T.A. Fugelova

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The Problem of Value-Based Guideline Formation for Future Professional Activity

T.A. Fugelova[1]

[1]Tyumen State University, Tyumen, Russia

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Abstract

Contemporary education is aimed at training engineers capable of transforming the environment.

Formation of value-based and responsible attitude of future engineers to the environment as a basis of accession into culture taking into account personal qualities and specific living conditions, involvement in innovative activity is a condition and prerequisite for their professional mobility.

Key words: social responsibility, professionalism, professional mobility, innovative activity, integration.

The long-term program of social-economic development of the Russian Federation till 2020 launched the transition of national economy to innovation development [1, p. 57]. Russia still refers to the countries of innovative simulation type, for which the following indicators are typical: low share of GDP innovative component; 2-3 times lower productivity as compared with developed countries, and low innovative activity of state, business, science, and education.

The problem of global competitiveness of national economy has become increasingly relevant. Its solution is impossible without development of human capital, formation of new generation of experts having professional mobility skills, professional competencies, and value-based guidelines in professional activity.

A wide range of engineering university graduates' competencies includes cross-cultural competencies, which, penetrating into all spheres of professional activity, have become a foundation for professional mobility of future specialists.

The comparative analysis of competencies in elite engineering training of Germany, China, the USA, Sweden, Japan allows for conclusion that most part of the competencies (up to 65%) is not associated with engineering sphere, but related to economic, ecological, social-cultural and communicative spheres. This is no accident as contemporary civilization requires new generation of specialists having high level of general and professional culture, innovative way of thinking, as well as moral awareness. In this context the history of small country Singapore is rather exemplary as it is not a resource-rich country, but could make an economic leap forward due to innovative policy. Lack of resources was compensated by intellect, inventory and discipline potentials [2, p. 7].

Engineering training is focused on ability to be a participator in taking all responsible social-professional decisions considering not only personal interests but also social ones. However, the declared priorities are not reflected in engineering training. A negative impact of some factors (careerism, consumer attitude to life, worldliness etc.) results in students' confusion eliminating socially relevant priorities in this way.

Formation of future engineers' value-based and responsible attitude towards environment is a condition and prerequisite for their professional mobility, as it is a basis for accession into culture taking into account personal qualities and specific living conditions, involvement in innovative activity.

In the area of engineering training there is a large number of challenges.

A student receives a diploma in engineering, but works as a manager. It may indicate the fact that a profession acquired by a student can be of diverse scope, but can evidence a graduate's professional non-availability for professional responsibilities, low level of professional competence, and wrong choice of profession.

In our opinion, this fact indicates professional social responsibility performing a principle function of professionalization, enabling "successful solution of professional problems" [3].

Reflexion is a means of regulation of normative-value basis of a job. If different types of human activity are regulated by particular moral norms, profession is also characterized by a mission connected with a purpose [4, p.14]. Professional mobility of a future engineer is to be included in professional ideology.

It was M. Veber [5] who underlined the significance of individual behavior, his/her values in the concept of professional mission. He focused on "reflexive content of professional activity" including selection of profession, its value etc. Whereas R.M. Povalko [6] suggested indicators of "a true professional" that characterize a specialist: professional competence is consistent with social values, whereas a professional him/herself is only focused on societal service. Professionals follow ethic code, whereas for professional community a criterion of professional identity is of significance.

Professions, in A. Flexner's opinion [7], differ from other types of activity. He offered distinguishing criteria: profession is supported by altruism, professionals understand that they work for public welfare. Self-regulation is a sufficient feature of a profession. At the same time, self-regulation is a result of understanding the professional responsibility towards society. However, responsibility can be adaptive (need for conform, respond) and non-adaptive (advance action).

According to D. Bell [8], the concept of professionalism includes not only engineering competencies and status, but also moral imperatives. It is explained by the fact that any job is supported by the norms of social responsibility. It does not mean that professionals are idealistic, generous people. The matter is that "expected model of their behavior, as compared to other people, is predetermined by the ethics of their job which is, as a rule, primary in relation to the egoism ethics".

Started by M. Veber and supported by R. Merton [9], the tradition of research in profession nature has shown the difference of a "true" professional from a partial one. As a rule, the boundary is formed by motivation of their activity, as in "true" professional's activity selfless disinterest prevails in the behavior that is embodied in commitment and professional calling.

