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Development of Cognitive Processes Based on Innovative Educational Technologies in the Framework of Economic Education

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Abstract

This article provides an analysis of the strengthening of cognitive processes in the development of economic education on the basis of innovative educational technologies, changes in students' cognitive activity as a result of effective use of educational technologies in teaching.

Keywords: *Independent Learning; Case-Study Technology; Educational Project Method; Organizational Skills; Independent Activity; Independent Thinking*

Introduction

Today one of the main tasks in our society is to bring up a young generation that can think and act independently. That is why didactic scholars and advanced educators are diligently looking for ways to develop a creative approach to students' learning activities. These are a continuation of the overall process of creating a new structure for educating society. One of the important requirements for the organization of modern education is to achieve high results in a short time without spending too much mental and physical effort. In this regard, special attention is paid to the development of intellectual potential and creative abilities of the individual through the technologicalization of the economic education process, the correct organization of lessons based on innovative educational technologies, the definition of specific tasks, improving the economic knowledge and skills of each citizen in the society. To do this, in a short period of time to provide students with specific theoretical knowledge, to develop skills and competencies in certain activities, as well as to monitor student activities, assess the level of knowledge, skills and abilities acquired by them requires high pedagogical skills and a new approach to education reaches.

Analysis of the Relevant Literature

While studying the topic, a number of scientific works and ideas of scientists of our country, the Commonwealth and foreign countries were analyzed and formed the theoretical basis of our qualification work: In particular, ideas and reviews of Y.Shumpeter, Ya.Kuk, P.Mayers, Yu.V.Yakovets, A.B.Titov, J.Botkin, E.Torndayk, E.Gazri, D.Hall, M.Bakhtin, L.V.Zankov, M.V.Zvereva, I.I.Arinskaya, Dj.Aronfrid, V.Paskal, B.Mur, S.Staub, D.Beytson, D.Mak-Millen, Dj.Ostin, D.Kenrik, D. Baumann, E.Igli, M.Kroulilar and J.G.Yuldashev, B.Rahimov, Z.E.Usmanova, N.S.Safoev, M.Sh.Rasulova were

widely used. According to the research of psychologists B.G.Ananev, N.V.Kuzmina, N.F.Talizina, V.Ya.Lyaudis, I.S.Kon, V.T.Lisovskiy, A.A.Bodalev, A.V.Petrovskiy, M.G.Davletshin, I.I.Ilyasov, A.V.Dmitrieva, Z.F.Esareva, AA.Verbitsk, V.A.Tokareva, E.G.Goziev, R.Z.Gaynuddinov and others education in educational institutions is difficult for students, because during this period the complex qualities of the individual, the qualities of his personality, improve. One of the features of social psychological growth at this age is increase of the study motives. In addition, they have an increased interest in social situations, incidents, moral rules and the desire to carry out them.

Research Methodology

The decisions, decrees of the president of the Republic of Uzbekistan and the Cabinet of Ministers of the Republic of Uzbekistan, the problems of formation of knowledge, skills and qualifications of students, opinions on improvement of training of specialists took place as a methodology in the work of scientists. A systematic approach to the subject and analysis methods were used during the research.

Analysis and Results

The ability to think independently, to substantiate their views, to form their skills is one of the requirements for today's trained professionals. This, in turn, requires each person to develop intellectual maturity, the ability to observe correctly, the formation of a culture of information use. In particular, this process contributes to the emergence of new views in the minds and consciousness of young people, who make up a significant part of society. Improving the content of education, integration, organization of education based on information technology is the need of such an urgent period.

In the learning process, students' cognitive processes (intuition, perception, memory, imagination, fantasy, thinking, and speech) play a major role. The qualities of independence, depth, conciseness, initiative and critical thinking, which began to emerge during adolescence, will be improving day by day. Self-control, important aspects of mental intelligence in students will rise to a higher stage of development.

Through the effective use of thinking operations in the learning process, there arise an opportunity to acquire any complex knowledge. Students get acquainted with the functional and operational aspects of forms of thinking (concept, judgment, inference), as well as try to mobilize all intellectual resources to use them. Conditions for the use of all forms of sentencing (individual, private, general, contradictory, hypothetical, negative) in educational and independent learning activities will be created. They will seek knowledge in a certain way from inductive (orientation of thought from particular to general) and deductive (orientation of thought from general to particular). All of these things have an impact on the development of thinking.

