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FORMATION OF PEDAGOGICAL MOTIVATION AMONG STUDENTS IN HIGHER EDUCATION

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Abstract

The study is based on the assumption that pedagogical motivation is an elaborate systemic education, which varies depending on the organization of the educational process in university professional training, so that particular hypotheses put forward in the development scheme require an increment into statistical ones. The findings of the research study on the formation of pedagogical motivation will be of interest to the theory and practice of educational psychology, given that fewer and fewer school leavers choose teaching as a career. The authors conducted a longitudinal study in order to test out the hypothesis according to which dynamic motivation of university students' educational activities can be provided by different ratios of its structural elements as well as by changing types of educational and cognitive activity in the learning process. The 3-year study involved a sample of students (n = 80) and was based on the

following methods: *Study of learning motivation among students,* developed by A. A. Reana and Ya. V. Yakunin, and *Focus on knowledge acquisition*, authored by E. P. Ilina and N. A. Kurdyukova.

Keywords

Professional orientation and consolidation — Particular significance — Higher education system

Para Citar este Artículo:

Lekerova, Gulsim Zh.; Kashaganova, Tursunkan U.; Kidirbayeva, Halima K.; Zhumakhanova, Roza K.; Erepbaev, Nurlan K.; Kemelbekova, Gulnar A. y Balabekov, Aydarkhan T. Formation of pedagogical motivation among students in Higher Education. Revista Inclusiones Vol: 7 num Especial (2020): 675-689.

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Introduction

The research rationale is related to understanding the specifics of motivation for professional activities and the importance of psychological and pedagogical technologies in motivation development.

Specific changes take place in the prospective teacher's motivational sphere during his teacher training, which can not only improve his teaching skills, but also significantly contribute to his personal growth.

Due to the changing social, economic and political situation in Kazakhstan, however, the content of concepts and principles, including in the field of education, has changed and developed even within a very period of time. Currently, in-depth research is needed of the changing portrait of the school leaver who wonders where to continue his studies. At this stage, the quality of vocational education cannot be based on the same knowledge and skills as in the past, since modern life sets more demanding and diverse requirements which are not to be overlooked[1].

On the whole, the present-day educational system in Kazakhstan reveals, as illustrated by data on first-year students enrolled in our University in 2000, a growing interest in higher education due to its increased social prestige. One of the manifest factors that had a positive impact on this process is diversification of education[2].

One of the key social development tools, education implies improved training and retraining of highly qualified specialists in various fields, both locally and internationally. In general, the term "pedagogical technology" refers toa purposefully normalized educational process (form, content, teaching methods, products and results) or educational activities designed to change students or providing them with an opportunity to change on their own. Each technique has its specific objectives, applications and innovative capacity[3].

Before conducting an empirical study, the authors analyzed the current state of career guidance at the present stage of development of society in general and in higher education in particular. Career guidance plays a major social role both in the life of society and in that of individuals[4].

In our view, modern vocational guidance should be structurally anchored in and be an integral part of the continuous education system.

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[1] G. Zh. Lekerova; B. S. Dlimbetova; G. B. Kylyshbayeva; G. K. Karbozova; K. A. Zholdasbekova; Zh. S. Sikhimbayeva and A. Zh. Aymenov, "Research of a problem of formation of educational motivation of students", Espacios Vol: 38 num 25 (2017): 26-33.
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[3] G. Zh. Lekerova; A. S. Isabaeva; N. K. Erepbaev; B. S. Dlimbetova and T. U. Kashaganova, "Research of formation features of the system of value personality orientations in the learning process and its impact on motivation professional choice", Ponte Vol: 74 num 1 (2018): 107-112.
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Career guidance is not only a link in the society/personality system, but also a factor in thehuman impact on the emergence of such a system as a socially active and useful social entity and a means of individualself-determination in a given society[5].

Psychological and pedagogical research has revealed many factors determining the development of certain aspects of students' cognitive and professional motivation. Some principles, study approaches and criteria for assessing cognitive and professional motives as an integral part of the general learning motivation system have been elaborated; and various approaches (methods, techniques) to their formation have been described. Factors and conditions that contribute to the development of their motivation reflect various aspects of learning and personal characteristics of the subjects of the educational process ranging from specific goals, content, learning conditions and adopt teaching approaches to students' individual psychological features and special techniques.

