

Learning Motivation of Engineering University Students by Means of Pedagogical Support of Education

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Pedagogical support of student's training is a key factor influencing the process of learning student's motivation in an engineering university. This process is focused on formation of educated people meeting socially valuable requirements of the society. The given article reveals the conditions of educational environment in an engineering university focused on student's learning motivation, presents the characteristic of pedagogical support in engineering university student's training, analyzes the human resource of a subject in pedagogical support of student's training.

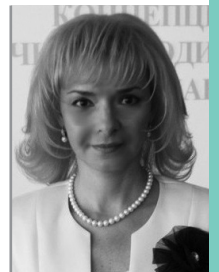
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In recent years the interest of scientists in studying different aspects of student's motivation for learning has increased. Theoretical-methodological analysis of scientific works on the given problem reveals the fact that by the present moment there is a sufficient volume of scientific-pedagogical research in this sphere [5; 6 et al.]. In addition, the analysis of sources has shown that at present there is no comprehensive theoretical ground of potential opportunities for pedagogical support of student's learning activity in an engineering university as a factor of their learning motivation. The conditions of university educational environment meeting the new demands of higher professional education system modernization in Russia have not been defined. Besides, the answer to the question about the role of human resource in the aspect of performing a subject's pedagogical support

for student's educational activity has not been found.

To consider the given issues in this article let us fix on the characteristic of pedagogical support of student's education in an engineering university, revealing the conditions of a university's educational environment directed at student's learning motivation and analysis of human resource of a student's training management subject.

The distinguishing feature in student's education in a university is their interaction with teachers. University teaching staff organizes student's educational activity outside an engineering university [2]. It comprises some teachers' basic professional competences in educational institutions. Performing their competences teachers participate in the process of student's learning activity. They specify its content; choose the methods of interaction with stu-



Yu.V. Podpovetnaya

dents as well as manage the process of educational activity and its results. Such teacher's professional competences are referred to as pedagogical support of student's education [10].

In fact, pedagogical support of engineering student's education is a special form of outer management of university student's educational activity and learning student's motivation. Indeed, accompanying student's educational activity teachers act in accordance with the purpose to achieve the development of such their properties as correspond to socially valuable characteristics of an educated person. In a university educational process teachers use both personal resources and part of educational intuition's resources. Performing the support of students learning activity the teachers influence it. Hence, all features of management are typical for pedagogical support of students; learning activity. On this basis, university teaching staff is a subject of students education outer management.

Pedagogical support of engineering students education includes a subject's performance of outer management in students teaching, education, bringing-up, self-development competences in academic process using social and personal experience. In addition, teaching is based on a definite methodical idea developed by the teachers. It is obvious that the quality of methodical idea, its realization in the university academic process defines sufficiently the results of students training in an engineering university. Besides, the success of students involvement in academic-pedagogical interaction depends largely on the properly designed pedagogical support of students education that, in its turn, conditions students learning motivation and, as a result, students education, and their readiness for self-education [1].

Pedagogical support of students education is performed in the educational environment of a university. University's educational environment is characterized by definite conditions that influence students learning motivation. These conditions are of different aspects. They are equipment, means of academic activity (textbooks, visual aids, room and lab facility, sports

equipment) etc. A particular aspect of educational environment conditions is related to university personnel's attitude to students (authority, teaching staff, and university-support staff).

Conditions of university educational environment are specially formed for students learning motivation and development of educated people, specialists, citizens. When forming the academic conditions of an educational institution directed at support of engineering students learning, it is appropriate to keep in mind the idea of educational environment that is characterized by the four basic coordinates:

- standard-regulating coordinate;
- perspective-focused coordinate;
- activity-stimulating coordinate;
- communicative-informative coordinate [5; 6].

Firstly, a subject of pedagogical support in students training builds standard-regulating conditions of university educational environment. It means that pedagogical support subject of students education follows the standards characterizing state-social intentions in education that include the requirements for a person's education and requirements for his/her safety within an educational institution.

Secondly, the government orientates educational institutions to the development perspective. For this purpose the documents are designed and adopted where the government and society intentions with respect to the education development perspectives are expressed. Based on the corresponding state-social intentions a pedagogical support subject of students training creates perspective-focused conditions of university educational environment. One of the forms of building the given conditions is educational institution development program that is a basic landmark in engineering students learning motivation.

Thirdly, a significant characteristic of educational institution environment directed at students learning motivation is activity-stimulating conditions of university educational environment. The drives of students educational activity are the whole complex of conditions existing in educational institution. They

influence the motivation of student’s educational activity. Nevertheless, activity-stimulating conditions are formed directly in university educational environment and influence student’s activity in various aspects of their life and, first of all, stimulate students’ educational activity in socially related directions.

