

Technological Features of Contextual and Heuristic Type in the Process of Teaching a Foreign Language in Higher School

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Abstract-This paper is aimed at analyzing various educational technologies that ensure greater effectiveness of education, contributing to the development of motivation for learning, development of interests, aptitudes and abilities. The leading research method of the following problem is an empirical one allowing checking efficiency of educational technology in the process of teaching foreign language. The paper deals with the problem of pedagogical technology, its objectives and specifics. Results of the study suggest us to state that a combination of technologies of contextual and heuristic type improves productivity of a teacher and efficiency at mastering an educational material by students. The materials of the article have a practical value as they can help teachers to orient correctly in the abundance of the proposed methods and techniques of work with students and identify those that will be most effective in the context of a particular educational situation.

Keywords-technology, educational process, motivation, verification, heuristic type

I. INTRODUCTION

In pedagogical literature the concept of "technology" is used in various combinations: technology of education, teaching, pedagogical technology, informational, computer and others, development dynamics of which reflects the evolution of the phenomenon.

The first point of view on educational technologies as a complex of modern technical means is disclosed in the definitions given by Persinval and Ellington "any possible means of providing information, audio-visual means" [1], Klingsted defined the pedagogical technology as follows: "it is not just the use of technical training aids or computers, it is a display of principles and development of techniques to optimize the educational process by analyzing the factors that increase the educational effectiveness, by means of designing and exercising methods and materials, as well as by assessing the methods used" [2] and others.

Point of view on educational technologies as a process of communication, pedagogical influence is revealed in the definitions given by Yakushevich "system of guidance" [3], Sakamoto "methods of optimizing the pedagogical influence" [4]. Mitchell believes that educational technology is an area of research and practice in the educational system, having connections (relations) with all aspects of arranging pedagogical systems and resource allocation procedures in order to achieve specific and potentially reproducible results [5].

In practical terms educational technology is a theory on the use of methods, means and ways of arranging educational and academic activity.

The objective of educational technology is to ensure that didactic laws and principles "reform through unique features of subject matter into effective methods of teaching and learning, as well as to create all the necessary conditions for their best use while exercising appropriate forms and educational means" [6].

An important feature of technology is the ability to predict results and to optimize the work. In this sense, the researchers correctly point out that "the aspiration to process ability is not a fashion, a transition from methods to technology is naturally essential" [7].

II. FACTORS EXERTING IMPACT ON FEATURES IN TECHNOLOGIES OF TRAINING

External and internal circumstances may act as factors influencing the characteristics of education technologies in a technical college. Under external circumstances we mean those, that stand outside the educational process and internal ones are circumstances that are directly related to the educational process.

Based on the results of the scientific literature analysis, generalization of innovative pedagogical experience and research experimental studies data the following factors

have been derived affecting the special characteristics in educational technologies. These include:

- record of age and psychological characteristics, and individual distinctions of students;
- level of pedagogical and methodological skills of teachers;
- facilities and resources of an educational institution;
- particular qualities in individual motivational structure of students;

III. FEATURES OF PEDAGOGICAL TECHNOLOGY

Further study of pedagogical technology under conditions of objective changes in educational system made it possible to identify a number of features of pedagogical technology existing in higher school based on the provisions of the anthropological model of education. They are as follows:

1. The subject of education in a higher school is an adult and that is what can be considered as a fundamental factor in determining the distinctness of the whole system of goal-setting, diagnostic and formative means of a pedagogical project.

2. Another feature of pedagogical technology manifests itself, on the one hand, in an aspiration of students for creativity, independence, and on the other hand - in the selectivity of higher education, in granting the students freedom for choice of goals, content, means, sources, places of education.

3. The educational process in a higher school is characterized by a high level of conscious learning approach to educational activities; student appears to be an equal subject of an educational process, a more conscious understanding by the student of the fact that to a large extent the final result of his activity depends on his own effort.

IV. MATERIALS AND METHODS

Basic technologies in teaching a foreign language is based on intensive, communicative, situational methods. The intensive training model is designed for education of adults in the context of short-term courses [8]. These ideas were the starting point for developing a variety of methodological systems of intensive training: emotional-semantic method [9]; fusion of suggestopedic and consciously comparative methods [10], method of activation of individual and team capacities [11].

All these methods have one thing in common - principles of activation method: of collective interaction, role-playing arrangement of educational process, principle of concentration in arranging educational material and educational process.

To solve the issues of research active learning methods were used, stimulating cognitive activity of students. They

are based mainly on a dialogue implying a free exchange of views on ways to resolve this or that problem, are characterized by a high level of involvement of students. It is this education that is now generally accepted to be called "best educational practices."