Cognitive motives and motives for achieving success can be divided into two groups, internal and external. Internal learning motivation includes internal motives for enrolling in a teacher training college, broad cognitive motives and career-related ones. External learning motivationconsists of external motives for enrolling in a teacher training college, narrow cognitive motives and career-related ones. In case of internal motivation to achieve success, the latter is the real outcome of the students' own action and their qualitative assessment; and in case of external motivation to achieve success, it reflects the students' achievements assessed by society and their focus on it[6].

Analysis of the classification and systematization of modern learning technologies set forward by G.K. Selevko and V.S. Kukushkin and comparison of their research with other studies revealed that these classification techniques include distinguishing characteristics in terms of acquisition, philosophical basis and the main development factor; orientation towards personal structures, nature of content and type of regulation; organizational forms and approach to the child, the prevailing method, the area of modernization and student categories[7].

Thepresent study was conducted in this context and aimed at promoting motivation for professional activity among prospective teachers during their studies. At the same time, the objectives of the study are determined by the need, in educational psychology, to develop an effective student training system on an experimental psychological basis, which is expected to significantly enhance both learning efficiency based on the educational system and motivation management.

Methods

Literature review. The main goal of modern education is to choose learning and teaching approaches. Learning technology is an important factor in every student's studies as an individual and a qualified person in the modern world.

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[5] G. Zh. Lekerova, "Psychological and pedagogical bases of active teaching methods", Life Science Journal num 11(bs) (2014): 101-110.
[6] G. Zh. Lekerova, "Study of internal and external learning motivation of students of pedagogical high school", European Journal of Education and Applied Psychology num 4 (2015).
[7] G. Zh. Lekerova, "Motivation Research: The Interdisciplinary Problem", European Journal of Education and Applied Psychology num 4 (2015).

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In today's information age, people must be skilled in critical thinking and problem solving, be communicative and proactive. An appropriate approach to learning can, therefore, address this issue with minimal effort and maximum learning outcomes.

Depending on the nature of the learning environment, all existing technological teaching methods can be divided into three groups:

- methods to be used in the traditional time-based system (problem-based training, developmental training, role-playing, etc.);
- methods requiring organizational restructuring of university learning (concentrated training, collective learning and other methods);
- methods requiring changes in content of education ("dialogue of cultures" and probabilistic education[8]).

According to E. A. Kryukova, analysis of modern pedagogical knowledge points to the absence in modern pedagogy of a consistent theory that would clarify the relationship between pedagogical goals and corresponding tools. Traditional pedagogical targets are achieved by certain subject activities based on the study of concepts and rules. The personal education model has different goals, the main of them being the ability "to be an individual" and emergence of individual self-organization. In the personality model, activity is possible only if there is a free exchange of views, ideas and personal participation of both students and teachers in the learning process. In terms of personal development, activitybecome a background for any other educational activity. Its subject implies the understanding and the development of the individual's personal features. The ultimate goal of these actions is the development of the subject's meaningful relationships. Consequently, this implies the development of a learning process in which students take on the role of active learners who acquire knowledge and skills and understand the rationale behind them. Such a learning environment can be set up through research-based learning and dialogue as one of its elements[9].

Research-based learning is based on students' personal experiences organized by their teachers. The aim of training is to develop students' creative abilities aimed at exploring new experiences. This development is based on the targeted formation of creative and critical thinking, experience and tools to be used during learning and research activities, role-playing games and simulations, the search for and identification ofpersonal values and value orientations. Both training and its outcomesbecome of personal nature.

Our research into learning motivation among students adopted two psycho-diagnostic research methods involving first- to fourth-year undergraduate students enrolled in teacher training programs. One of these methods, entitled *Study of learning motivation among students,* was developed by A.A. Reana and Ya.V. Yakunin, and another one, *Focus on knowledge acquisition*, was authored by E.P. Ilina and N.A. Kurdyukova.

