

Peculiarities of Organization of Training Students with Clip Thinking

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Abstract

The article deals with the peculiarities of thinking of today's students, the need to develop conceptual and clip thinking. It advances a thesis that the construction of the training course will be successful basing on J. Keller learning model and using educational technology that contributes to the development of mental abilities of students with clip thinking. The correlation of J. Keller model components and the causes of students' failure with clip thinking has been determined. The author proposes a model of efficient learning by using modular processing, the particulars are examined on the example of the course "Mathematical logic". The study describes the features of the educational process and instruction of each training module block given to the students, provides the recommendations to improve the effectiveness of the process of teaching students with clip thinking.

Keywords: student, clip thinking, conceptual thinking, training, successful learning model, e - learning, modular learning.

1. Introduction

One of the main tasks of higher education system is the development of thinking abilities of students. To determine the principal style of thinking of the person, the two terms “conceptual thinking” (verbal, logical, sequential), and – “clip” (thinking in images, pictures, emotions and stereotypes are used; “clip” means a passage of text, press-cutting, video clipping, etc.).

In solving many problems modern man must have the ability to form up a string of a sequence of actions from the current situation to the goal. The creation of such strings implies the development of conceptual thinking. Conceptual thinking is the ability to think and reason logically and in a consistent way. This kind of thinking is required in many situations, from solving complex technical and economic problems to convincing interlocutors and shopping.

Due to the huge flow of information in modern society, people have to digest more messages in less time, which results in clip thinking. Semenovskiyh T. V. gives the following definition: “Clip thinking is a process of reflecting a variety of different properties of objects, without taking into account the links between them, characterized by fragmentariness of information flow, illogicality, complete heterogeneity of incoming information, high-speed switching between the parts, pieces of information, the lack of a complete picture of the perception of the surrounding world” [1]. Clip thinking is a kind of human adaptation to the new digital world.

Many researchers see only the negative in clip thinking. B. P. Zelentsev writes that “one of the reasons that impairs thinking abilities of schoolchildren and students is so-called clip thinking” [2]. L. B. Aksenov notes fairly that today's young people “are normal, but they are” different” and live another time and in other conditions of human development”. [3] It turns out that our students know less than their teachers but can know more. If a person has his clip thinking undeveloped, he will be difficult to adapt in the abundance of diverse information. After taking the plates, the Internet, “the evil of mankind” gadgets away, the problem of thinking development in children cannot be solved, so the child will be in cottonwool existence. After coming into adult life, he will turn out to be unprepared to work with a huge flow of information. Thus, modern man must have a developed conceptual thinking.

2. Objectives, Methods and Stages of the Research

The notion of “clip thinking” has not been enough studied. The need to develop conceptual and clip thinking is one of the reasons for the changes that are taking place in the system of education (the introduction of the federal state educational standards of new generation, the use of interactive technologies in the educational process and others). However, the problem of organization of educational process with consideration for the fact that the younger generation have their clip thinking developed has not been studied so far. Especially it applies to mathematical disciplines. After all, their object in the study is training of the students to systemic information perceiving, the ability to reflect, analyze, see and determine cause-and-effect relation, as well as the logic of reasoning. With this in mind, the author explores the features of the development of modern thought processes of the students within the training course “Mathematical Logic”.

We live in a digital world. Therefore, there is a problem connected, on the one hand, with the need to develop conceptual and clip thinking in students and, on the other hand, technology inconsistency and teaching methods in the education system in the rapidly changing digital society. The research objective is a model of learning process contributing to the development of mental abilities of the students who have clip thinking by way of the example “Mathematical Logic”. The methodological basis of the study is John Keller model of successful learning process, the principal components of which are attention, relevance, confidence and satisfaction [4]. The author's model is

based on John Keller model and contains a description of the training course structure with the essential educational technologies.