M. Veber highlighted that there is an internal cohesion of calling in Life and self-determination in Profession. For a true professional the motifs of professional ambition not related to vanity are of positive significance. In this case, true professional draws the sense of his activity from passion for profession, he/she is "obsessed" with commitment and adherence to a cause.

An indicator of passion for profession is successful promotion towards pinnacle of career. The responsibility focuses on efficiency of profession activity. A good-natured motif of professional is to achieve success in the job and to commit for the cause. Here we have a unity of recognition (status, external approval) and mission (internal calling).

Professional voluntarily assumes the responsibility, as he/she wants to change not only the world, but also him/herself. Development of him/herself is a pre-condition for moral activity. As an example

one can take an activity of a modern businessman. The businessman "takes care of his business!". People of entrepreneurial nature prefer, as a rule, to serve the cause.

To be successful in service, one needs to mobilize, first of all,

moral-business qualities of a person. Whereas for self-fulfillment it is necessary to engage the entire person, as self-fulfillment leads to a person's self-improvement, and transcendence, places him/her in a position of criticizing him/herself, involves in the most complicated among all existing and possible arts – creation of him/herself, achievement of success.

At his time L.N. Gumilev spoke about the fact that in any ethnos there is a definite number of people who are characterized by "irreversible inner strive for extremely intense targeted activity always connected with transformation of environment" [10, p. 120]. Using the Latin term passio, he called this group passionarians. In Gumilev's opinion, there are three types in every ethnos: passionarians are people focused on transforming activity, it is an energy synthesis – energy of passion, vanity, achievements, etc.; the second group of people are "carriers of very small share of passionarity that is balanced with self-preservation instinct, which creates harmony of psychic structure (social harmony); the third group includes sub- passionarians who do not change or keep the world, but depend on it, they cannot set goals for him/herself or self-organize…" [10, p. 122].

A person focused on continuous achievements is interested in, first of all, high performance, finding optimal ways, high results with insignificant efforts etc. Therefore, it was noted that the word combination "to make an effect" means to show activity, but not just to demonstrate affects.

In practice, the meaning of the word "success" often does not differ from that of "luck". In V. Dahl's Explanatory Dictionary [86], the meaning of the word is given as: "To manage, to have success, luck, to achieve a goal... To be in time to a place, to make or to arrive in time ... Successful affair, with success, succeeded. ... a successful man is a lucky worker whose work goes with a swing". It is hard to draw a conclusion from this definition whether a man achieves success by his/her own efforts or does it due to favorable circumstances.

An important indicator of a successful person's image is an established person (according to Dahl, "to succeed, come true, be realized, happen"). The same epithet characterizes a successful professional due to his/her achievements. The goal of achievement can be either self-education or self-development, complete self-fulfillment.

In M. Veber's opinion, there are three "images of the world" and three ways to respond to this world that pre-determine the orientation of a person's entire life, trends in his/her social ambitions and efforts.

Thus, the first way was determined by M. Veber as "an attachment" to the world, adaptation to it, the second way is "avoidance" of the world, escape from it, and the third one is "appropriation" of the world, taking possession of it.

However, focus on success, in M. Veber's opinion, is only possible in the framework of the third "world view", i.e. active orientation that encourages acting "in the world" (according to Veber, "worldly austerity"). In essence, it is referred to human transforming activity.

A person as a member of community is eager to communicate. But, at the same time, the nature makes a person escape from community as an individual. The most critical challenge of a contemporary man is to find his/her community, act within it without his/her individuality, that is to keep his/her social-cultural identity. A student's awareness of him/herself as a part of community changes his/her perception of social-professional environment.

As the humanity is transferring to a new stage of its development – the stage of innovative society and knowledge economy, every person is required to demonstrate such "innovative qualities" as demand for something new that would be connected with developed critical thinking; communicative activity, internal locus of control, entrepreneurship, and strive for justified risk.

We agree with the idea of N.I. Naumkin [11] that for an engineer to become a true professional, he/she needs to extend the space of knowledge to the space of activity and life purpose.