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[8] G. Zh. Lekerova, "PsychologischeMechanismenzumFormieren der beruflichenOrientierungeinerPersönlichkeit", Austrian Journal of Humanities and Social Sciences num 9-10 (2015).
[9] L. R. Muminova; G. Zh. Lekerova; A. M. Nurbekova; A. S. Isabayeva and Zh. SH. Nigmatullina, "Forming of professionally pedagogical orientations and motivations in the system of high professional schools", Proceedings V International Conference «Industrial Technologies and Engineering» ICITE-2018 Vol: V (2018): 335-337.

Results

Our study of trends in learning motivation among students was based on the fact that the main structural elements of learning motivation among university students are cognitive motivation and motivation to succeed. Promoting them has a direct impact on the effectiveness of educational activities.

In accordance with the research data obtained by the authors, cognitive motives and motives to achieve success can be divided into two groups: internal and external. Internal educational motivation includes internal motives for enrolling in a teacher training college, broad cognitive motives and career-related motives[10].

External learning motivation consists of external motives for entering a pedagogical university, narrow cognitive motives and career-related motives. In case of internal motivation to achieve success, the latter is the real outcome of students' own action and their qualitative assessment; and in case of external motivation to achieve success, it reflects students' achievements assessed by society and their focus on it[11].

The experiment involved a study conducted according to the above-mentioned method, *Studying learning motivation among students (*developed by A. A. Reana and Ya. V. Yakunin) in which each student was subjected to a qualitative analysis of sixteen mainlearning motives and the frequency of this of that motive.

At the end of the ascertaining experiment, three main motives were identified out of a total of 16 motives, which led to the following conclusions:

At this stage, the ascertaining experiment was conducted above the indicated rate of three academic years, where the 2nd motive - *Acquire deep and solid knowledge* - decreases compared to the first and second years, and the results obtained in the 3rd year will change after the educational experiment in experimental work,

The results of the 4thyear confirmed the assumption that university graduates understand the impossibility of becoming a highly qualified specialist without deep and solid knowledge.

Figure 1 also reveals that that the 3rdmotive - *Avoid reproof and punishment for poor academic performance*–is not significant. In other words, good marks are by far a less important motive for students than becoming a highly qualified specialist and acquiring deep and solid knowledge.

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[10] V. K. Viljunas, Psychological mechanisms of motivation of the person (Moscow: 1990).
[11] E. V. Nikitina, Psychology of work and engineering psychology (Moscow: Moscow University Publ., 2009).

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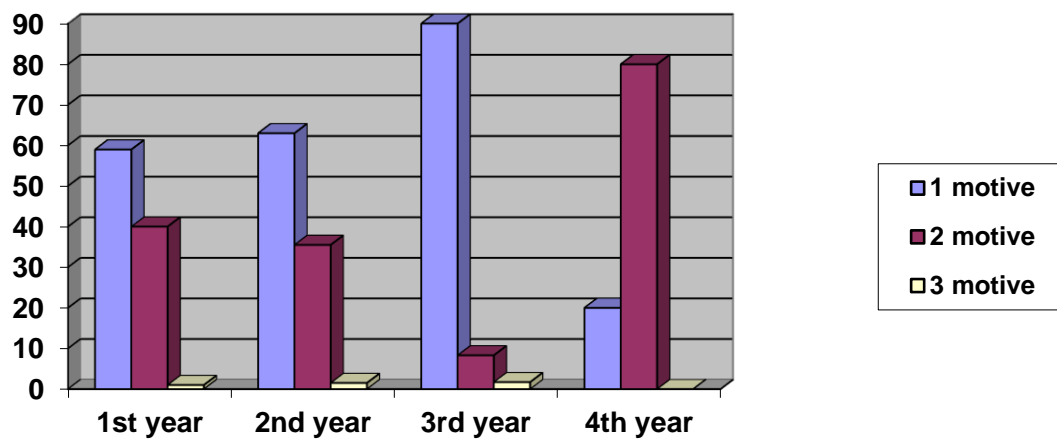
1st motive: Become a highly qualified specialist
2nd motive: Acquire deep and solid knowledge
3rd motive: Avoid conviction and punishment for poor learning"
Figure 1
Changes in the learning motives of students

The above figure allows to single out motivational and semantic formations (cognition, achievement, domination, affiliation) in the structure of learning motivation, which is a sophisticated multifunctional system combining motivational and semantic components.

