

Thus, generalized quality characteristics of the education process will reflect student satisfaction as a percentage of ideal polygon area, where satisfaction of each described factor is 100%.

Based on the research results, the education process quality assessment method was designed. This method includes calculated generalized quality characteristics as a radar chart of limited student satisfaction values for each of the factors, and where generalized quality characteristics reflect a percentage of the student requirements.

To exclude information uncertainty on the student satisfaction reflected in this or that factor, additional detail quality index level was introduced revealing the quality context through the included factors.

Formulated methodological approaches in designing the list of quality indexes are reflected in the above-described method. Proposed method is based on the questionnaire involving focus-group students. The results showed the parameters influencing the quality of the education process, the satisfaction of which was reflected in the respondent answers.

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Professional Identity as a Factor of Professional Mobility

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Professional mobility is an important factor of engineer's career development. The authors emphasize that the developed status of professional identity is a precondition for the professional mobility. The article provides the results of the tests that revealed a negative trend of professional identity development. Contextual education approach is proposed as a solution to the existing problem.

Key words: professional identity, internal motivation, professional mobility, contextual education.

The current processes of globalization and integration force modern people to be more socially mobile and flexible in order to deal with rapidly changing conditions and interact with absolutely different cultures and communities. Therefore, readiness for territorial, social, and professional mobility, is considered one of the key attributes of a modern personality.

Professional mobility is of great significance for engineering graduates since engineers should remain abreast of current trends in the related fields and demonstrate commitment to life-long professional development under the conditions of continuous informatization of the society and emergence of knowledge-intensive technologies.

Development of student professional mobility should be based on stimulation of student motivation, which directly influences the quality of the final result. This applies primarily to the internal motivation, absence of extrinsic stimuli.

The work motivation model that is designed by R. Hackman and G. Oldham and intended to enhance internal motivation of the employees is particularly popular among managers of big companies. The model is based on the idea that the task itself, including the final result and responsibility assumed by a person, is a key to employee motivation. This model

can be also applied in higher professional education. The work or future profession must be experienced as meaningful and valuable, which, in its turn, would define the professional identity.

Professional identity is defined as professional self-concept which rests on attributes, beliefs, emotions, and conscious actions related to a certain job or field. It is continuously fashioned on the way a person performs a job or pursues certain qualification within a career field.

Being a key feature of human personality, professional identity helps adapt rapidly to new working conditions. The shaped professional identity serves as an internal stimulus for professional development and personal growth.

In order to test students' professional identity, a special technology designed to examine statuses of professional identity (A.A. Azbel) was applied. The questionnaire contains 20 items (questions) each of which implies four possible answers. Based on the answers of respondents, it was possible to identify four types of statuses of professional identity, i.e. the stage of self-identification.

Undetermined professional identity: the profession or future job has not been chosen yet; there is no clear vision of career; a person does not put forward such a task as to choose the professional path.

Imposed professional identity: a person



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has certain understanding of his/her future profession, but it was molded by someone (for example, parents) and did not result from his/her independent choice.

Moratorium (the crisis of choice) of professional identity: a person is aware of problems with choosing a career, however, the final decision has not been made yet.

Developed professional identity: as a result of independent decision, professional goals have been determined.

In addition, there are 5 varying degrees of each status: absence of status, lower-than-average status, average status, higher-than-average status, and extremely high status.

In order to get insight into the phenomenon of professional identity, we carried out a survey of first-year (1 semester) and third-year (6 semester) students. The survey involved 62 students of Institute of Aircraft Construction, Samara National Research University.

Among the third-year students of three departments, 6% have undetermined professional status. Relating to the first-year

students, only 2% have the same status. The status of almost all third-year students (94%) is low-than- average or even absent. The imposed status was not revealed either among first-year or third-year students.

