
**INTERACTIVE METHODS AS A RESOURCE OF EDUCATION GLOBALIZATION
IN HIGHER EDUCATION**

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Abstract

With the development of a "global society," one of the main objectives becomes the creation of a single educational space that unites different educational systems on common standards. In this case the requirements to education, aimed at the development of cognitive and communicative abilities and skills of collaborative work on projects, increase. Interactive learning that develops the ability of collaborative solution of various problems, ability to solve problems and tasks distributed among people, meets these requirements. As part of education modernization, the introduction of academic mobility expands the scope of inter-university cooperation, and in this way the use of interactive methods becomes one of the conditions for achieving the goals of education globalization. The concepts of "education globalization", "interactive methods" reflect the recognition that scientific knowledge and specialized unique skills become the main source and key factor in economic development.

Psychology and pedagogy has long been studying interactive learning in education, quite often it is understood as aimed at making of: person of "global society", "innovative individual", formation of a person with high "innovative potential", having "innovative consciousness", "innovative culture".

The author uses three educational models identified in literature, corresponding to the three types of cultures, in order to prove the importance of interactive learning in the development of innovative subject of modern education - educational groups.

Theoretical analysis of the studies allowed to form a collaborative activity model that underlies the interactive learning. In accordance with the developed concept, the author identifies four functional roles: generation, sense transfer, selection and implementation, through which the interaction and collaborative thinking activity are carried out in educational groups. The author presents the results of a study in which there were formed different types of groups, implementing collaborative thinking activity, and there were also identified psychological models of effective and critical collaborative thinking activity.

Keywords: interactive learning, collaborative thinking activity, generation, sense transfer, selection.

Introduction

With the development of "global society", one of the main objectives is to create an integrated educational space, uniting different educational systems on common standards. In this case one observes the growth of requirements to education aimed at the development of cognitive and communicative abilities and skills of collaborative work on projects. The interactive learning, developing the ability of the collaborative solution of various problems, ability to solve problems and tasks distributed among people, meets these requirements. As part

of education modernization, the introduction of academic mobility expands the scope of inter-university interaction, and in this way, the use of interactive methods is one of the conditions for achieving the goals of education globalization.

The concepts of "education globalization", "interactive methods" reflect the recognition that scientific knowledge and specialized unique skills are the main source and key factor in economic development.

Psychology and educational science have long been studying innovative processes in education, with increasing frequency innovative education is understood as education aimed at training of "innovative personality", formation of a person with high "innovation potential", having "innovative consciousness", "innovative culture", etc.

In psychology (Klochko, Galazhinsky, 2009, pp. 196-198), there are three educational models, corresponding to the three types of historically formed cultures that are naturally interchanging each other.

Archaic culture involves educational model, the purpose of which is a reproduction of behavioral stereotypes and thinking, which are based on the desire to preserve traditions, consideration of authorities - which provided smooth entry into the culture.

Industrial culture has led to the development of educational model, where the scientific knowledge was the main value, and the monological impact of teacher on the audience was the main method of its transfer.

Postindustrial culture is aimed at the formation of human creativity, which becomes the productive force of society. Thus, the person with the ability for self-development, self-organization, innovation and creative transformation of information is becoming the main resource for the development of society. "If the stimulus of the industrial age was the improvement of the *standard* of living, then the stimulus of post-industrialism becomes the improvement of the *quality* of life" (Klochko, Galazhinsky, 2009, p.198).

Psychological condition of innovation prevalence is the readiness of the subjects of education, teachers and students, to professional innovations, their striving for creative self-actualization (E.V. Galazhinsky, A.A. Derkach, V.A. Kan-Kalik, V.E. Klochko, G.S. Mikhailov, G.S. Suhobskaya).

In this connection, there is a need in society for formation of innovative model of education, which would correspond to the new social conditions.

In the conditions of globalization, an innovative paradigm of education becomes relevant, mediated by the idea of "education throughout life" with all its characteristics: openness, continuity, focus on competence-based approach.

Within this paradigm it is proposed to develop educational technologies, which meet the following requirements:

- personal attendance of man in education and possibility of his influence on one's own education;
- psychological readiness for innovative activity, in situations of uncertainty;
- development of *competencies* of effective group interaction, effective communication and collaborative activity, needed for life of person in Open space;
- actualize the intellectual and psychological potential of person, form the motivation of positive personal development and increase his psychological competence (ability to self-understanding and reflection, understanding the meaning of one's own emotions and behavior, awareness of one's own psychological barriers and capabilities, acquisition of skills of self-regulation, stress management, etc.). (Klochko, Galazhinsky, 2009, p.211).