Analysis of the results took into the consideration the fact that knowledge, as understood by the authors of the presented approaches, is reflected in the students' aspiration towards obtaining profound professional knowledge, exploring all things new, being curious and expanding their life experiences. Satisfaction with their knowledge is expressed in the relationship between personal meanings and cognitive activity and in applications of the knowledge obtained in real practices[12].

Achievement is characterized by focus on performance and success, self-confidence, awareness of the importance of anything one does, perseverance in achieving goals, self-criticism and independence. Satisfaction with achievement entails the person's awareness of his role in what has been accomplished, provides realistic goal setting, hope for success, continuous self-improvement and improved performance through knowledge and enhanced performance.

Dominance is manifest in conflicts and disputes, in the ability to convince others and to derive pleasure from participating in important decisions, in straightforward expression of one's disagreement, in striving for leadership and responsibility and in speaking confidently in front of a large audience. Satisfaction with dominance can be achieved by actively influencing other people's tastes and attitudes, by convincing others, by directly participating in solving common problems, by striving for social primacy and by showing one's own competence.

Affiliation includes the joy of helping others, preference for socializing over loneliness, interest in friends and compassion for their troubles, satisfaction with other people's successes, prevalence of responsibilities over rights in relations with people and a large number of friends. Satisfaction with affiliation is associated with communication with pleasant people, helping others

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[12] E. P. Ilyin, Motivation and motives (Saint Petersburg: Piter, 2000).

overcome difficulties, the possibility of receiving help from others, satisfaction with one's social position and absence of loneliness.

Focus on knowledge acquisition, a methodology developed by E. P. Ilyinand N.A.Kurdyukova, gives a number of statements with paired answers and the results reveal information about motivation to acquire knowledge and the extent of this motivation. Figure 2 shows the findings based on this methodology: first- to fourth-year students show low motivation to acquire knowledge, yet high motivation to acquire knowledge is enhanced and clearly expressed by fourth-year students.
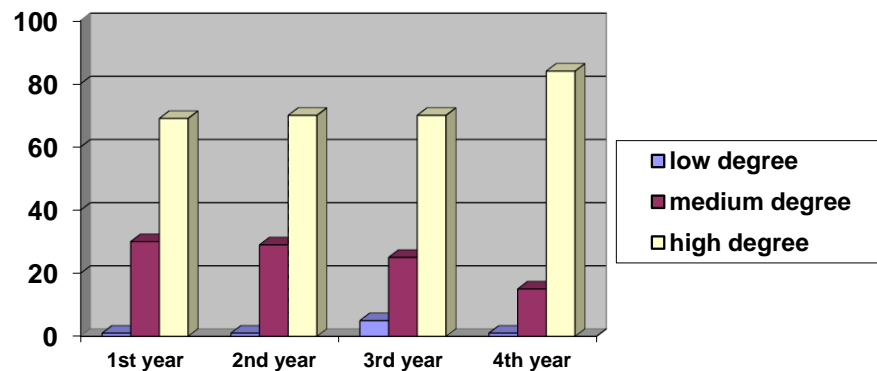
Figure 2
Changes in the students' focus on knowledge acquisition

In investigating cognitive motivation, the authors relied on the following principles:

- cognitive motivation is not so much the manifestation of a stable personality trait as a reflection of the given conditions of activity, which opens up the possibility for its formation through specially organized didactic impacts;
- cognitive motivation arises in a situation of concern, which shows not only its internal but also external causality;
- professional traininguses active teaching forms and methods implementing the principle of problem education;
- emergence and development of cognitive motivation largely depends on teacher-student and student-student interactions;
- development of the students' cognitive motivation depends very much on the teacher's pedagogical skills, his ability to properly organize students' activities and to encourage them to develop their cognitive motivation[13].

A proper understanding of motivation is a major requirement for teachers' efficient work. Experienced teachers should purposefully develop and deepen theirstudents' cognitive interest in the subject being studied. When it comes to students forming a specific motivation that manifests itself in solving mental tasks, it is recommended to proceed from the simple fact that knowledge to be acquired cannot be transferred in finished form by means of a simple message or display. Knowledge can be acquired only if certain action is undertaken.