Studies have shown that at active lessons - if they are focused on the achievement of specific objectives and are well organized - students often learn the material more fully and usefully for themselves. The phrase "more fully and usefully for themselves" means that students think about what they learn, apply it in real life situations or for further education and may continue to learn on their own.

In their study the authors proceeded from the concept of communicative education technology developed by a team of researchers led by Passov [12]. It is based on 10 didactic principles: mastery of a foreign language culture through communication, consistency, education based on individualization of situations, etc.

V. RESULTS

The aim of this study was verification of the efficiency of educational technology of contextual and heuristic type while teaching a foreign language to students in a higher school.

During the experiment we conducted a proficient work in groups of 1-4 year students learning a foreign language at Linguistic Center of Kazan innovative university named after V. G Timiryasov (IEML), Naberezhnye Chelny branch. This work consisted of systematic pedagogical monitoring of the students' activities in the classroom, consulting the students during homework check-ups, during tests. Supervision was accompanied by conversations with students and teachers, their disposition to the subject, objectives during the lessons, and motivation of actions while doing homework. As a result, we developed a questionnaire to determine the characteristics of the motivational support to ensure educational activity of students during foreign language lessons.

VI. THE COURSE AND RESULT OF THE EXPERIMENT

At this stage, the objective of study was to determine the initial state of the motivation of the students, and also to check on motivational support of educational activity of students in the process of learning a foreign language. Using interviews and observations as diagnostic tools let us conclude that most of the freshmen and sophomores are not ready for the process of self-education and during the classes they may perform only basic tasks of reproductive nature.

Students tend to demonstrate the properties of their memory, the ability to remember information from texts and oral messages of a teacher in a sufficiently large volume. However, along with this there is an inability to analyze and to capture in time the received information, to select the necessary one by form and content.

Pretty often one may witness how students blindly follow the instructions of a teacher, can't set their own objectives within the overall objectives of the lesson, are not able to manage their attention during the transition from one type of speech activity to another, do not possess the skills of self-control and self-esteem. The main reason for this situation, in our opinion, is the lack of basic educational work skills of many students.

At the beginning of the experimental work throughout ten lessons both in control and experimental groups at the teacher's request students' state of attention was recorded at different parts of the lesson. The data processing brought to the conclusion that students of all groups (both experimental and control) do not sufficiently master attention management mechanisms, that this process requires constant monitoring and correction by the teacher.

On necessity update and the choice of motif by a student of his activities during the same ten lessons were judged by what tasks (in difficulty) were selected by students. The students at different stages of work during the lesson were offered special colorful cards with exercises on different types of speech activities. In drawing up the assignment all four levels of motivation were taken into account.

For example, when solidifying grammatical skills on perfect tense at student's option four types of exercises were offered 1. To choose the necessary tense form from two proposed. 2. To put the verb into the correct form. 3. To put the verb into the right form with simultaneous translation of it into native language. 4. To put the verb into the right form and translate the sentences into English. When selecting the tasks the preference was given both in experimental and control groups to tasks (1) and (2).

Moreover, the following was true for students of different level of language skills. As you can see, most of the students at the beginning of the experiment while choosing an assignment were guided by the wish to fulfill the task that is easier to cope with, so that later not to have a failure on the subject. Those students who have chosen tasks (3) and (4), of course, needed much more time to complete the task, since they needed to work with a dictionary and consult with the teacher.

But in this case the students knew that performing a task of an increased difficulty they thereby expand their vocabulary, develop other important knowledge and skills of speech activity. Similar assignments were compiled on listening, reading, and other kinds of speech activity.

The results have shown that the students of 1-2 courses do not possess a mechanism of self-control of their attention in the process of learning a foreign language, are not always in their education activity guided by actual motives, by those that would contribute to the activation of self-conscious language learning process. Data analysis also evidences the lack of ability to set their own goals within the overall objectives during a particular lesson and achieve them. Even if students set goals on their own, they

are mainly of reproductive feature which also indicates a low level of motivation development.

TABLE 1. DISTRIBUTION OF STUDENTS BY LEVEL OF THEIR KNOWLEDGE (IN %)

Stages	Courses			
	I	II	III	IV
Beginning of the experiment	10	13	20	25
End of the experiment	33,3	46	56,7	73,7

VII. DISCUSSIONS

How is then the technological approach in learning a foreign language in higher school being implemented? First studies on education and upbringing technologies were conducted by foreign scientists (actually the term "pedagogical technology" is an inaccurate translation of the English "an educational technology"), in particular Bloom [13] and J. Bruner [14].

Under technology they meant "the field of knowledge related to system of regulations, providing education optimization." Among the basic characteristics of the concept under discussion the authors pointed consistency, conceptuality, scientism, integrity, security of results, reproducibility, efficiency, quality of education, its motivation, novelty, algorithmic quality, informative value, optimality, possibility of replication and transfer into new conditions. Legality of the technology performs as a generalized invariant feature.