3. Research Findings and Their Discussion

The studies have found out that 80% of people, especially young people, have clip thinking [5]. B. P. Zelentsov lists some features of the students with clip thinking:

- 1) they do not know how to analyze, there is no crisp logic, they are not able to distinguish the most essential things and establish logical connections;
- 2) they have a shortterm memory, while the longterm memory is absent. They completely forget the 2-3-4 weeks material;
- 3) they can operate on only the senses of short length. The increase of complexity of the objects of interest leads to an absolute misunderstanding of the studied material;
- 4) there is lack of interest in the study of the subject, because they do not understand what at issue is;
- 5) they have an easy fatigability that is expressed in studying compulsory subjects;
- 6) due to lack of interest, there is poor discipline;
- 7) young people with clip thinking cannot work without assistance [2].

John Keller has proposed a model that increases the efficiency of acquisition of knowledge by the students in the learning process. The author analyzes the relations between the components of the Keller model and the causes of poor progress of the students with clip thinking in a monologic lecturing. Table 1 presents the results of the analysis.

Table 1. The relationship of the components of John Keller model and the causes of academic failure of the students with clip thinking

The components of John Keller model	The causes of academic failure of the students with clip thinking
attention	Absence of attention of the students with clip thinking is connected with the fact that the word methods of material presentation are used, which creates objective prerequisites for diverting attention resulting in easy fatigability of the students when studying the disciplines.
significance	In the process of training the students acquire a large volume of finished knowledge through the teacher. Without focusing on an independent work on acquisition of the knowledge, the students forget "how to think", have no skill to work independently, no personal significance.
confidence	In the process of learning there prevail the exercises for students' memory, the students are to reproduce curricular material from memory; those who have better memory are more successful in reproducing. But these methods of memorizing and exact reproducing information from memory are not required and applied in future professional activity, on the other hand, the student is not ready to those forms of work he will deal with in professional practice. Consequently, the students have no self-confidence.
satisfaction	The students with clip thinking have reduced abilities to analyze or have no skills for it, as a result, the student is not able to achieve certain results by himself.

As it can be seen from the table, in the digital world the main obstacle of the effectivization of assimilation of knowledge by the students in the learning process are the technologies that do not include “clip thinking” of the students. How to solve this problem? The author believes that it is necessary for the teachers to build the learning process with regard to the characteristics of the students with clip thinking, select appropriate educational technologies.