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[13] E. Deci and R. Ryan. Intrinsic motivation and self-determination in human behavior (New-York: Plenum, 2005).

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There is an increasing social and pedagogical need to revise vocational training in order to successfully respond to challenges posed by the renewal and upgrading of the education system in Kazakhstan. The development and approval of advanced teacher training standards and growth of innovative processes in education do not ensure any stable personal motivation to engage in professional and educational activities. Teachers at higher education institutions are faced with a psychological/pedagogical task that consists in transition from current educational activities undertaken by students to professional activities. From the standpoint of the general theory of activity, which the authors support, such a transition proceeds primarily along the line of motive transformation since it is the motive that determines an activity. Transition from the students' educational and cognitive activity to the professional activity of specialists is in many ways an issue concerning the transformation of cognitive motives into professional ones[14].

The basic forms of activity are educational (lectures and seminars), quasi-professional (business games and other game forms), educational and professional (student research projects, work experience, graduation papers and so on). When shifting from one basic form of activity to another, students implement the increasingly popularpractice of using educational and scientific information to carry out these activities, gain real professional experience and get opportunities to start out on their career smoothly. The basic forms of organizing students' activities are brought into conformity with the semiotic, imitational and social learning models. Semiotic models include assignments, tasks and problem situations ensuring thatstudents have acquired objective meanings presented in them. In simulation models, students go beyond meanings and relate information drawn from textbooks to work situations, using it as a means to take their own practical actions[15].

Information acquires a personal meaning for students and transforms from information into knowledge that properly reflects the realities of work. Finally, social training models present assignmentsas problem situations and tasks that imitate real-life ones and are resolved in the process of students' collective communication and dialog-based interaction. Personal meanings change into social values. i.e. a system of the individual's responsible attitude towards nature, work, society, other people and himself. In contextual education, a set of proper forms and teaching techniquesbring about a transition ofstudent activities from learningto professional ones entailing the transformation of needs, motives, goals, subject matter actions, means as well as subject matter and learning outcomes.

The formation and development of cognitive, professional or any other activity motives is, however, extremely complex due to its diversity. The subject' motivational sphere is, according to A.N. Leontyev, a multi-vertex formation prompted by severalleading motives (cognitive or professional ones, achievements, affiliations and so on)[16].

In this regard, from our point of view, it is necessary to find a proper approach to understanding the hierarchical relationships in this area.

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[14] C. S. Dweck, Self-theories: Their role in motivation, personality and development (Philadelphia: Psychology Press, 2009).

[15] D. Goleman, Emotional Intelligence (Bantam Books, 1995).

[16] T. O. Gordeeva; S. Manuchina and J. Shatalova "Cognitive and emotional predictors of academic achievement motivation", Paper presented at the 8 International Conference on Achievement and Task Motivation (2002).

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Of special importance is the focus oncareer guidance and consolidation of senior high students in specialized classes. In the current context, work with prospective students aimed at selecting them and determining their enrollment rates is of particular importance both within the education system and in the general social framework[17].

Considering the above, the following areas require greater attention:

- student's identity;
- significance of the socio-psychological portrait of would-be specialists, their motivation, personal ambitions and desires.

Today, psychological aspects of the formation and development of teachers' professional activity are becoming a priority area for psychological and pedagogical research, since knowing and understanding the motivational sphere of any specialist makes it possible to develop his professional self-determination both in terms of hiscareer choice and during his professional development.

Thus, today's social development, the sophistication and increasing diversity of all social processes set new requirements on quality training, the nature of its theoretical and methodological knowledgeand, above all, onits preparation within the framework of higher education.

On one hand, this process offers a wide range of choices for students, expands opportunities and prospects for their professional development. On the other hand, this entails new requirements for students' personalities, their preparation for studies in those fields. All of the above provokes the need to know the specific featuresof enrolled students that are multifunctional in their social and psychological characteristics, interests, trends, level of training, and information about their future career. This applies to both senior high and university students as well as students in their final year of Bachelor's studies. Therefore, the study is related to the "portrait" of those who belong to this potential[18].