The works of art created by modern students through creative thinking, the proposed rationalization proposals serve to raise the national economy, to raise the science and technology of our independent republic to the level of developed countries. Students are taught to learn independently, to organize their activities, to self-manage, to develop new ideas, and so on. A key factor in accomplishing these tasks is the transition from a monologue lecture to a dialogic (based on student-teacher dialogue) lecture.

The process of self-improvement in the lives and activities of young people during the school years plays an important role, but the components of self-management (self-monitoring, analysis, evaluation and verification, etc.) are also of particular importance. By comparing the ideal (high, stable, consistent) "I" with the real (real event) "I", the components of self-government will have practical meaning. From the student's point of view, the ideal "I" is not sufficiently tested on the basis of certain criteria, so they inevitably feel random, unnatural, so the real "I" is far from the true value of the person,

the resistance, such student's contradictions in the development form an internal insecurity about his personality, a negative attitude to education.

The second period of adolescence differs with characteristics of extraordinary demands and perseverance in the assessment of behavior and reality. Therefore, students cannot always be principled. Some persistence also turns into a negative attitude towards adults. Students' denial of a teacher's advice often leads to conflict.

According to the research conducted by B.G.Ananev, the sexual and neurodynamic characteristics of students' maturity create important conditions for the full use of their mental potential and the organization of productive learning activities. Yu.A.Samarin highlighted that in the development of young people there are various social and psychological features, contradictions, internal contradictions. This is due to the inadequacy of the available opportunity with the wishes of the students. Therefore, pedagogical technology based on the humanization and democratization of pedagogical relations in the educational process is the opposite of authoritarian technology, which in the pedagogical process creates a favorable social and psychological environment for learning, creativity and self-development through cooperation, care and respect for students. In this process, the student is the subject of his educational activity and in cooperation with the teacher solves the subject of a single educational process - educational tasks.

It requires the upbringing of a mentally mature, deep-thinking, healthy-minded and spiritually perfect, developed person, attention to the characteristics of age in education, ensuring the interconnectedness of education in teaching and the use of modern active methods that allow new ideas to form in the mind. The use of non-traditional methods of education in higher education in the social sciences and humanities contributes to the formation of creative thinking of students, the expansion of communication, the formation of assessments and views on events, as well as psychological satisfaction with their work as a direct participant in heated discussions and logical solutions is important in its formation. Indeed, the more the new information presented in the learning process is adapted to the student's existing perceptions and experiences, the more active will be its analysis and evaluation through cognitive processes. The organization of education through various methods that require subjective activity, such as "Problem-based learning", "Brainstorming", "Individual learning" is of great importance in the further development of abstract thinking, logical thinking, critical assessment, comparative analysis in 1-2 year students. In addition, the use of the latest Internet messages and the organization of education in the form of various slides not only form the ability of students to think creatively, internally, freely communicate, manage their behavior, but also have a strong impact on mastering the culture and level of communication. The spirituality of a person, the manifestations of the spiritual world are manifested through his communication. It is no secret that today young people have serious shortcomings in the level of communication, culture, the ability to express their emotional state through communication. The solution to this problem is to organize them to work on themselves in the learning process and to enable them to evaluate other people and themselves with the views of others (reflection). This requires a broad outlook, a rich data base, and access to a variety of information systems. In addition, the use of different methods in education, taking into account individual characteristics and internal capabilities, requires students to be active in different situations, encourages them to explore untapped opportunities, unexplored new aspects.

The Brainstorming method is one of the methods that requires the interaction and activation of cognitive processes, requires logical thinking, memory, attention, perception, imagination, continuity of speech processes, speed of thinking and perfect level of speaking skills. In addition, different approaches to the solution of the problem, definitions, allows to think comprehensively, to assess the extent of their mental capacity. From a psychological point of view, the degree to which a person adequately assesses his abilities and capabilities allows him to be active in society, to easily enter the system of interpersonal relationships, to use his inner potential wisely and effectively. In addition, the content of education, which

is based on uniformity, creates less shifts in the memory of the person, the membership of associative connections in the system of imagination will not be active. The newer the information system in education, the more it is transmitted on the basis of innovative technologies, leads to an increase in the level of quality in the learning process. The organization of teaching on the basis of visual aids, slides, as much as possible in education, leads to the formation of concepts that are located in a system of solid imaginations, connected with existing knowledge, without ambiguities.

