Development of Students' Learning Motivation by Means of Innovative Educational Technologies

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Abstract: The study presents an analysis of the experimental studies of features of the medical students' educational motivation at various stages of the educational process; classification and characterization of innovative psychological and pedagogical educational technologies such as communicative and interactive technologies, problem-search, information, simulation and gaming technologies; main types of explanatory and illustrative, problem, active, interactive teaching methods that promote activation of the cognitive activity of students. Besides, we designated professional and personal competencies of a high school teacher, ensuring the effectiveness of innovative forms and methods of teaching.

Key words: Learning motivation, types of educational motivation, innovative educational technologies, communicative and interactive, problem-search, gaming, information technologies, interactive teaching methods

INTRODUCTION

Changes occurring today in the world, allow us to say that the priority task of our society and the professional education community is to improve the quality of higher education. And the problem is getting a national scale. In turn, the urgency of improving the quality of higher education in modern conditions is due to:

- The need of our society for constant updating and improving the knowledge of professionals at various levels, for improvement of their humanitarian, psychological and pedagogical training which is associated with the movement of Russia to world culture
- Formulation of new and more complex tasks to educational systems, among which the task concerning training of a competitive future specialist has the leading role
- The needs of the professional community of high school for a new type of teacher who can not only teach but also can educate such a specialist, etc. (Bulanova-Toporkova, 2006; Pionova, 2005; Sorokopud, 2011)

Solution of a designated problem, solution of the tasks, set in connection with this is determined by a number of conditions and factors. And in practice, one of the leading determinants, influencing the quality of the educational process and hence the process and the result of professional training of future specialists is the formation of learning motivation of subjects of the educational environment.

The complexity and diversity of the problem of motivation determines the multiplicity of approaches to understanding of its essence, the nature of the structure as well as to the methods of its study both in the domestic and in foreign psychology. It should be noted that it is P.M. Jacobson who is credited with the study of the psychological problem of behavior motivation in learning activities (Jackobson, 1960). Significant contribution to the development of the stated problems was made by Western psychologists. In particular, schemes of H. Murray, M. Argyle, A. Maslow and others can be considered as a classification basis of the motives of educational activity. H. Heckhausen investigated the effect of motivation on the quality of training activities; J. Nuttin considered interrelationships of orientation of personality and its motivation (Light, 2004).

According to many psychologists, motives and motivation are at the core of personality psychology and determine the features of its behavior and activity. Being a kind of psychological core of the personality, motivation creates orientation and character and abilities of the individual, influencing them decisively.

In psychology, motivation refers to anything that encourages a man to activity and is connected with the

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satisfaction of his needs; everything that defines the selection of activities and at the same time, the reason underlying the choice is realized. It is known that the motives arise, develop and are formed on the basis of need. However, they are relatively independent, since the need does not define a set of motives, their strength and stability. In particular, a person that has a marked need for something chooses a variety of ways to satisfy it.

In forming the motivational sphere of personality it is necessary to consider the fact that any activity and behavior of the man are polymotivated (motives are conscious and unwitting, personally and socially significant and others). A source of motivation: the need is the necessity for something that drives a person to be active which leads to the satisfaction of needs. There is another, no less significant fact: the motives and activities of human are specific and variable. Their development, formation occurs both under the influence of natural factors of the environment and under the influence of specially organized attitudes, educational influences.

As mentioned above, motives are associated with the orientation of the person, i.e. with a set of the most important goals pursued by the people. But it is also know that the very emergence of goals is caused by the activity performed, its social significance, the degree of human's satisfaction with the activity, his status, growth prospects in these activities, professional environment, etc.

If we talk about the learning activity, it should be noted that its success also depends on many factors, conditions of psychological and pedagogical order (Muravyova *et al.*, 2014).

In particular, the interrelation and interaction is revealed among the need of success, strength of learning motivation and success of educational activity.

Long-term studies show that the human has necessary biological and neuropsychological conditions for information and learning interaction with the world, the environment, other people throughout life (Ananyev B.G., Antsyferova L.I., KulyutkinYu.N., Rothenberg V.S., Rubinstein S.L., Stepanova E.I., Sukhobskaya G.S.). Still it is important to take into account the presence of attitudes and interest to the problems that will be solved in the learning process. And it is a prerequisite for the success of motivation in educational activities.