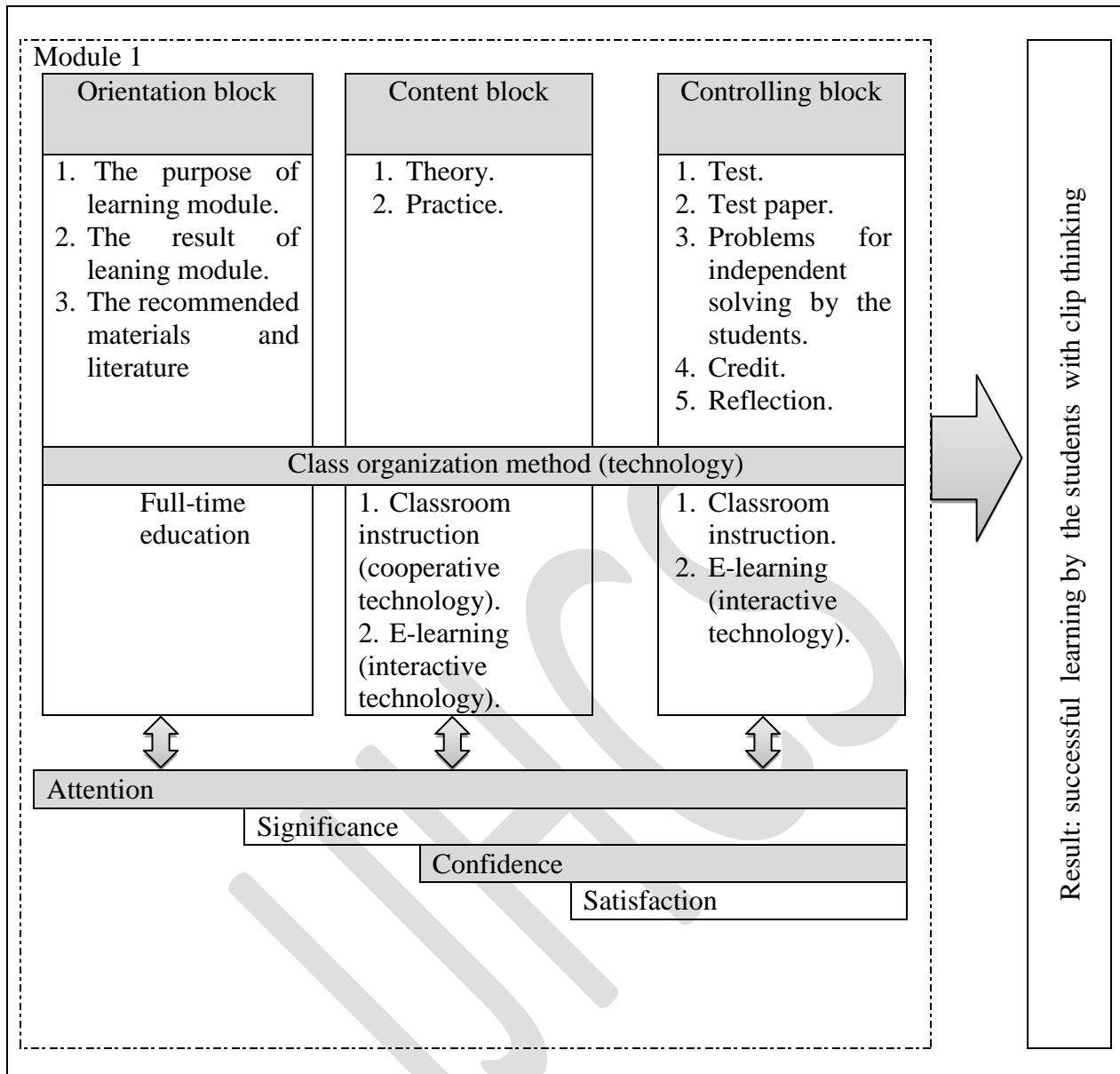
Training of the students to fragmentary information perceiving should be broken down into blocks, therefore the proposed model is based on a modular approach of training. Lebedeva M. B. identifies the following blocks in the modular training: orientation (objectives and resources), content (academic text with illustrations), controlling (a set of tests and practical assignments) [6].

The course “Mathematical Logic” for the students of the speciality “Mathematics and Computer Sciences” consists of the following modules [7]:

1. Introduction. Propositional algebra.
2. Boolean functions.
3. Sentential calculus.
4. Predicate logic.
5. Mathematical theories.

Each module has its own structure and comprises logically complete blocks: orientation, content and controlling. Consider the logic of unfolding of each of the modules by way of the example of Module 1 (Scheme 1).

Scheme1. The model of successful learning module by the students with clip thinking



It is observed that each block of the module is to be realized on the basis of attention, meaningfulness, confidence, satisfaction.

Let us examine thoroughly “Orientation block” of Module 1 of the course “Mathematical Logic” in the process of training bachelors of the speciality “Mathematics and Computer Sciences”.

The aim and the result of mastering the module. For successful learning, it is essential for a modern student to get interested in studying discipline, be shown the importance of the course for professional development: what he will be able to know and how to apply this knowledge and skills in practice. However, it is too little to increase students' motivation. An effective means is the introduction of point rating system. At the very beginning of the semester the teacher must identify for what work the student will receive a number of points. As a result, the student will be motivated by specific points at final assessment and have greater responsibility for learning process. The students' interest in the subject is conditioned by personal qualities of the teacher. It is very important for modern students to have their teacher as the tutor, to apply for his help at any time. If the teacher loves his job and is devoted to it, and then the students become carried away with the subject.