The effective use of interactive methods in the educational process also serves as a factor that ensures the activity of the individual, increases self-reliance, directly influences the free perception of the situation as an active participant, correcting existing shortcomings and deficiencies. At the same time, it is expedient to organize education in the form of multimedia. The more participation of complex cognitive processes demanded in the learning process, the more the inner potential of the student's personality is revealed. In the process of learning, the student himself becomes active as an illuminator of the content of education, seeks to express the problem, leading to a high level of mastery.

The specialist is evaluated with the perfection of the harmonious spiritual world, the formation of deep intellectual potential, education as a mature person, first of all, with specific goals set in the educational process. Today's information age, which is developing, requires the youth of tomorrow to have positive qualities, to be able to self-assess in various problematic situations, to have an independent mind, to use their mental and spiritual potential in high endeavors. This is determined by the properly organized level of creative activity, which turns into human qualities, moral qualities, skills, which are formed in the process of effective, innovative education and training. In the experimental group, we used a series of tests to examine the application of innovative learning technologies and its impact on the learning process of students. For example, in teacher training, we observed a focus process aimed at identifying changes in students' cognitive performance as a result of the effective use of learning technologies. For this, 25 students of the 2nd stage were selected for the experimental group and 23 students were selected as subject of the control group. In the experimental group, the teacher used strategic methods and role-playing games, such as "Cluster", "T-table", "Why", "Brainstorming", "Problem situation", which included innovative educational technologies, and noted the changes in students. In the control group, the lessons were conducted in the traditional way, and students' progress was observed. We studied students' sensitivity and attention processes to conduct the experiment, observed that their empathic feelings were being formed, and determined their motivation for success based on questionnaires and tests. As a result, it was found that as a result of the organization of lessons by the teacher with innovative educational and technical means, changes in the cognitive activity of students in the experimental group were much higher than in students of the control group. That is, students in the experimental group had 22% more observation, sensitivity, and cognitive processes than those in the control group. **(Table 1)**

State of Cognitive Processes of Students of Experimental and Control Groups

Levels of intuition,perception, attention processes	Degrees	Groups			
		Experimental group (n_1=25)		Control group (n_2=23)	
		Quantity	*Percent*	*Quantity*	*Percent*
	The tracking feature is high, attention and focus are strong	12	48%	6	26%
	The tracking feature, attention and focus are medium	9	36%	11	47%
	The tracking feature, attention and focus are low	4	16%	6	26%
	Total	25	100	23	99,8

However, observation and attention - the average level of attention - show that the students in both groups are very close to each other **(Figure 1).**

