Original Article

Interactive Teaching Methods as Means of Stimulating Reserves of Student Interaction

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Abstract

The significance of the problem under research is the need of introduction and improvement of interactive teaching methods in the learning process of Higher education institution. The objective of this article is to examine the most effective teaching conditions and types of interactive activity for organizing student interaction in the classroom as well as their influence on changing student personal traits. Pedagogical observation, questionnaire, didactic experiment, complex of standardized psychological diagnostic methods, statistical computation were carried out for the deeper examination of the given issue. The didactic experiment results have proved stable positive and valid changes of personal traits of the participants. These changes may be regarded as one of the efficiency criterion of the chosen interactive teaching methods. The results of the research presented in this article may be used for the further development of efficiency criterion of interactive teaching approaches and methods, for writing books on foreign language methodology and developing teaching aids.

Key words: Education, Student, Interactive teaching approach, Learner-centered approach, Student group interaction, Module teaching, Adaptive training approach

INTRODUCTION

Nowadays many scientists were attracted by theoretical researches connected with interactive teaching approaches and methods. A great attention was paid to a psychological aspect of the problem (making more active learning process; stimulating the reserves of student interaction in team work and cognitive activity), to a pedagogical aspect (the search of the most effective teaching methods still being the obligatory item of all the new teaching schemes and technologies – project work method) [1]; to the module teaching [2,3] and tothe adaptive training approach [4].

In modern pedagogical science the concept of interactive teaching is being formed and its principles are being developed more precisely and in details[5,6,7,8]. The interactive teaching methods and techniques are being examined and classified.

However, the conceptual basis of interactive teaching is still missing because of the following reasons:
a) Higher education institution teaching and learning process is oriented towards teacher-centered teaching and one-on-one instruction;
b) There are a few researches concerning the psychological and pedagogical influence of interactive teaching methods on students;
c) The lack of methodological literature on learning process organization using interactive teaching methods as well as the lack of practical working-outs and curricula.

METHODS

The theoretical and methodological investigation basis is conceptual ideas of the research in the field of pedagogy and psychology.

The learner-centered approach was used for examining pedagogical phenomenon and regularities.

The didactic experiment was of a comparative character and carried out on the basis of six experimental and six control learning groups.

The complex of standardized psychological diagnostic methods for examining personal traits of experimental group students was used.

These diagnostic methods and methods of statistical processing of experimental results were developed under the guidance of a professor Peysakhov N.M. at the Higher education institution laboratory of psychological and physiological problems of Kazan Federal University.

The didactic experiment was carried out with taking into account the most essential psychological items because if internal demonstrations of personal psychological characteristics are not fixed and observed, in our opinion it is impossible to reach objectivity and validity in making decisions and drawing conclusions in the experimental research. As a rule it leads to the complete failure of the whole research.

RESULTS

Cognitive activity has been investigated from the view point of the emerging student group interaction, which is the leading pedagogical factor for effective use of interactive teaching methods in learning activity. The student group interaction is considered as the complex of communicative and operative ties defined by the task being performed by the group at the given moment.

The pedagogical conditions for effective use of interactive teaching methods have been revealed through students group interaction. From our point of view they are:
1) Constant student engagement into communication. It is achieved by means of efficient management of the dialogue between students. In this case the management tools are the techniques of indirect influence on the group of students; readdressing of replies and etc.;
2) Role structure flexibility of collaborative activity. It means capturing role positions by students in their group learning activity and possibility for them to move from one position to the other one [8,9];
3) Activity of the group interaction participants. In group activities the possibility of an equal individual contribution of each student to a team work is very important: the number of utterances in discussion. It demonstrates students` positions in solving learning problems;
4) Correct distribution of the management duties. New ideas and information may be distorted as a result of unceasing appearance in the process of solving problems. That`s why interaction strategy supposes the distribution of duties among all the participants of group interaction;
5) Effective number of group work participants. The results of comparing effectiveness of groups with their size are rather contradictory. But some researchers acknowledge the most effective number of students for interactive group work to be 3 or 5.