Availability of educational and learning material. The components are working program, materials for students, here the use of visual aids is important, availability of text handbooks, object lessons and many other components.

The role of the orientation block is to “involve” the student into the learning module, arouse his interest and motivate, in a word, lay the foundation that is required for successful passing of the training process.

I. “Content block”

The structure of content block of modules of the course consists of theoretical material and practical skills of problem solving. The electronic technology-assisted lectures on “Mathematical Logic” are conducted on the LMS Moodle platform. The theoretical material that contains audio, video and text information, eliminates the monotony, allows to change the form of perception. Thus, the lectures contain the elements of “clip” information presentation. Each lecture ends with questions and test tasks for better understanding of training material. With the development of e-learning course for the students with clip thinking it is essential to duplicate the material studied in different forms (text, presentation, video) several times.

The practical trainings are full-time tuition and cooperative technology-assisted. The basic idea of the technique is “If you have learnt - teach others!”. Each student is assigned to do one or more tasks on the same topic, goes in depth into tasking, decides it and explains to another student. The student-pupils assesses. The results of the work of each student and the group on the whole are summed up at the end of the class. This technology combines the students’ unsupervised work with pair work and with the group on the whole. Using the technologies of cooperative learning requires the students to know theoretical material and how to apply it in solving the problems. However, when lecturing from distance, the following problem arises. During the traditional lectures the teacher is able to demonstrate the examples of problem solving. In distance lecturing, an immediate explanation of practical material is lost. Therefore, when organizing distance learning courses, especially in the mathematical disciplines, it is essential to have a variety of multimedia resources, by means of which the teacher can explain, demonstrate the solution of practical problems. Only such organization of educational process allows to carry out cooperative work during practicals.

One of the main elements of this unit is to organize the communication. Interacting with each other and with the tutor directly and via the Internet, the students form communication skills, ability to understand and listen to each other, ability to communicate through the media of communication. The use of e-learning in the educational process instills the skills of cultural communication in a net.

When learning content block of the module, it is necessary in every way to stimulate students' activity, encourage them for independence and ingenuity, to give opportunity to assess their activity, as well as achievements of others. Realizing the objectives of learning and feeling his significance among the classmates, the student experiences satisfaction from the educational process. The feeling of satisfaction strengthens self-confidence and is the foundation of successful learning.

II. Let us concretize the “controlling block”

Implementing educational standards implies strengthening the role and constant optimizing the students’ independent work in order to increase the cognitive interests and develop independence. The students are proposed as an independent work to solve problems and write essays on “Mathematical Logic”.

Throughout the course of study, the teacher should support the student, be complimentary about his every small success, remark, reply email letters, encourage his work in every way, be always in touch with the student. After passing the module, a reflection should be carried out in

order the students to learn monitoring their educational activity, analyzing it, estimating and correcting.

4. Summary and Conclusion

Organizational effectiveness of the process of teaching the students with clip thinking is ensured if:

1. the students are motivated to learn the material;
2. the students are convinced in importance and significance of education for professional progress;
3. to maintain the students' self-confidence during educational process and help reach satisfaction;
4. the training course is divided into the modules the content and deadlines of which are strictly regulated;
5. the methods and modes of learning that include the elements of "clip" information presentation in educational process are chosen: to exclude monotony, change the forms of perception, make the students listen, write, watch; use multimedia teaching material in the form of pictures, tables, charts; give the examples of applying the studied notions;
6. electronic technologies that allow the students to simplify the studied material by dividing it into shorter parts and revise the studied material are used.

The training course devised with the use of modular technologies, e-learning, cooperative learning technologies on the basis of John Keller model with an allowance for the fact that the students have the developed clip thinking enables to motivate them, make them take interest in the course. This is the guarantee of successful training which results in the students' conceptual thinking.

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