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**FUTURE ENGINEER TRAINING: MOTIVATING TECHNIQUES**

**Ye. Novikova, Assoc. Prof., Cand. Sc. (Phil.),  
Kharkov National Automobile and Highway University**

***Abstract.** The motivating techniques for training future engineer are proposed. Intrinsic and extrinsic motivations in professional training have been analyzed. The peculiarities of the formation process of students' motivation in learning language at non-language universities have been systematized. Heuristic training technology based on students' motivation to cognitive research has been implemented.*

***Key words:** intrinsic and extrinsic motivation, engineer, professional education, contextual learning.*

**ОБУЧЕНИЕ БУДУЩЕГО ИНЖЕНЕРА: РАЗВИТИЕ МОТИВАЦИИ**

**Е.Б. Новикова, доц., к. филол. н.,  
Харьковский национальный автомобильно-дорожный университет**

***Аннотация.** Предложены способы решения проблемы мотивации студентов при изучении языка в неязыковом вузе. Была проанализирована возможность создания предпосылок перехода от обучения к профессиональной деятельности. Систематизированы особенности процесса формирования внутренней и внешней мотивации студентов.*

***Ключевые слова:** мотивация, инженер, профессиональное, контекстное обучение.*

**НАВЧАННЯ МАЙБУТНЬОГО ІНЖЕНЕРА: РОЗВИТОК МОТИВАЦІЇ**

**Є.Б. Новікова, доц., к. філол. н.,  
Харківський національний автомобільно-дорожній університет**

***Анотація.** Запропоновано способи вирішення проблеми мотивації студентів під час вивчення мови в немовному виші. Було проаналізовано можливість створенням передумов переходу від навчання до професійної діяльності. Систематизовані особливості процесу формування внутрішньої та зовнішньої мотивації студентів.*

***Ключові слова:** мотивація, інженер, професійне, контекстне навчання.*

**Introduction**

Social, economic, political and spiritual transformations in Ukraine encourage improving theoretical and practical training of highly skilled specialists. Higher education faces new challenges related to the new conditions of socialization, including education of competent specialists with the high level of expertise, activity, mobility, responsibility, capacity for work, ability to take their cue from each situation quickly, to make autonomous decisions, to respect their work, to form the need in constant updating their knowledge and self-improvement, to develop

the culture of interpersonal communication, etc. Students' learning motivation plays the most important role in it.

The problem of students' motivation to educational and professional activities and ensuring the quality of professional education of the future specialist is one of the most significant for technical higher education institutions.

**Recent Papers Review**

In the works of domestic pedagogues and psychologists methodological principles of study of

the motivation problem have been defined and the complexity, qualitative heterogeneity of the motivational sphere structure have been pointed out. The correlation of external and internal conditions of individual development and their motivational sphere have been researched by B. Ananyev, A. Leontyev, V. Myasishchev, S. Rubinstein, etc. [1–4, 7, 9, 10].

Changes in developing and forming motivation have been traced in the works of V. Vilyunas, D. Elkonin, G. Kostyuk, O. Muzyka [6], Y. Orlov, T. Shamova, Yu. Sharov, P. Jacobson. The sources of motivation have been analysed by V. Aseyev, I. Dzhydaryan, S. Zanyuk, O. Kovalyov, Yu. Kulyutkin, V. Merlin, G. Suhobska and others. The problem of motivation has been the subject of foreign scientists' research (J. Atkinson, M. Dauhoff, K. Lewin, A. Maslow [5], G. Murphy, J. Nyutten, P. Fraisse, C. Hull, H. Hekhausen and others).

### Problem Setting

The purpose of the article is to clarify and systematize the peculiarities of forming students' motivation in foreign language learning at non-linguistic universities.

### Problem Solution

The study of motivation is a main problem of didactics and educational psychology, because the effectiveness of training is determined not only by the amount of learned knowledge but also by the students' attitude to educational activities, their inward position. Although this area is in some progress now, the problem has not been solved yet: it is very difficult to put variability, mobility, diversity of motives into certain structures, to identify the ways of their management.

The issue of motivating educational activity is the subject of pedagogical and psychological researches, mostly conducted in two main directions. A. Markova distinguishes two strategies in researching motivation: 1) study of the influence of motivation on activities, and change of the activity depending on the actualization of the student's different motives; 2) study of the impact of activities on the formation of the motivational sphere [4].