Therefore, when organizing educational activities it is important to create and take into account the conditions of formation and development of motivation in general and motivation of success in particular. In the context of the problem under consideration, the following can be referred to the above mentioned conditions:

- Specificity of the education system, educational institutions, educational environment (in this case we mean medical school)

- Peculiarities of organization of the educational process
- Subjective features of a student (age, gender, cognitive development, ability, level of aspiration, self-esteem, his interaction with other subjects of learning activity and so on)
- Subjective features of the one who teaches, especially those of his relationship to the student and to the case
- Specificity of the subject and interest in learning activities
- The use of advanced technologies aimed at enhancing cognitive activity of students and others
- Improving of the educational process quality, its control
- Organization of individual educational trajectories of students, etc. (Muravyova *et al.*, 2014)

In their studies, Andreyeva and Khromova stated that activated cognitive activity at any age level can be represented as an algorithm which includes:

- A motive to study the object
- Knowledge of the history and development of the new object
- Qualitative description of the object
- The relationship of the object with other objects and phenomena
- Prediction of the development of the new object
- The results of the study of the object and their use in practice
- Personal opinion on this subject

Each component of this algorithm is described in detail in the research by Agapov amd Plugina. Using this algorithm, we can effectively organize the learning process with different age groups. Undoubtedly, the motivation, based on the need to acquire new knowledge, is necessary to form.

This question is the subject of the analysis of many scientists. In particular, in studies by Muzychenko there are certain methods of motivation formation and stimulation for retraining and training of the person: the identification of needs; forming of needs; aiming at the establishment of the restructuring activities; formation of temporary staff and creation of a favorable psychological climate, etc.

Identification of needs as motivators and internal stimulants must be done using a variety of psycho-diagnostics methods. This will allow to organize more successfully the cognitive activity of students.

METHOD OF RESEARCH

Our study of the peculiarities of educational motivation of medical students at various stages of the educational process was carried out at the Department of Psychology, Pedagogy and special disciplines of Stavropol State Medical University. The subjects were the students of the Faculty of Dentistry of the 2nd, 3rd, 4th, 5th courses of StSMU. The study involved 180 the 2nd year students, 95 students of the 3rd year, 98 students of the 4th year, 100 students of the 5th year. In accordance with the task of studying the learning motivation of medical university students at different stages of training "methods for studying of learning motivation in high school" of T.I. Ilyinahas been used (Raigorodski, 2002). Experimental-psychological examination was held at the end of the academic year (Muravyova *et al.*, 2014).

Based on the data of studies of peculiarities of the learning motivation of the medical students at various stages of training the results were obtained which are presented in Table 1.

Table 1 shows as from course to course, some motives of educational activity increase and others reduce. Thus, the motive of "Knowledge acquisition" has the lowest percentage of choice for the 2nd course but at the fifth course this motive shows the highest percentage of choice compared with other educational motivations. The results of the study show that such motivations of training in high school as mastering a profession, obtaining a diploma, prevailing in the choice at the 2-3 courses, tend to decrease in the percentage of the choice of the 4-5 years students.

A kind of "crisis" may be noted in changes of the training motives hierarchy in high school at the bounds of the third and fourth courses. It can be assumed that such a turn at the senior course works as the effect of "cognitive dissonance". On the one hand, the acquisition of the necessary level of theoretical and normative knowledge gained in the study of professional disciplines and on the other hand, the realities of the modern work in the health care system utilized in the course of practical training which still do not meet the requirements of

Table 1: The study of learning motivation in high school by the method of T.I. Ilyina

Courses	Motive "knowledge acquisition" (%)	Motive "mastering the profession" (%)	Motive "getting a diploma" (%)
2	27	55	73
3	59	67	76
4	60	54	66
5	69	52	41

*%: The percentage of the total number of the interviewed students at this course

practical public health and consumer needs of this service provider. Solution of this contradiction leads students as future professionals to revision and restructure of the hierarchy of professional motives and motivations of training in high school.

The analysis shows the presence of "crisis" of learning motivation in a medical university during the 3-4 courses which raises a consequent question: "what actions of an educational institution and each teacher can help students to overcome this crisis with new formations, positive for a teaching process and professionalization?"