Discussion

Among important social functions of career guidance are coordinatingthe individual's interests and those of society and using the youth's abilities and inclinations in the interests of the society they live in. Modern and effective career guidance can reduce the likelihood of psychological dissatisfaction, frustration (including behavioral frustration and drug addiction), as evidenced by mistakes made in choosing a career, because guidance reduces the probability of such mistakes. Current research in the structure of the career guidance system has produced numerous studies and practical evaluations, yet a number of aspects remains insufficiently investigated, which is primarily associated with the complexity of the adopted approaches.

Worthy of attention are the predominance of fragmentary research, the lack of integrity in the aspects under investigation and a tendency to develop unrelated connections and forms of career guidance. At the same time, the need for continuity between the stages and real interaction between activity forms and methods at the pre-university preparation stage is not always taken into account. In the context of modern views on teaching, career guidance is not only a practical activity,

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[18] M. S. Horner, "Toward an understanding of achievement related concepts in women", Journal of social issues Vol: 28 num num 2 (1972): 157-175.

but also refers to the development its theoretical foundations. The three stages of career orientation (practice, theory and methodology) do not contradict each other; instead, they have to be closely related to one another. Consequently, in our view, professional orientation can be defined as a unity:

a) practical educational activities aimed at helping young people make a deliberate career choice in line with their abilities, inclinations and needs;
b) development of the interdisciplinary theory, which includes pedagogical, psychological, sociological and other aspects;
c) methodological foundations of knowledge organization and practice transformation.

Consequently, the study of career orientation as a systematic and complex phenomenon should include research approaches,which could enable multidimensional activities, both in the development of a theoretical model and in actual practice[19].

The philosophical, pedagogical, psychological, economic, medico-biological, socio-legal, socio-cultural and sociological approaches should be revised in relation to these research methods.

Experience shows that a systematic and intensive investigation of processes taking place in career orientation requires occasional repetition of research studies as being one of the methodological analysis principles. A single investigation provides only one view of the object of interest to us, characterized at a given moment in time. A variety of studies is neededto compare its characteristics and indicators and todetermine itsdevelopment trends[20].

Career orientation programs offered by universities both inside and outside the higher education system take a certain position dictating the objective need for and interest in a more pronounced multi-discipline and poly-functional system.

Innovation activity is nothing less than a system of activities undertaken to ensure the innovation process at a specific level of education. Innovations in education refer to the creative exploration of new ideas and principles, which in some cases leads to their becoming typical projects providing conditions for their adaptation and application. In terms of types of activity, innovations can be pedagogical, procurement and administrative. There are two types of innovative phenomena: the pedagogical theory of innovations (innovations in the education system) and innovative learning. The pedagogical theory of innovation is associated with the restructuring, modification and improvement of the education system or its component parts, characteristics and aspects (production of new legal acts, new structures, models, learning paradigms, forms of integration links, etc.). Learning innovation is defined as a special type of knowledge acquisition and a product of deliberate, purposeful and research-backed activity in the educational process. Innovative learning is currently replacing supplementary learning, which is considered as the education system's response to society's shift to a higher developmental stage and to new objectives of education. Innovative learning is learning that promotes innovative changes in the existing culture and social environment, acts as a response to problem situations facing every person and society as a whole and aims to train not only the "learning person", but also the "acting person". Furthermore, all learning support elements are present in the innovation process, and the

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[20] C. Peterson, "Explanatory style in the classroom and on the playing field", in Applied social psychology. Attribution theory: Applications to achievement, mental health, and interpersonal conflict, eds S. Graham, V. S. Folkes (Hillsdale: Lawrence Erlbaum Associates. 1990), 53-75.

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only challenge is to determine the ratio between the reproductive and productive, active and creative components[21].

Besides, innovative learning can be viewed, first, as a deliberately built learning process based on the use of scientific and cultural research knowledge; and, secondly, as a deliberately organized development process of the individual who builds his future and is willing to invest init (in other words, it is "training with tomorrow in mind"). Theparadigmatic basis of any learning technology reflects its main didactic and diagnostic features as well as organizational and methodological approaches. In this regard, it includes a number of statements and principles for the design and implementation of the educational process in accordance with this technology's requirements. Usually, the paradigmatic basis also highlights the advantage of shifting from the traditional system to educational technology[22].