Fourthly, a subject of student’s training pedagogical support builds communicative-informative conditions of university educational environment. Information circulating in educational institution is the main source of student’s learning motivation in an engineering university. Acquiring it and using in educational activity students promote their personal education – an important element characterizing an educated person. It is obvious that communicative-informative conditions of student’s educational motivation are characterized by not only accessibility to information sources. They are to be directly connected with both content of education and methods of a university’s academic process (Fig.1).

Engineering student’s learning motivation is performed by means of pedagogical support. In the process of student’s training pedagogical support

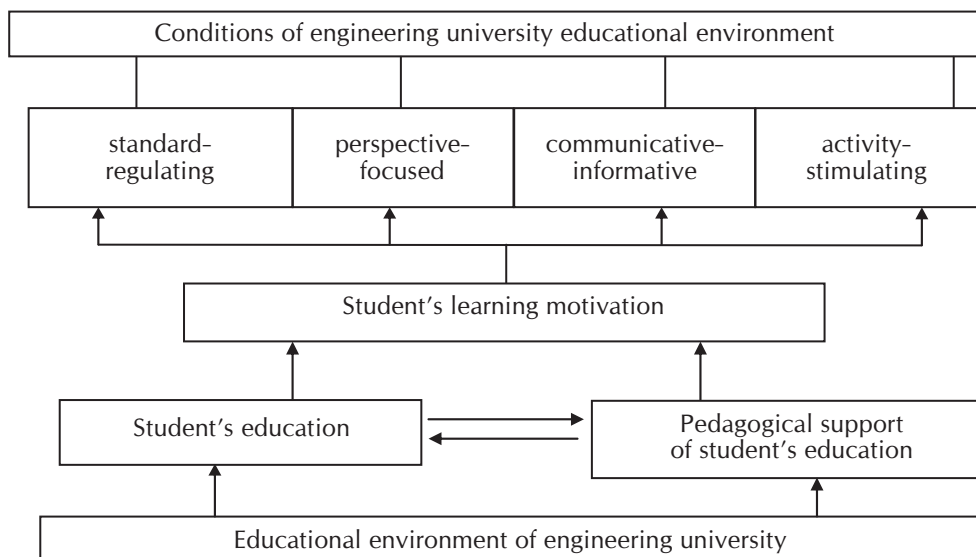
every teacher applies not only personal resources, but also united resource of teachers-partners. The consistency of using these resources defines the potential of the group human resource impact on the process of student’s learning motivation [3; 8 et al.].

Therefore, one needs to analyze the role of group human resource in pedagogical support of student’s training in engineering university.

From the point of view of humanly oriented system-synergetic methodology [4; 7; 11] student’s training pedagogical support is manifestation of synergism in professional-pedagogical interaction. According to this methodology a person comes to the fore in relations with his/her environment. Every man is sure to have a specific resource of his existence in the social reality. It is conditioned by a person’s features, personal experience, differences in living conditions etc. All these form some general resources which a person can use in his/her life.

Hence, pedagogical support subject of student’s training has his/her personal (private) resource. This resource is formed as a result of not only disposition defined by nature, but also developed in social environment (including scientific-

Fig. 1. Conditions of engineering university’s educational environment stimulating student’s learning motivation



educational process of engineering university). The elements of human personal resource composition are [11]:

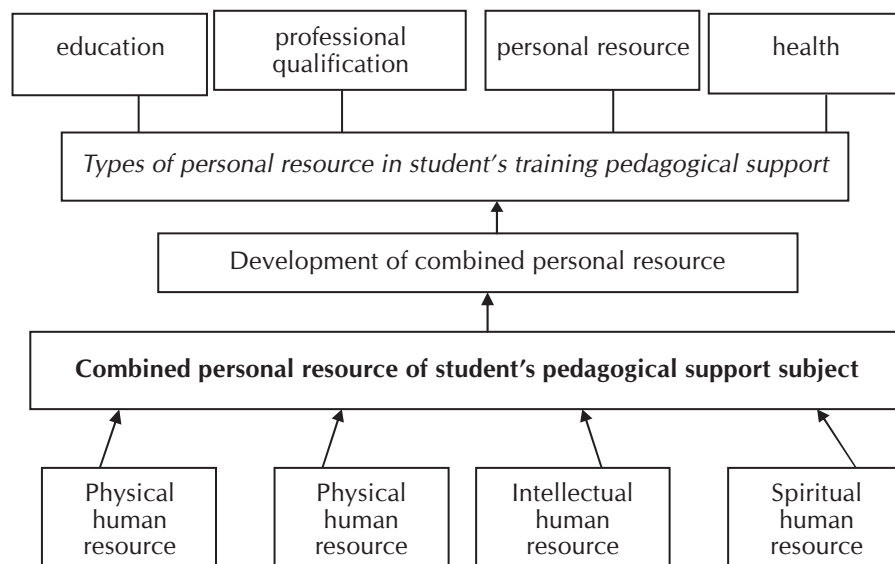
- physical resource of a person that is necessary for a subject's pedagogical support life not only in biological aspect but also for his/her self-realization in the university's educational environment;
- psychical resource of a person due to which a subject's pedagogical support of student's training expresses his/her attitude to himself/herself and partners. Psychical resource defines possibilities of pedagogical support subject in self-regulation of relations with partners as well as in management of student's learning motivation;
- intellectual resource of a person that enhance the possibilities of student's pedagogical support subject in self-management and management of student's educational activity. Owing to the intellectual resource, student's training pedagogical support subject is good at efficient actions in the process of student's learning motivation;
- spiritual resource of a person by means of which student's training pedagogical support subject ex-