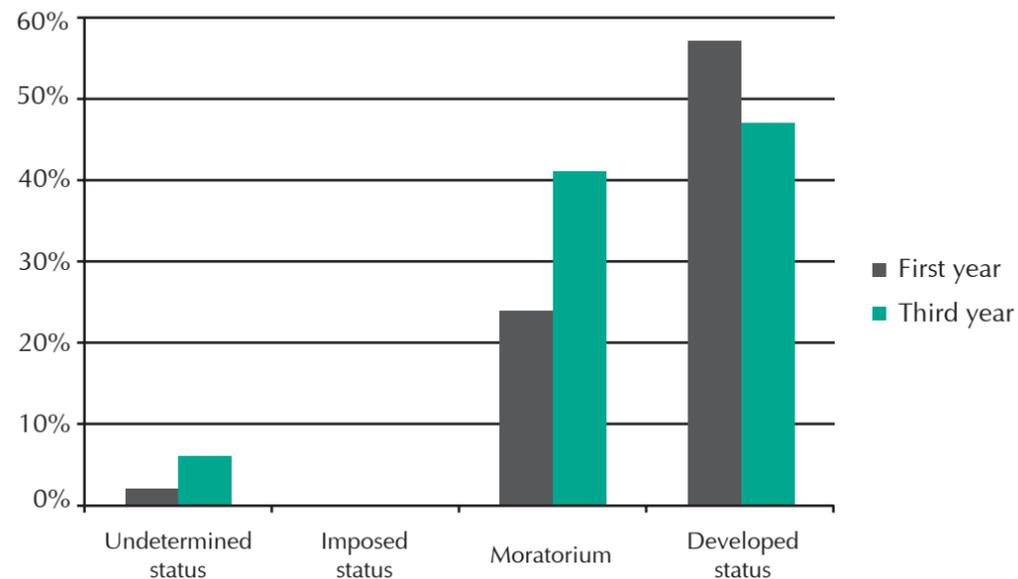
The number of students who cannot make a career choice increased: 24% of first-year students and 41% of third-year students. In addition, the moratorium status of over a third of third-year students (38%) is higher-than-average.

The number of students who demonstrate the developed professional identity decreased from 57% in the 1st semester to 47% in the 6th semester.

Among the third-year students, only 6% have several statuses of professional identity, which is three times lower than that of the first-year students (17%). The obtained results are graphically presented in fig.1.

In general, there is a negative trend in developing a professional identity: the number of students with the developed professional identity has declined by 10%, while the number of students who cannot make a career choice has significantly

Fig 1. Professional identity statuses of first-year and third-year students



increased. Such a negative trend can be caused by the following factors: professional identity crises (this fact actually increased the number of students who have "moratorium" status), complexity of senior curricula, awareness of the mistake being made regarding the career choice.

Based on the survey results, it is essential to reinforce professional training emphasizing development of professional skills and competences. This would enable students to try various professional roles and make the final decision on their professional path, thus, shaping professional identity. Such a strategy can be applied on the basis of the contextual education (A.A. Verbitsky).

The task is "to disclose the reality of professional life, "disguised by didactic clothes" and reduced by sciences to the relevant sign system, and, thus, unveil it by means of adequate teaching forms and bring it back to life with a new theoretical perspective" [2, p. 72].

In Verbitsky's opinion, contextual education (symbolic-contextual) is defined as a system of didactic forms, methods and tools which model the interior of future profession by means of overlapping theoretical knowledge and workplace reality. It is important that the teaching process itself should not turn inward (education is for education), but it should stimulate a person to become active, which, in its turn, helps shape the required professional and social attributes and skills.

Serving as a tool to reconstruct the interior and social context of the future profession, active teaching methods allow students to perform quasi-professional activity that can be regarded both as a part of teaching process and workplace setting. Thus, students are trying to apply theoretical material in real-life situations including decision-making, project development, and modeling.