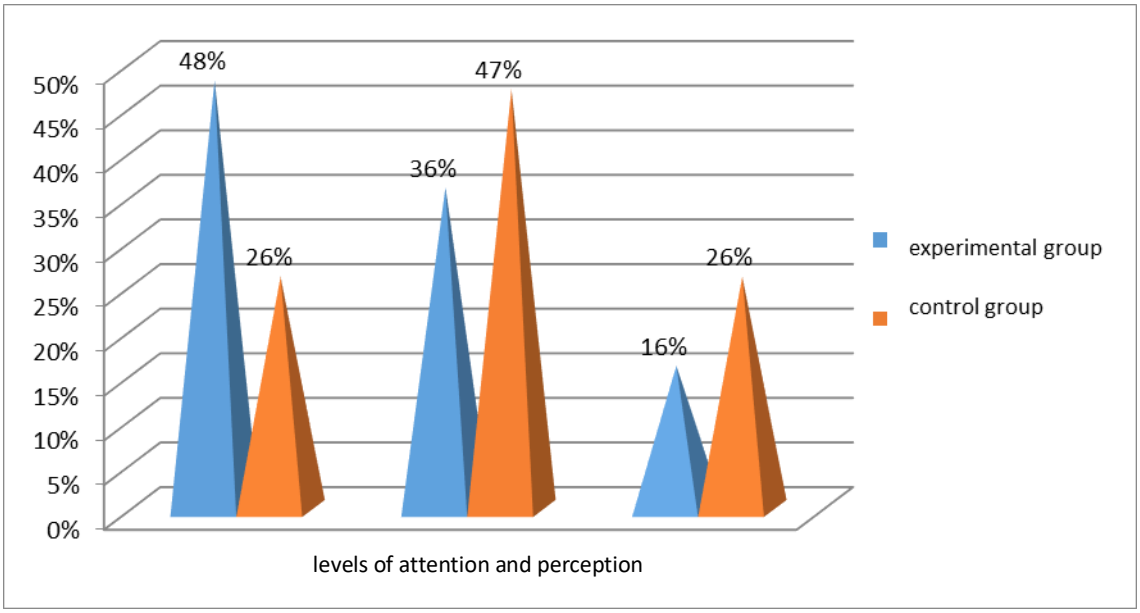

Figure 1. Diagram of levels of cognitive processes of students in experimental and control groups.

In our next study, we attempted to observe the extent to which personality resilience was expressed in both groups using a "Resilience Assessment Questionnaire" developed by E.P.Ilin and E.K.Feshenko **(Table 2).**

The Studied State of the Nature of Perseverance of Students in Experimental and Control Groups

Degrees	Groups			
	Experimental Group (n_1=25)		Control Group (n_2=23)	
	Quantity	*Percent*	*Quantity*	*Percent*
Indecisive	5	20%	10	43%
Medium perseverance	12	48%	8	35%
High perseverance	8	32%	5	21%
Total	25	100	23	99,7

The experimental group found that the endurance level of the students was moderate (48%). This situation may have been manifested in the fact that in the experimental group the course process was organized in small groups in the form of collaboration, which required understanding of others, listening to their words and thinking in consultation with them. In the control group (43%), it is characterized by a degree of indecision, being not in the group, lack of ability to work with others, indifference to anything and lack of motivation or a sense of tension **(Figure 2).**

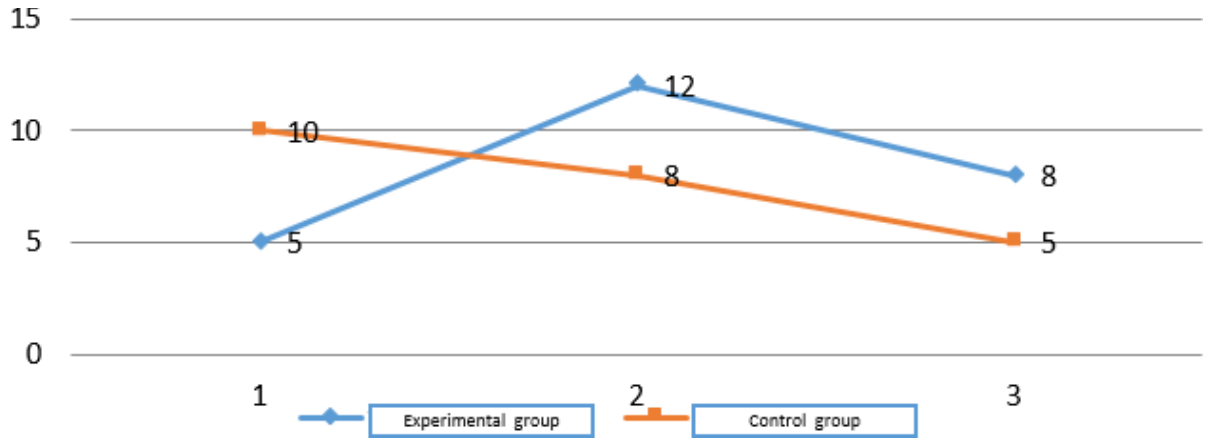

Figure 2. Graphical representations of the study of the property of persistence of students in experimental and control groups.