According T.N. Razuvaeva (Razuvaeva, 2009), E.N. Frantseva (Frantseva, 2003), psychological readiness for innovative activity - is a holistic psychological phenomenon that represents the unity of cognitive (knowledge of innovations, modes of their application and so forth.), affective (positive attitude to pedagogical innovations, empathy, predominance of positive emotions in professional activity and so on.) and connotative (activity) components.

T.V. Kornilova (Kornilova, 2007) by cognitive readiness to innovations means the presence of a certain innovative potential, implying the intellectual resource and tolerance of activity subject towards innovations, which in turn includes one's openness to new and unfamiliar, and therefore, creativity and creative thinking.

In accordance with the theory of psychological systems, one of the system properties is openness (Klochko, Galazhinsky, 2009).

Openness is the ability and readiness of person as a psychological system to accept the new - information, patterns of behavior and activity, new standards of life and behavior. Openness expresses one of the basic properties of the psychological system - ability to self-development, therefore, presence in person of psychological readiness to adopt new means readiness to self-transformations. In this case, psychological readiness to adopt innovations becomes one of the characteristics of psychological system as an open system. And, of course, we can say that there are varying degrees of psychological readiness to adopt new, and consequently, a different degree of readiness to self-transformations. At the same time, existing studies (Belousova, 2002) show that in the conditions of collaborative thinking activity, possibilities of adopting new, innovations, development of innovative qualities of the person increase.

Thus, as a resource for the globalization of education in higher education project design of psycho-educational technologies aimed at: technologies of the development of modern education subject – educational groups and communities.

Success and effectiveness of group forms and methods of teaching have been a proven fact for a long time in psychological and educational literature. As part of a new paradigm there is a question that the new subject of education - educational group - acts as a mediating link in which the development and education of a particular person is determined by his participation in the collaborative educational activity of the group which is aimed at solving of the educational problems and initiatives related to the implementation of business games, group discussions, debates.

All this determines the need for development of interactive teaching methods in the educational process.

Interactive methods, which are based on modeling of interactions, involve the implementation of the principle of **direct participation**. Interactive methods in cognitive sphere suggest - modeling of collaborative cognitive and thinking activity, i.e. methods that encourage:

- thinking initiation
- development of intellectual and personal potential of students
- self-fulfillment potential
- interaction of students with each other
- high level of their involvement in the educational process.

To test the assumption on the effectiveness of group interaction, we conducted the study aimed at examining the effectiveness of different types of groups that differ in distribution of the functional roles of participants.

Theoretical analysis of studies of M.G. Yaroshevsky, Ch.M. Hajiyev, A.G. Allakhverdyan, R. Bales, A. Augustinaviciute, R. Dilts, A.S. Shiyan, A.V. Bukalov allowed to identify four functional roles: generation, sense transfer, selection and implementation, through which the interaction, development of solutions, group discussion are carried out:

- **Sense transfer function** (role - Coordinator), which finds its manifestation in the optimization of collaborative thinking processes, distribution of responsibilities among the group members, overall planning, final decision in the dispute.
- **Generation function** (role - Idea generator), which includes working with large amounts of information, generation of new information, advancement of ideas and hypotheses. Carriers of these roles perform the function of an information base from which the rest of the participants of the collaborative thinking activity derive the required information.
- **Selection function** (role - Critic), which means the selection and screening of incoming information, critical assessment of the actions of group members.
- **Implementation function** (role - Performer), manifests itself in the practical implementation of ideas, hypotheses and plans, as well as their correction.

Procedure and study methods

For the study, there were formed 36 groups of subjects, recruited from 144 people that have passed the required selection. Each group consisted of 4 people with predisposition to specific functional roles and with different levels of creativity. The formed groups were divided into six types so that in each type there were subjects with of a combination of functional roles and creative abilities that differ from others. Furthermore, each type in turn consisted of 6 groups.

The first type includes groups where all four functions are represented and at the same time, the carrier of only one function, namely the generation, is holder of a high level of creative abilities.

The second type includes groups that are also represented by four functions, where all subjects have medium level of development of creative abilities.

The third type includes groups, where participants are selected in such a way so that all four functional roles were represented, and the level of creative abilities of each subject was high.

The fourth type includes groups, where the carrier of generation function has a high level of creative abilities, and the rest of the subjects not only have different levels of creativity, but also randomly matched functional-role predisposition.

The fifth type is represented by groups where the carrier of generation function has a low level of creative abilities, while the remaining subjects have different level of creative abilities combined randomly, while maintaining functional structure.

The sixth type is formed from a group of subjects with a low level of creative abilities development, while maintaining the functional structure.

The characteristics of collaborative thinking activity were studied with the help of the following tasks: "Four points"; "Construction of squares"; E. Milgram's tasks under the name title "Route" and the tasks by A.V. Brushlinsky "Candle in zero gravity."