It is worth noting that High School provides all necessary conditions to implement contextual education. Profession-related knowledge is gained

throughout the whole education period, and students learn how to apply the fundamentals of basic sciences in a workplace context. Various simulators allow the acquisition of professional skills through deliberate practice. At some universities, there is a trend to invite foreign professors to deliver courses. This does not only contribute to developing foreign language competence, but also helps students understand how they should work in a different socio-cultural environment.

In addition, being a part of higher education establishments, modern libraries and media centers allow students not only to gain new knowledge but also practice new methods and tools to search, store, and process information shaping relevant computer skills. In discussions with teachers, students become aware of social importance of their future job. The psychologists help students estimate their strengths and weaknesses, define the ways how to refine themselves.

Undergraduate research is also of great importance in developing students' professional identity. Precisely, it gives students an opportunity to investigate whether the occupation they have chosen is a good fit and how they can advance their careers. Participating in various scientific workshops and conferences, students can present their work, estimate the obtained results and chat with graduate students, postdoctoral researchers, and faculty members. Communication is an integral component of such meetings.

Internships, both in domestic companies and abroad, enable the application of theory to practice. Participation in an internship programs makes the student a more attractive candidate who demonstrates commitment to continuous self-development and improvement. In addition, when doing an internship abroad, students can apply knowledge of foreign language, practice translation of scientific and technical texts, and gain experience in networking and foreign language communication.

Thus, active learning methods and contextual education are proved to contribute to professional identity development. Students become aware of the importance of education and regard it

as one of the stage of a long professional path. Understanding the importance of future job would definitely contribute to increasing job performance.

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Synergy in Interdisciplinary Teaching of Humanities

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The paper deals with synergy effect resulted from interdisciplinary teaching of humanities. The author identifies homogeneous and heterogeneous synergies and pays particular attention to interdisciplinary aspect of the humanities. The analysis of interaction between moral and legal components of the education process in high school reveals that the synergy effect has a profound social and cultural context connected with the development of personality of a certain type.

Key words: synergy, interdisciplinarity, education, personality formation, humanities.

The notion of “synergy” was first introduced in philosophy by Aristotle, when he was speculating on entelechy, and then used to denote one of the fundamental methodological principle of science. According to Aristotle, “the whole is greater than the sum of its parts”, since the whole results from synergy, which implies the benefit through cooperation.

There a lot of examples of combined effect of cooperation in everyday life, and educational process is not an exception: the educational forms and approaches are numerous and synergetic. Here we mean such approaches as multi-pronged, systemic, integrative, interdisciplinary – all based on interaction between different disciplines. These approaches implemented in education lead to synergetic effect, which implies not only an increase in the amount of knowledge, but also the knowledge of a particular quality. This effect is of particular interest when teaching humanities.

In compliance with W. Windelband’s classification, all science can be split into nomothetic and ideographic, therefore, interdisciplinary links can be of two types – the links resulting in homogeneous synergy and those leading to heterogeneous synergy. Heterogeneous synergy results from interaction between humanities and natural science. It should be emphasized that until the end of the 90-s Soviet engineering education enjoyed pride of place worldwide. The reason for this

leadership was a humanities component in the system of higher technical education, which ensured educating highly-qualified graduates. Humanities not only contribute to forming a worldview and developing versatile personality, but also facilitate many intellectual processes – imagination, abstracting, logical thinking, abstract modeling – as well as develop scientific thinking and analytical skills. The interconnection between humanities and sciences within higher technical education in Soviet time resulted in a strong synergetic effect called “Soviet engineering education”.

Homogeneous synergy is the result of interdisciplinary correlation between humanities united by the mutual system of beliefs and ideas, which multiplies the intellectual impact on personality development. In this regard, it is of particular interest to consider synergetic effect caused by moral and legal components within the educational process.

Today, one of the main objectives of national higher education is to develop a moral personality with ethical principles and highly developed legal culture. These objectives achieved, the higher education system is considered an adequate instrument of socialization.

In terms of a particular historical, social and cultural situation, personality development is complex, controversial, and multi-phase process, which includes



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