In pedagogical technology, the goal-setting process is a central problem resolved in two ways: 1) setting diagnostic goals and objective quality control of students' acquisition of subject matter; and 2) general personal development. In any system, the "goal" element is system integration. A necessary requirement for setting goals relating to the functioning of the pedagogical system is their diagnostic capability, i.e. an objective method for determining the extent to which these goals have been attained. Thus, learning technology is characterized by diagnostic focus on transformation, which means that, in order fora real learning technology to exist,goals should be set in such a way as to control the goal achievement process in an objective and integral way. Therefore, goals in learning technology have to be set accurately and definitively so that unambiguous conclusionscould be drawn about their implementation and a precise didactic process could be developed to guarantee its implementation within a specified period[23].

For example, goal setting, education and guidance management is a three-level process: global, gradual, and operational. The global goal-setting level includes the pedagogical interpretation of the social and state order and the formation of theschool leaver's personality.

Analysis of learning shows contradictions between the need to train students for activity in another sociocultural dimension and the existing educational system that does not develop student autonomy and responsibility in terms of learning, inner motivation, teaching skills, work planning and decision-making. The academic environmentpeculiar to reproductive pedagogy significantly slows down school leavers' integration into modern society[24]. This article contains data providing a detailed comparative description of educational technologies that can be used in the educational system. The authors provided a qualitative assessment of each approach with a view to determining the most appropriate one for both the teacher and the student.

Conclusion

Taking into account the changing factors and conditions of professional training, education management and personal factors, a step-by-step method was developed to form the motives of professional activity using the author's program for providing psychological conditions

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aimed at generating learning motivation among university students enrolled in teacher training programs. The program developed for the implementation of psychological conditions aimed atenhancingprospective teachers' professional motivation identified experimental periods for each condition characterized by specific tasks, content, learning forms and methods.

The above-mentioned psychological conditions have to be considered as an inseparable whole, highlighting the leading role of this or that condition in each period of the formation of professional motives while taking into account the principle of continuity.

The theoretical and empirical study of basic teaching motivation should be pursuedas part of the course entitled *Motivational sphere of the personality*, a training program entitled *Professional orientation development* and a professional identity training course.

Theoretical knowledge, practical skills, formation and development of teacher motivation should be acquired during trainingwith the help of interactive teaching methods as well as motivational training.

The study brings up the question concerning the division of the structure of professional guidance into internal and external substructures that determine quantitative, qualitative and temporal differences along with varioussets of preferred tools and methods in relation to a particular group of applicants. In our opinion, professional orientation is an elaborate system consisting of certain elements, one of which can reduce the overall quality of work.

A structured verification of the logical assumptions made about the topic under study led to a number of conclusions:

1. Changes in university students' learning motivation are due to the different ratio of its structural elements and to changes in educational and cognitive activity during university studies;
2. Changes in teaching motivation among students during the learning process may be due to professional self-determination (satisfaction and appreciation of the chosen career path);
3. Sustainable teaching motivation is due to students' psychological readiness for it, which has a more positive impact on their creative and active lifestyle and their academic performance;
4. Changes in students' teaching motivation during the learning process can be determined by the introduction of a system of interactive teaching methods;
5. The formation of prospective teachers' motivational sphere is optimized through purposeful management of joint dialogical cognitive activity that determines the factors and means of psychological influence;
6. The sustainable teaching motivation of students duringtheir university years is due to systemic determination: inner psychological conditions (the individual's professional self-determination and psychological readiness for activity) as well as the structural organization of external conditions (use of interactive methods, implementation of joint dialogical and cognitive activity).

In conclusion, university students have a more pragmatic attitude to higher education and career choices in modern socio-economic conditions. The motivational structure undergoes significant changes resulting in the predominance of economic motives whereas professionsare becoming a mere tool for achieving these goals. Differences in motivation behindcareer choicesmake it possible to identify groups of students having different professional self-determination.

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