So far the efficiency of various educational technologies is being investigated in theoretical and scientific aspects. In theoretical term, the search is being carried out on the status of educational technology as a pedagogical category; an integral viewpoint is being formed on its nature, its structural components. In practical terms, conditions for the use of technologies in various fields of educational activities (didactic, educational, career-oriented), and others are being studied.

Such a wide interest to this problem is largely due to the fact that technologization - is the process of education reformation necessary for solving a variety of pedagogical problems.

According to the results of conducted researches, the difficulties associated with the use of educational technologies, are primarily caused by the inability of teachers to navigate in the abundance of the proposed methods and techniques for working with students and point out those that will be most effective in the context of a particular educational situation. Thus, we believe it is necessary to make a selection of the most commonly used educational technologies.

At the current stage of the study a technology of contextual education is widely used in a higher education system. This technology includes three main forms of activities: educational, quasi professional, educational-

professional. As transitional forms laboratory-practical lessons, simulation modeling, special courses and others are being widely used. This kind of technology has the following structural components: aim, actions, tools, object, and result [15].

The advantages of contextual educational technology allows to implement the important principles while training the specialists: is a project of the future professional activity, it is dynamic, that is differentiated in all areas of training, it is predictive, as orients the graduate for a specific job, and also covers the perspective of his future career.

Consideration also should also be given to another educational technology, which is widely used in the educational process of a higher school practice and shows significant possibilities of implementing a student-centered approach in a higher education system. The starting point of this technology is an orientation that the solution of didactic issues is provided when managing the educational process with exactly set goals that may be exactly described and identified.

Alliterative model is an executive basis of the educational process of heuristic technology type which through conceptual-semantic system recreates the complete picture of the language under study. The process of its creation involves several stages. The first stage is an analytical one. On this stage, a model structure of the material is being created, which will become the subject of study. On the second stage there is a transition from an educational material model to a model on its assimilation that is how a didactic model is being created.

Here is where the essence of the educational content is being objectified and materialized; teaching guidance tools are being programmed. At this stage the sequence of joint targeting is being developed, a common objectives project is being created, which students will be able to set while grasping each module. The third stage of modeling -is an activity one. On this stage the course of action on mastering an educational material is being chosen, adequate to content methods and learning tools are being selected and developed. At this stage, subjective factors of education are also taken into account, namely size and difficulty of the material, its distribution on time, and connection with practice, students' motivation to the teaching and learning activities.

The educational material in educational process is presented in the form of a chain of problematic situations. Modeling stage completes the preparatory stage. The next stage is arrangement of educational process according to the earlier developed didactic structural system. Thus, problem-modeling technology of a heuristic type maximizes cognitive activity of students, which reaches the level of a creative thinking.

VIII. CONCLUSION

Thus, based on the conducted study we can make the following conclusion. Pedagogical technology of contextual and heuristic type in higher school is characterized by the same properties as a secondary school technology. However, the transition from student to learner position based on age and other changes, studied by andragogy, is the result of transformation not only the subject, but also the structural units of its educational activity.

All this contributed to pointing out the main features of pedagogical technology existing in a higher school. They are as follows: originality of goal-setting, of diagnostic and forming means of a pedagogical project as a result of the fundamental differences of the educational activity subject of that of the higher school and a secondary school; noticeably lower degree of preprogrammed interaction between a student and a teacher as compared with the secondary school; an increase of guaranty to achieve the set goal in a higher school.

The results of the study also let us affirm that different combinations of educational technologies provide a greater efficiency of education, encourage motivation development for education, develop interests, aptitudes and abilities. The data received, in our view, make it possible to talk about the need for the introduction of pedagogical technologies into the educational process of students.

A high-performance educational technologies development allows, on the one hand, for the students to improve the absorption of educational material and, on the other hand, for the teachers to pay more attention to the individual and personal growth of students and direct their creative development. Thus, educational technology, firstly, increases teacher's productivity.

Secondly, control of educational out comes of each student and a feedback system allows teaching the students according to their individual abilities and ply of the character. For example, if one student grasps the material from the very first time, then the other, sitting in front of a computer, may work it out two or three times and more.

Thirdly, shifting of the main functions of education towards educational tool gives additional free time to the teacher; as a result more attention may be paid to the individual and personal development of students.

Fourthly, as for any technology an objective is defined very precisely (diagnosticity), then the use of objective methods of control (final and intermediate) makes it possible to reduce the role of the subjective factor (bias or susceptibility of a teacher) while carrying out control.

Fifthly, development of educational technologies helps to reduce the dependence of educational result from the teacher's qualification, which opens up opportunities for the alignment of subject matter acquisition in all educational institutions of the country.

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