MAIN PART

In our view, in the first place deliberate and systematic work on formation and development of appropriate motivation is required. In order the students maintain the existing motivation and formed a more stable learning motivation, it is necessary to use all possible means to enhance the learning process. The main way as we see it is to provide an opportunity to subjects of educational activities to be active and independent.

According to future professionals and employers, innovative educational technologies should dominate in the professional activity of a modern high school teacher that allow to implement most effectively a competency, practice-oriented, professional and personal approach.

Theoretical and methodological aspects of the development and testing of innovative educational technologies are present in studies of domestic scientists (A.P. Panfilova, A.M. Knyazev, I.V. Odentsova, V.V. Lopatinskaya, A.S. Prutchenkov, A.M. Smolkin) and foreign researchers (K. Vopel, I. Feigenberg, P. Burnard, E. Berne, J. Newstrom, M. Mentes).

W. Weber, when analyzing the current problems of didactics of high school, referred to studies of well-known foreign researchers. The researches of Vopel present scientific and practical recommendations for dynamic training of a personality. I. Feigenberg made a significant contribution to the theory of problem-based teaching and its influence on the development of a personality. The researches of R.G. Graham, K.F. Gray, D. McDonald, E. Berne deal with the problem of technical gaming management; the efficient use of role-playing games in training is reflected in the researches of M. Van Mentes (Light, 2004). In turn, J. Schmidt, M. Henke considered the influence of verbal and non-verbal communication tools of a trainer psychologist on the environmental conditions of group activities of students; the researches of M. Vorwerg, T. Alberg are devoted to the use of gaming simulation in education; theory of learning tasks was

studied in the researches of G. Ball; structure of productive educational interaction through interactive forms and methods was analyzed in the researches of V. Liaudis, etc. (Light, 2004).

Innovative psycho-educational technologies are characterized by the following features: dialogic thinking, the presence of feedback, forced activation of thinking and behavior, heightened emotionality, reflection and that in general in our opinion will contribute to the development of learning motivation of students of different courses (Sokolova, 2010).

For example, along with the traditional forms of organization of practical work (training, programming, research, search, creative, prognostic, analytical forms) interactive practical classes must take their rightful place such as: game-workshop; organizational activity game; situational role-playing games; business, role-playing game; game designing; innovative game; attestation game; role-playing game simulator; virtual simulator; master class; training (socio-psychological, autopsychologic, professional situational acmeologic); on-site training, training with the performance of the job roles in a production environment; tutorial (active employment of application of knowledge in the non-standard conditions of production); video practical training session; individual practical work; art studio; creative laboratory.

In addition, a modern high school teacher must skillfully apply communicative and interactive; problem-search; simulation and gaming; information technologies in work with students at lectures and seminars. We give a brief overview of the organizational forms of the above designated educational technologies.

Communicative and interactive technologies are focused primarily on the formation of social and perceptual, communication and organizational skills.

Traditionally, the main types of communicative and interactive technologies include: a round table discussion, symposium, consultation, debate, discussion, press conference, "aquarium technique", "judicial sitting", intellectual duel, tournament of speakers, an open chair, the Socratic circle, intelligent football and others.

Problem-search technologies contribute to the formation of general scientific and instrumental competence; development of the capacity to new ideas (creativity); ability to work in an interdisciplinary environment and readiness for self-criticism.

The main types of this group of educational technologies are first of all, a seminar-study video practical training session, interview dialogue with the invitation of "guest professors", scientists-professionals, practitioners, employers, research and creative laboratory, case-studio, a diagnostic workshop, etc.

The main purpose of simulation and gaming technology is the ability to simulate the formation of professional situations and different ways to solve it; development of the ability to work in a team; formation of organizational and managerial skills, ability to adapt oneself to new conditions; mastering of constructive ways to resolve conflict situations; ability to work in an interdisciplinary environment (Sokolova, 2010). Simulation and gaming technologies include: organizational and communicative game; organizational-thought game; reflexive game; blitz games; business, role-playing game; simulation training; game-dramatization; simulation