All the forms of student group interaction have been realized by means of the methods directed to the stimulation of students learning activity. We have divided them into two large groups: methods of group discussion and role playing.

Methods of Group Discussion
a) Method of analyzing definite situations: evaluation situation, problem situation, exercise situation;
b) Method of solving problem tasks;
c) Discovery learning method: brainstorming, "synectics", "morpological analysis";
d) Viva-voce report presentation with group opponency;
e) Scholasticdebate.

RolePlaying
a) Educational (instructional) game;
b) Business game;
c) Management game;
d) Simulation exercise;
e) Research game;
f) Drama

"Drama" is a new phenomenon used in learning activity at present. Students have to be active participants, use their imagination, interact with each other. They develop their communication skills almost unconsciously [10,11,12].

On the whole the received results of our experimental teaching allow to acknowledgereliable changes of interconnections of some proofs. Initially in the control and experimental groups the level of anxiety was found to be inversely correlated with the level of self-management (anxiety level – self-management level) that is the more often a student experienced anxiety state in the connection with the possible getting into the trouble or because of some changes in the customary environment the worse he could control himself and vice versa.

Anxiety state is expressed in specific painful affects: excitement, insomnia, disturbance and etc. It has a great significance for any performable activity as well as for learning activity.

For a student with high anxiety level to bear mental work load is harder especially when he is taking exam or writing end-of-term test. Well-learned questions recede in his memory or they are of no importance for him. A good way out of this situation is airing ability to modulate emotions and control himself. Self-management is connected with creation something new, need of sorting out differences and search for new solutions.

The introduction of interactive teaching approaches and changes in the nature of interaction in control groups caused the change of functions and positions of the participants, but at the same time it made students change their line of behaviour when they are communicating with a teacher in the classroom. It also helped them to express their opinion openly and learnt them to give an objective appraisal to teachers and their learning activity. And it means that under new conditions the former communication modes became impossible. The need to interpret differently the roles and positions in their learning process as well as to analyze a new and to some extent an unusual situation became very important for students. Just from this very moment we may think the further development of the whole self-management system has begun.

In experimental groups the team work and group interaction have caused raising the level of communication with other people and the level of interaction.

In control groups the students prefer to work and solve problems on their own. In experimental groups communication became inherent value as opposite to egocentrical and business orientation of students in control groups.

On the one hand there is a positive distinction between the experimental groups and the control groups. In the control groups orientation towards the self prevails over mutual activity need. The students of the experimental groups satisfy their interests, needs, aspirations through communication with other people.

On the other hand a comparison of interaction need and task need cannot be considered to be optimal in the experimental groups.

However, we can suppose the optimal combination of mutual activity need and task need may be achieved at the next stage because using of interactive methods in the learning process is a new thing for students. The introduction of interactive methods demands developing new specific skills and changes in organization of group management.

In the control and the experimental groups the analysis of students self-appraisals and its dynamics has shown a considerable increase of adequate self-appraisals corresponding to intermediate and upper-intermediate levels in the experimental groups. In the control groups there is half as much reduction of intermediate self-appraisals and significant increase of self-appraisals corresponding to high level: 10% < 31%; the percent of low self-appraisals remains rather high: 62% > 41,3%.

The comparison of the above mentioned results allows to come to the conclusion that the introduction of the interactive teaching methods has promoted changes in communication, mutual activity and close contacts between members of the experimental groups. It has contributed establishing favourable psychological advantages and friendly socio-psychological environment where each student has begun to accept himself differently. Group work creates conditions for social perception, helps understanding and adequate assessment of groupmates, their personality and actions. At the same time communication supposes adequate and objective assessment of own actions, utterances, ability to control behaviour according to partners demands, ability to subject behaviour and wishes to the tasks facing the group as well as to group leader requirements.

Our pedagogical observation in the experimental groups has displayed that high self-appraisal of some students have a tendency towards lowering.

The students having a low self-appraisal have modified their attitude towards themselves. It has become more positive and in the course of group academic studies these students began taking more complex tasks and making a valuable contribution in their solution.