Discussion of results

Presented tasks allow us to study a number of characteristics of the collaborative thinking activity; efficiency, productivity, variability, speed, criticism, creativity.

Calculation of time for solving problems that are presented in methods allows to measure the **speed** of collaborative thinking activity.

Calculation of the total number of options and number of correct options - **variability** and **productivity** of the collaborative thinking activity.

Criticism of collaborative thinking activity is determined through the evaluation of the number of attempts made by the participants before they realize that the proposed task is erroneous and has no solution.

Evaluation of the originality of the proposed options of solutions to the problem allows to find out the level of the **creative** part of the collaborative thinking activity.

Calculation of the total number of points scored according to the results of most of the methods allows to evaluate the overall **efficiency** of collaborative thinking activity.

Creativity of thinking activity - originality and accuracy of the creative tasks solution.

Table 1. Characteristics of collaborative thinking activity for six group types

Characteristics of CTA	1 group type	2 group type	3 group type	4 group type	5 group type	6 group type
CTA speed indicators	22,66	25,5	20,16	18,33	15,1	9,5
CTA variability indicators	10,5	9,66	6,16	7,16	5	3,83
CTA productivity indicators	8,33	6,66	5	4,66	4,33	3,16
CTA criticism indicators	3,5	4,5	3,33	4,83	7,33	8
CTA creativity indicators	13,66	11	9,5	8	5,83	3,66

The data presented in the table allow to give description of the characteristics of collaborative thinking activity that are typical for six group types.

For the **first group type** where all four functional roles are represented, and at the same time, generation function subject is holder of a high level of creative abilities, is typical a high speed of collaborative thinking activity, the highest total number of proposed options for the solution of proposed tasks, as well as the maximum number of correct solutions. In addition, groups of first type demonstrated the utmost ability to collaborative creation. At the same time, the ability to treat conditions of the task critically and understand its incorrectness, on the contrary, turned out to be the lowest among all group types.

The **second group type**, where the subjects are represented by four functions, and all have medium level of development of creative abilities, demonstrated the **highest speed of collaborative** thinking activity, according to the number of options for solving the tasks and number of correct solutions, these groups are second only to the groups of the first type, and according to the ability to treat task conditions critically, it exceeds them. Thus, the ability to

collaborative creative activity of the second group type is significantly lower than that of the first one, although they exceed all the other group types on this indicator.

The **third group type**, where participants are selected in such a way that all four functional roles were represented in the group, and the level of creative abilities was high for all subjects, has a number of specific characteristics that distinguish it amid all the others. The speed of thinking activity in these groups was quite high, not considerably below the indicators of the first and second types of groups, but the number of the proposed solutions of the tasks is not only inferior to the first two types of groups, but to the fourth as well, and according to the number of correct solutions, the advantage of the third group type before the fourth is not significant.

The **fourth group type**, where the carrier of generation function has a high level of creative abilities, and the rest of the subjects not only have different levels of creative abilities, but also randomly matched functional-role structure, shows the average results on the basic indicators of collaborative thinking activity, except variability. Specificity of compositional lineup of the groups allowed us to offer and consider a significant number of options for task solutions comparable with indicators of the first three groups.

The **fifth group type** in which the carrier of generation function had a low level of creative abilities, and the remaining subjects had different level of creative abilities that are matched randomly, while maintaining the functional structure, demonstrated relatively low results on the basic indicators of collaborative thinking activity. Despite this, the ability to finding the correct options of task solutions and their critical reflection turned out to be comparable to the level of the previous groups.

The **sixth group type** of subjects with a low level of development of creative abilities, while maintaining the functional structure, showed the lowest results on the basic indicators of collaborative thinking activity. At the same time, the abilities for critical evaluation of the condition of the tasks, on the contrary, were the highest among all types of groups, which, however, has not led to a general improvement in the efficiency of the collaborative thinking. Thus, in the study we identified psychological models of groups with certain characteristics of collaborative thinking activity:

✓ Psychological model of effective collaborative thinking activity corresponds to the **first group type**, and includes a clear distribution of functional roles of participants, medium creative abilities of the majority of the group members and the high level of creative abilities of ideas generator. These are the groups with the highest **productivity** indicators - correct solution of tasks and **variability** - proposed options of solutions. Such groups are characterized by the lowest level of criticism of the collaborative thinking activity.

✓ Psychological model of **critical** collaborative thinking activity corresponds to the **sixth group type**, and includes a low level of certainty of the functional roles and low level of development of creative abilities of the participants. Collaborative thinking activity manifests itself in low indicators of efficiency, variability, productivity, speed and low level of creativity.

In the process of globalization, the education should be based on the use of active independent activity of students, which is developed in various kinds of group forms, creating the most favorable conditions for the development of cognitive, personal and creative abilities of person.

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