presses and shows his/her attitude to both himself/herself and partners. By doing so, he/she build up the process of educational pedagogical support in accordance with priority of personal and socially important values.

Taking into account the fact that combined human personal resource is life-long developed, one should note that student's training pedagogical support subject possesses such types of personal resources as education, professional qualification, personal resource, and health [11]. The types of human personal resource mentioned above are expressed in student's training pedagogical support in university educational environment and interrelated to some extend, i.e. using one type of personal resource, a subject of student's training pedagogical support uses its other types explicitly or implicitly (Fig. 2).

Summing up, it should be noted that student's training pedagogical support subject is to apply personal resource constantly as a drive for engineering student's learning motivation. Using personal resource student's training pedagogical support subject takes into

Fig. 2. Personal resource of student's training pedagogical support subject



account student's competences and creates conditions for student's learning motivation. From the point of view of humanly oriented system-synergetic methodology it is necessary for student's learning motivation to be performed in accordance with the formation process of anthropologic-synergetic management, teaching staff and engineering student's community [9; 10; 11]. The given community is a basis for performance of professional competences of teachers-partners, and its activity is directed at quality of engineering student's learning motivation process.

Teacher's concurrence in performing influence student's learning activity is a premise of its efficiency. In other words, student's training education

pedagogical support depends definitely on the degree of teacher's concurrence in the process of their professional competence performance.

Thus, student's training pedagogical support can be referred to the key factors influencing the process of engineering student's learning motivation. This process is focused on forming educated people related to socially valuable requirements of society. Integrated indicator of students' training pedagogical support is their involvement in scientific-educational process of engineering university. It means the volume of competences that students perform in scientific-educational process and everyone's application of acquired knowledge and skills.

REFERENCES

1. Ageyev V.S. Inter-group interaction: social-psychological problems / V.S. Ageyev – Moscow, 1990. – 236 p (only in Russian).
2. Belikov V.A. Philosophy of a personality's education: monograph / V. A. Belikov. – Moscow, 2004. – 357 p (only in Russian).
3. Joy-Mettews D. Development of human resources / D. Joy-Mettews. – Moscow, 2006. – 432 p (only in Russian).
4. Zagvyazinskiy V. I. Methodology and methods of psychological-pedagogical research: manual / V. I. Zagvyazinskiy, R. Atakhanov. – Moscow, 2001. – 248 p (only in Russian).
5. Il'yasov D. F. The theory of education management: manual on special course for students of pedagogical specialities and managers of educational institutions / D. F. Il'yasov, G. N. Serikov. – Moscow, 2004. – 344 p (only in Russian).
6. Kugan B. A. Management of educational system: subjects' interaction of regional and municipal levels / B. A. Kugan, G. N. Serikov. – Moscow, 2000. – 357 p (only in Russian).
7. Ruzavin I. G. Synergetics and system approach // Philosophical Sciences. – 1985. – № 5. – P. 48–55 (only in Russian).
8. Podpovetnaya Yu. V. The guidelines of management concept development of pedagogical partnership in the university research-academic process // Herald of South-Ural State University. Series: Education. Pedagogical Sciences. – 2010. – № 12 (188). – P. 59–63 (only in Russian).
9. Podpovetnaya Yu. V. Pedagogical partnership as a type of group human resource in management of university research-academic process // Herald of South-Ural State University. Series: Education. Pedagogical Sciences. – № 36 (212). – P. 42–46 (only in Russian).
10. Serikov G. N. Management support of pupils' training / G. N. Serikov, S. G. Serikov // Herald of South-Ural State University. Series: Education. Pedagogical Sciences. – № 12 (188). – P. 49–58 (only in Russian).
11. Serikov G. N. Humanly oriented system-synergetic interpretation of human resource // Herald of South-Ural State University. Series: Education. Pedagogical Sciences. – № 16 (201). – P. 29–38 (only in Russian).