Table 2: Classification of teaching methods

Explanatory and illustrative methods	Problem methods	Active methods	Interactive methods
Verbal methods	The method of presentation	"Brainstorming" (attack)	Methods for creating
Explanation	of the problem	The method of analysis of video	of positive motivation
Elucidation	A problem situation, a problem	The method of the incident	Methods of organizing of
Conversation	Heuristic conversation	The method of analysis of business	interactive cognitive activity
Story	Partial search method	correspondence ("information maze",	Reflexive and assessment methods
Instruction	Research	"basketmethod")	Methods of the development of
Comment		Method of management tasks	personal educational learning
Interpretation		The method of situational analysis	environment
Oral presentation		A method of role modeling	
Work with the book		The method of Collective	
Lecture		Thinking Activity (CTA)	
Visual methods		Method of projects	
Observation			
Show			
Demonstration			
Illustrating			
Video method			
Presentation of material			
and its discussion			
Practical methods			
Game method			
Exercises (reproductive,			
constructive, creative, game)			
Experiments			

games; situational role-playing games, etc. (Knyazev and Odintsova, 2008; Panfilova, 2008). Information technologies are aimed at developing of telecommunication competencies and contribute to expansion of the bounds through the dialog communication and joint solution of professional and scientific problems in the field of medicine with the colleagues of domestic and foreign universities-partners as well as with employers of leading research institutes and clinics in Russia. These include internet concilia, teleconferences, online blitz game, webinars, virtual laboratories, etc.

The effectiveness of the implementation of these educational technologies is achieved by a skilful combination of explanatory and illustrative, active, problem, interactive methods of training of high school students which are listed in Table 2.

SUMMARY

Each teacher in his educational work should remember that first of all he must put the motive of "knowledge acquisition" at the top of the motivational pyramid "motivation of training in high school" and minimize the negative attitude to learning if it takes place in the system of educational motivation. This can be achieved by setting and step-by-step solution of the following tasks:

- To form a stable motivation of achieving success in professional activities, this is impossible without achieving success in mastering the knowledge in high school
- To assist in the process of self-affirmation of the student in activities that are a priority for him or are the most developed which will contribute to the formation of professional confidence
- Make it possible for students to experience the situations of success and other strong emotional experiences related to professional activities through innovative educational technologies, specialized contest, professional competitions and obtaining a mark "automatic" for the exam
- To set the students the tasks that will be proactive which solution will be based on mastered skills and the work will bring the new knowledge
- To be a positive example for students not only in the context of "teacher-specialist, professional" but also in the personal context of "teacher-person, the carrier of the highest moral, ethical and moral qualities"

CONCLUSION

The analysis shows that the process of formation and development of educational motivation of students is a long and complicated process, requiring moral and energy expenditures. The main thing is to understand that formation and development of the motivation to acquire knowledge does not mean "transfer" of existing educational motives and goals to the students. It is more important to create special conditions, situations in which the student will be active in knowledge mastering, his actual motives and objectives will be emerged and evolved based on past experience, personality, internal aspirations. Therefore, the tasks associated with the formation of learning motivation of future specialists are among the most important for the university and for each teacher.

In order to solve the tasks, a higher school teacher in the framework of the use of innovative educational technology of training should:

- Use instructional techniques, teaching materials and teaching aids in strict accordance with the objectives of the specific classes that correspond to this group of competencies
- Take into account the quality of students, their individual characteristics, cognitive capabilities, interests, nature of the activity
- Create the emotional background of joint activities and manage it, taking into account the age characteristics and psychological state of the audience
- Manage his own emotional state and be familiar with the ways of emotional infection of the audience. This is particularly important at the moment of positive fixation of new attitudes, relieve of tension in the situation of significant competition as well as the transition from the emotional stratum of responses to the cognitive moment of reflective analysis organization by the students that takes place in the framework of the training time of events
- Be familiar with the content and the latest developments in the professional field, i.e., the subject of the study, filling the material with life game situations and examples from practice

The effectiveness of the learning process in higher education is provided by integration of academic and innovative forms and methods of the teacher and the students cooperation which allows the individual to improve their competitiveness to improve his verbal and visual image; develop assertiveness, charismatic

potential; learn to conduct constructive negotiations; fast establishment of business contacts; understand the benefits of different communication strategies to build a team; to master the techniques of "heuristic optimism" (aimed at success) and technologies of management of his reputation; feel more at ease and gain self-confidence; overcome inferiority complexes; formation of intrinsic motivation for self-improvement and self-development.

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