We also used V.V. Boyko's "Determining Empathy Levels" test to study the empathic abilities of the students in the experimental and control groups. When the empathic abilities of the students in the experimental and control groups were studied, the level of empathy was very high, with 56% of the students in the experimental group. In the control group, however, a large figure was associated with very low levels of empathy of 48% **(Table 3).**

The State of Learning the Empathic Abilities of Students in Experimental and Control Groups

Degrees	Groups			
	Experimental Group *(n_1=25)*		Control Group *(n_2=23)*	
	Quantity	*Percent*	*Quantity*	*Percent*
The level of empathy is very high	14	56%	6	26%
The level of empathy is medium	8	32%	6	26%
The level of empathy is very high	3	12%	11	48%
Total	25	100	23	100

In our opinion, this situation allows students in the experimental group to work actively in small groups, to comply with the requirements, to transform the concept of "I" into the concept of "We", to build relationships, try to understand each other and prevent potential conflicts. In the control group, however, the fact that everyone is fighting for themselves indicates that the usual type of relationship lacks empathic feelings **(Figure 3).**

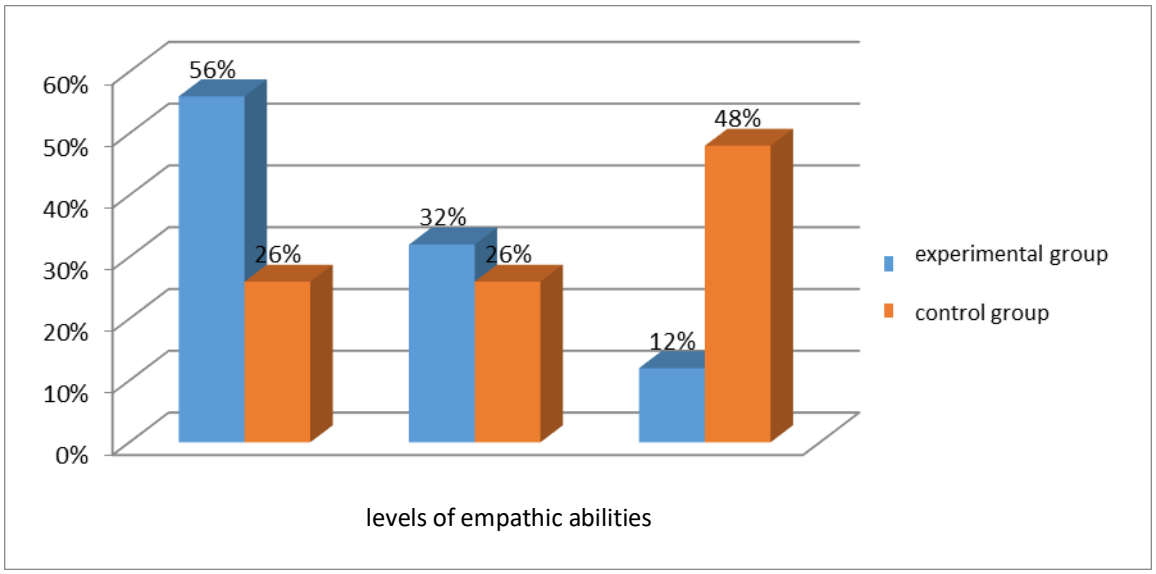

Figure 3. Diagram of the study of empathic abilities of students in experimental and control groups.

However, a study of teachers of both groups found that the empathy level of the experimental group teacher was very high. All 3 selected teachers demonstrated their high level of skills.

During the experiment, while studying the impact of innovative educational technology on the group, we also tried to identify the importance of motivation that occurs in students. Because the presence and high level of motivation is the basis for the acquisition of knowledge and skills. So, we organized a follow-up using T.Elers' "Determining Motivation for Success" methodology. According to the results from both groups: 44% of students with significantly higher motivation were in the experimental group, which was found to be 3 times larger than in the control group **(Table 4).**

Motivation of Students in Experience and Control Groups

Degrees	Groups			
	Experimental group (n_1=25)		Control group (n_2=23)	
	Quantity	*Percent*	*Quantity*	*Percent*
Very high motivation for success	9	36%	1	4%
Quite high motivation	11	44%	3	13%
Motivation level is medium	3	12%	15	66%
Low motivation for success	2	8	4	17%
Total	25	100	23	100

It should be noted that when we studied not only students but also teachers of the two groups, we found that 3 teachers in the experimental group had a very high type of motivation for success, while in the control group 2 had a moderate level of motivation and 1 had low motivation for success.

Conclusions

Organization of innovative educational technologies in the classroom by teachers, who have a very high type of motivation for success, also leads to a much higher motivation of students. Human qualities such as empathy will increase in students leading to a positive atmosphere in the group. It is also observed that the cognitive processes of students - intuition, perception, attention, etc. - improve, and the consciously manifestation of aspects of perseverance.

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