There are several interpretations of "motivation" concept, in particular the term is used to de-

scribe various phenomena and conditions causing the subject's activity. Needs, interests, desires, emotions, attitudes and ideals can be motives. The content of personality's motives is determined by the objective conditions of his life, especially social ones. By changing the specific social conditions in the process of individual evolution, conditions for developing these or those motives as well as their specific content are changing too. Motivation determines not only the existence of this or that activity, but also its effectiveness.

A. Petrovsky singles out two kinds of motivation – intrinsic and extrinsic. Concerning the students' training whose energy is concentrated only on the content of knowledge, we say about intrinsic motivation. When the students' activities are subordinated to other aims and values, in addition to obtaining scientific knowledge the extrinsic motivation appears. The motivational sphere of human life has a structure with complex dynamics of conversion from «outer» to «inner» [7]. The most adequate for learning activities are educational and cognitive motivations being formed during the training.

Nowadays in modern environment the main training problem is not only to find the ways allowing people to learn a huge amount of knowledge (constantly growing), but to receive, create and produce new necessary knowledge. V. Popov believes that education should be a means of information exchange between an individual and others, adherent to every act of his life from birth to death; exchange involving not only learning, but also transfer, response, production of new information in exchange for received one [8].

Education aimed at creative focus define new challenges, in which V. Popov and A. Aleynikov include the following:

- forming new mentality, based on the belief that education does not only consume and replicate the knowledge but produces new knowledge and information that is most important;

- creating new cognitive methodology techniques allowing to overcome the psychological barriers of thinking, to develop the ability to think abstractly and thus, to form productive approaches, stimulating the creation of new knowledge while training;

– creating new educational environment that will allow a person to get education of high quality anywhere, at any time, throughout his lives.

Creative techniques including programmable, intensive, problematic, heuristic and others are based on motivating students to cognitive researches.

After N. Shcherban we believe that cognitive motivation in learning involves:

- creating clear aims including present and more distant objectives (clear understanding the purpose of learning by students has a greater impact on its efficiency than students' abilities);
- choosing the correct educational material for studying the topics of the course and other subjects (subject relations) and for a future specialist's career;
- selecting training content according to the students' cognitive needs;
- ensuring professional orientation of the content.

The main task of university education is to create the conditions allowing students to move from school to professional work. How can we «grow» one activity within another one? The solution of this problem is concentrated on finding the means of ensuring the motives transformation. The development of a holistic approach to the forming and developing cognitive and professional reasons in training at universities is necessary for developing highly-skilled specialists.

We completely agree with A. Verbytsky and N. Bakshayeva who offer to solve this problem within the theory and practice of contextual learning [2]. In contextual learning the content is presented not only in terms of science, as in traditional education, but, above all, in future professional activities. The focus of the student's activity is shifted from educational information into practical activities and educational information, being a reference basis, reflects the world of the profession in the student's mind. The basis of the content of the contextual learning is a social problem situation that demands from students their productive thinking, sharing their activities, coordinating their interests, interacting and communicating for solving it.

The system of such situations allows to integrate knowledge of several disciplines to provide the correct absorption of the material and ability to

develop both educational and professional motives.

The content of the contextual learning also requires adequate forms of organizing the students' educational activities that are close to professional activities. This approach is concentrated on the basic forms of activities:

- 1) proper training (lectures, seminars);
- 2) quasiprofessional (business games and other gaming forms);
- 3) educational and professional (research work, practical training, graduation project preparing, etc.).

At KhNAHU the heuristic training technology based on students' motivation to cognitive research is implemented. Education is like a process of equal partners (teachers and students) business communication. On the basis of communication cultural qualities of the person are formed, social intelligence is created. In addition, each participant of the communication, perceiving the partner uniqueness, gives them freedom of choice in actions and words.

Thus, if the interaction is a consequence of the relation to the other as free, unique and valuable subjects of the activity, if the purpose of participants is to achieve a positive result from their mutual activities, so such interaction is defined as business communication.

Business communication occurs when interacting partners want to achieve a certain pre-planned result. In the process of problem solving students, in collaboration with the teacher, acquire new knowledge. Thus, the students' knowledge in such a form of information is close to research activity. With the solution of problem situations the theoretical thinking, cognitive interest to the content of the discipline, professional motivation are provided.

### Conclusion

Proceeding from above-mentioned we may say it is necessary to create and develop students' educational and professional motives while studying at university. Techniques of the contextual learning allow students to understand the significance of studied subjects for their future careers and determine the shift from educational activities to professional ones through the transformation of needs, motives, goals and results.

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Рецензент: В.В. Бондаренко, доцент, к.пед.н., ХНАДУ.

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