Thus, the results of the formative pedagogical experiment allow to ascertain the reliable positive changes of personal traits of the experimental teaching participants.

The psychological and pedagogical research suggests a correctly organized teaching can provide a considerable increase of knowledge in a short period of time.

Forming skills and changing personal traits require a longer period of time but just they are the most valuable and reliable results of the pedagogical experiment and the factor proving effectiveness of applied interactive methods of teaching.

DISCUSSIONS

The working out of educational systems and technologies such as a project-based learning, the method of stimulating

personal reserves, adaptive learning has changed the organization of cognitive activity and the scheme of learning interaction and laid the foundations of interactive teaching methods and approaches in Higher education Institution [13]. The need to make classes more interactive became a major point for the organization of a teaching process.

For teachers it is very important to know, when they organize group work for students, that not all students have the skills or experience to perform in groups. Therefore American and British researchers and instructors developed and introduced simple group work strategies to help students to collaborate: 1) "showing that they are listening to the speaker by making eye contact and nodding, saying such things as "What do you think?" or "I like that idea" [15]. These skills are very simple but they allow students to participate in group discussions effectively; 2) one more strategy is the teaching assistance: teacher assistants, the more outgoing students, assigned by the teacher help to coach the group and encourage the quieter students to speak and participate.

The main principles of structuring harmonious group interaction were also developed and introduced into interactive teaching by [14]. They are 1) accountability, 2) rewards, 3) independence, 4) assignments, 5) social skills.

In Russian methodology of teaching foreign languages all types of classroom interaction are classified in the following way (Kolesnikova, Dolgina, 2001):
T - S --- teacher – student (individual work);
T - Gr--- teacher - group (frontal work);
S - S --- student - student (pair work);
P - Gr --- pupil – group.

But in the foreign methodology the most popular type of interaction is the model IRF (initiation, response, feedback).

There are also the other types of interaction when the initiative does not belong only to a teacher. He shares it with students.
TT - teacher is active, students only perceive information;
T – teacher is active, students perceive information on the whole;
TS – teacher and students are equally active;
S -students are active, teacher perceives information on the whole;
SS – students are active, teacher only perceives information.

Yutsevichene P.A. and Choshanov M.A. formulated the main principles of problem-based and modular learning: structuring, problematicity, variability, feedback. Control module provides intermediate form of learning: acquisition of knowledge and skills, self-control, self-correction and self-assessment [2,3]. Pedagogical communication in modular learning should be realized according to the scheme of "subject-subject" and partner learning collaboration of a teacher and students. Kilpatrik V.N. was the first who gave a detailed presentation to a project-based learning and defined the notion of "a class project". In his opinion "a class project" is any activity performed by students independently and they are united by common interest at this very moment" [Kilpatrik,1928].

Pahomova N.U. laid a theoretical basis for establishing project-based learning in Higher education institution.

She considered the project-based learning to be aimed at a self-guided pair or group work and it is successfully used in the cooperative learning approach [1].

Adaptive learning system was developed and established by Granitskaya A.S. The adaptive learning system is defined as a technological educational system of techniques and methods promoting the effective individual learning taking into account the level and structure of elementary competence [4].

CONCLUSION

The results of the final didactic experiment testifies that a conventional teaching does not develop learner`s independence; non-adaptable authoritarian methods of teaching form a negative self-perception of the personality; lowering of self-esteem and lack of collaboration in the learning process do not promote students`desire for interactive activity.

Introduction of interactive methods of teaching is directed at the formation of active personal position and improving skills of mutual cognitive activity. The interactive methods of teaching lead to formation of certain positive personal traits: adequate self-esteem; optimal level of anxiety; high level of self-independence; developing skills of cooperation; ability to work in team.

Interactive learning activity creates conditions for social perception and self-esteem optimization. It helps students to understand and evaluate themselves and their actions correctly as well as personality and actions of their partners when they work in team and regulate their behaviour and desires according to partners` demands.

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