is possible to compress, structure and systemize information in terms of tables and matrixes (Kolechenko, 2005). We shall consider an example of use frame-based technologies which

are successfully used by our Uzbek teachers on lessons according to «Teaching methods in pedagogy» on theme «Method of decision-based education» with third year students of Tashkent Pedagogical University named after Nizomiy (Figure).

	Input data	The name of frame	Color
Slot 1		Didactic aim	
Slot 2		Task	
Slot 3		Justification of hypothesis, conclusion of mechanism	
Slot 4		Problem solving	
Slot 5		Test assignment	

Frame technology «Methods of task solving education»
(Source: Minskiy M. *Frames for skills representation* 1999)

This method is used by our teachers in the following way. Lecture materials are distributed for students. After acquainting with them students are offered frame-based scheme consisting of slots see Figure 1. These cells have to be full-filled by certain contents and painted by particular color. For instance, substantiation of hypothesis, conclusions, regularities are in yellow; task is in blue; didactic purposes are in red; solving the tasks is in cyan; tests are in green. By means of color, attention is attracted to certain slot throughout visual perception. This enables students to orientate much more quickly in given schemes (Klochko, 2005).

The layout of lessons is divided into 5 steps:

1. Suggest students exact scheme.
2. Independent work with text and search of necessary information.
3. Filling slots.
4. Analysis of done work, estimation an comparison of founded information.
5. Transferring the meaning of filled slot via symbol.

If traditional scheme of theoretical lessons are held in terms of inquiry and rehearsal of last lecture or that of lectures and tutorials this scheme allows (Gurina, 2004):

- To transfer education into self-studying , develop students' abilities to choose from flow of mass information the main one, compare and evaluate.
- Find the relationship of information and combine it.
- Activate student's thinking while studying new theme.
- Motivate student to acquire knowledge independently (Choshanov, 1996).

Literature and pedagogical guides are the sources of knowledge for organizing students self work. This innovation differs from others due to the proper use of study material; it saves time during education process (Latishova & Turina, 1999).

Students are acquainted to use frame on lessons while study theoretical materials of first theme. They concern of reproductive activity whereas the productive activity is close to zero. However, it is urgent for teacher to show students the relation of theoretical materials within the theme (Turina, 2000). Meanwhile, studying the second theme, understanding

and thinking processes are much more faster an there is enough time for productive activity because students have already known how to use frame technology (Bleyk et al, 2004). Throughout the rest time students can do the following things:

➢ Analyze heart information (think, describe, compare).

➢ Synthesize information (combine, imagine and create).

➢ Make comparison (evaluate and discuss) (Gurova, 1986).

When students totally understand frame-based scenario of study material, they will be able to use it automatically without any effort, as a result productive activity will replace reproductive one completely. Furthermore, schematic purpose of basic information allows o save time for self work of students. The goal of this is:

1. Systematization fixing theoretical and practical skills of students; consolidation and extension of theoretical knowledge; development of skills to use reference documentation and special literature (Schank & Abelson, 1975).

2. Development of cognitive abilities and student's participation; creative initiative, independence, responsibility and self-discipline.

3. Shaping self-reasoning, abilities to self-development, self-perfection and self-actualization (Dyakov & Borisov, 2007).

Such form of flow of lessons increases considerably:

➢ Motivation towards learning, efficiency and effectiveness of studying activity.

➢ Provides work for whole group, lets students to develop cognitive activity, self-thinking and creative abilities.

➢ Changes the nature of educational pedagogical sphere by filling it with cooperative spirit and individual's development (Representation and use of skills, 1989).

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