However, it is possible to achieve only if, as early as being students, they are taught innovative activity. In J. Dixon's opinion [12], the key professional quality necessary for an engineer is inventiveness which is not even mentioned in FSES of higher education. It is inventiveness that enables generation of new ideas, extraordinary approach to solution of complicated problems which are the beginning of innovative process. In this case one should understand that specificity of engineering activity consists in the fact that it cannot be completely algorithmized, as it has a creative character.

The project of the Strategy of Innovative Development of the Russian Federation for the period till 2020 "Innovative Russia – 2020" [13] provides a more concise definition of an innovative person. For example, an innovative person is a person capable of adapting to changes in his/her life, economy, science, and technology; being an originator of all changes. The main thing distinguishing him/her is the focus on continuous knowledge updating.

As modern information society is a society where a large volume of information is necessary to perform work efficiently, a condition for competitiveness is a shift from acquired knowledge, skills and abilities towards search for missing information and generation of new original ideas. Willingness of innovation is a principle quality of a person. However, it should be noted that it does not still guarantee creative activity. Of great importance is not only the level of specialists' education, but also the level of their professionalism and creative activity.

The paradigm of thinking is changing towards development of project-oriented conscious allowing for constant review of current competencies and navigation in changing situations. A specialist received traditional education is not competitive in this case, as the latter does not keep pace with contemporary technologies.

Hence, according to HE FSES, a graduate of engineering university has to perform the following types of activity at manufacturing site: project-design, production-technological, managerial, research etc. (activity types depend on the profile of training), in this way extending and deepening the future engineer's activity area.

It is the requirement for high level of specialists' training, formation of life guidelines conditioned by the key functions of a modern engineer that define his/her competitiveness, which is a result of his/her professional mobility. Such a specialist could be a support for modern society – society of professionals.

The results of applicants' poll (future engineers) of universities (Tyumen State University, Industrial University of Tyumen) have shown that 70% of respondents believe that education will give them an opportunity to find a highly paid job; whereas more than 80% of respondents are sure that higher education guarantees future career.

As is seen, contemporary youth understands the importance of quality education, but it is not focused on education as a value, essence of human activity. Most often them treat education as a service.

Considering such a phenomenon as "prestige of profession", many scholars have made a conclusion that interest in this or that profession changes in public consciousness depending on labour market demands. In its turn, "prestige of profession" provides either attractiveness or unattractiveness of engineering universities.

Recently, the interest of youth in engineering professions has decreased. To train more highly qualified engineers in the nearest future, it is necessary to revive scientific schools created over decades, but destructed in no time.

Development of a future engineer's personality is a multi-stage process of joining culture and society that promote his/

her socialization and self-fulfillment. In the course of cultural value acquisition a person realizes his/her creative capacities.

It is not a coincidence that current social-economic situation in the country has offered insights into the structure of higher education. There appears a question of updating the integrative approach in engineering education. Integration, in its turn, is impeded by the lack of methodological approaches towards the process; integration of science, education, and innovation; lack of joint production-research projects; poor cooperation with industry and enterprises.

Considering the issue of contemporary education, many scholars note that its purpose is changing. It has become an attribute of general culture. The proof for it is the fact of inclusion of cross-cultural disciplines in some engineering curricula.

Improvement of engineering education is associated with the concept of harmonizing human relations with environment. It results not only in review of engineering education content in terms of improving its humanization, but also transformation of methods and forms of teaching aimed at students' involvement in research and project activities that enable development of qualities providing more competitive position in the modern labour market.

The address to the issues of professional activity, modelling makes us pay attention to S.L. Rubinshtein's research [14] in two ways of life. He distinguished two models, namely, a model of adaptive behavior aimed at development of a person's ability to "fit in" the reality focused on external changes and a model of professional development aimed at acquiring skills to "move beyond" the limits of everyday practice and constructively solve the problems taking into account current changes.

Based on the logic of adaptive behavior model, the education content was updated by means of introducing new disciplines. In this case the peculiarities of students' future professional activity were not considered. Speaking of professional training based on the development model, one should apply the term "professional competence", as competence is always developed in the context of future professional activity.

Ability to design one's professional development gives students opportunity to show mobility, social activity, initiative, independence, and, in this way, respond to social procurement. In these conditions the requirements for a teacher's professional responsibilities have changed including his/her communicative and physiological-pedagogic competencies.

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