Sociological assessment of student activity potential as a subject of the educational process

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Abstract. The current stage of education modernization involves increasing student activity as a subject of the educational process, which should help to increase its independence and responsibility for the result. The research problem is the insufficient level of motivation and involvement in modern educational forms and technologies offered by the university and used in the learning process, which is noted today among young students. The research method is a monitoring sociological survey of Peter the Great St. Petersburg Polytechnic University students. The opinion poll is aimed at assessing students’ satisfaction with their education and at determining the level of their activity in the choice of academic disciplines, the implementation of educational forms and technologies, and the practical and creative development of the professional field competencies. The results of sociological surveys reflect the unused reserve of student activity, creativity potential along with the positive dynamics of independence, which is combined with a stable level of satisfaction with the training. This allows us to raise the question of increasing flexibility in the management of educational space, the wider inclusion of creative technologies and self-organizing processes, and taking advantage of a practice-oriented approach.

1. Introduction

The current stage of the educational system development is characterized by high rates of ongoing changes and involves a high level of involvement of participants in the educational process. The main subjects of this process are the students themselves, they simultaneously act as the consumer, from whose side an order is being formed for a new type of educational model, and as a direct participant in testing new approaches and teaching technologies [1]. This essentially transforms the status of a student and changes the requirements for his role repertoire, in the context of which the problem of maintaining and developing his motivation and readiness for a creative mode of implementing new scenarios arises.

One of the characteristic features of the modern educational space is its hybridization, which arose as a result of the coexistence of various forms: carriers of the previous system and new constructs foundations. The emergence of educational hybrids is associated with the ongoing modernization of the education system, which is implemented in three planes: structural (updating the structure of educational institutions with a view to their rational functioning), technological (improving the technical and technological component of the educational process) and presentive (changing the content of educational programs) [2]. Hybrid forms reflect the implementation of new management mechanisms in education, the operation of the regime of self-organizing processes and the process of new institutional forms formation.
The educational environment is the space for the production of new communicative practices, meanings and formats of the future. This happens on the basis of the formation of creative tools and organizational forms, for example, situational and cognitive centers. Such centers make it possible to unite the efforts of interested actors around a creative idea, work with large information databases and flows, accelerate decisions and more broadly see prospects. The space of communications, network processes expose the sphere of itersubjectivity, which opens up the possibility of seeing how, changing the world, the subject changes himself, and how the Self-subjective is in co-evolution with Others [3].

In this situation, the role of the student changes significantly. Today, young people are more and more in a hurry to solve complex problems, focused on taking on the challenges of the time. According to studies conducted among young professionals in the workplace, a problem-oriented approach to business is becoming more and more characteristic for them. They prefer to receive an assessment of the work quality during the discussion, which reveals their strengths and weaknesses. Young professionals are most attracted to life, rather than the routine of work, while slightly more than half of them (about 55%) feel uninvolved at work [4, P.61]. This contradictory position makes us think about the problem of forming an active student position already during the period of study at the university.

The project-oriented model of education is built on the subject's continuing interest in future professional activities, the desire to acquire new skills, develop competencies, use “smart” technologies and combine study with practice [5, 6]. In the new educational format, the main platform is student activity as an indicator of all aspects of his activity [7]. Activity is seen as a starting point and as a result of the impact of the educational environment. The activity expresses interest and acquired experience, the socially-communicative and the cognitively-oriented side of student life. Activity is transformed into creative activity, the effective development means of which are creative work, research, participation in competitions and events, development and implementation of projects [8, 9].

However, not all students today are actively included in the curriculum and participate in building their educational paths. There are some things that testify to the shortcomings of the subject component in the educational process, for instance, a significant percentage of students unsure of their assessment of satisfaction with training, and many of them do not know clearly in which field they will be employed [10]. This has an impact on motivation and involvement in the activities proposed by universities, the orientation of which is the transition to SMART universities and “smart educational platforms”. This is partly why students perceive the use of electronic remote technologies in the educational process with caution. Infantilism, poor motivation of students are also among characteristics of technical universities, pose the problem of changing the requirements for a modern teacher. Today, the university’s teacher is expected to use new teaching technologies aimed at developing the student’s independent thinking, his analytical abilities, maintaining interest in the future profession, and the ability to infect students with his own enthusiasm [11, 12].

A large contribution to elucidating the factors of motivation and the main tools for activating students is made by sociological surveys that implement feedback. For example, surveys of students in Russian universities show that for most students studying at a university is a factor in finding a good place and expanding their circle of friends. There are several levels of student involvement in the learning process: negative, neutral and positive [13]. Students note, first of all, personal motives focused on personal development. But in order to achieve high goals, students must have developed a high motivation for learning. All this emphasizes the importance of assessing student activity and representing it as a key empirical characteristic of its inclusion in the educational process.

One of the factors influencing the sphere of motivation is distrust throughout the vertical in the field of education. Numerous direct and indirect consequences of a mistrust situation create a boomerang effect, and among them - the deformation of educational motivation among students and professional (labor) - among teachers [14, P.104].

It should be noted that young people are aware of the advisability of investing in education, which allows us to see the trend of significant accumulation of human capital. Research in the field of labor
and education confirms that the presence of higher education significantly increases the wage of an employee, regardless of his place of employment. Each additional year of study at the university contributes to an increase in the level of wages by 6–7% [15]. However, the relationship between the labor market and the market for educational services in modern rapidly changing conditions requires further study [16, 17, 18]. The goal of our study is to analyze forms and potential of activity of students in educational environment. Our objectives, consequently, include: to reveal activity of students in the selection of elements of individual educational trajectory (disciplines, places of internship, projects etc.), to detect readiness of students to get additional competencies, to assess their activity in scientific studies and creative projects and in the context of their satisfaction with education obtained.

2. Methods
In order to make an assessment of activity of students, the authors used monitoring research methods. Monitoring includes online survey and thus provides the best option for respondents to share their opinion on topical issues of educational environment of university. It is conducted once a year in the spring term. Conducting of monitoring research in university has equipped students with the active assessment skills. Monitoring of quality of educational programmes has been conducted in the university for three years already and allows to track current trends and compare research data. Comparative approach is adopted to indicators of activities of students in different spheres of academic process. The authors relied on the environmental approach as a leading factor in learning, on which the activity of students depends.

3. Results and Discussion
In May-June 2019, a sociological survey of SPbPU students was conducted on the topic “Quality of the main educational program”. 3878 students were surveyed, which is about 20% of all full-time university students.

The questionnaire included a number of questions reflecting the activity of students in the educational process. This survey continues the series of monitoring surveys begun in 2017.

Student's activity can be disclosed taking into account the following characteristics: satisfaction with the quality of education, including assessment of the fullness of the educational program, intention to work in the specialty after graduation from the university, willingness to independently search for (acceptable for them) places of practice, a positive attitude towards project activities at the university as opportunities acquire new practical skills, including self-organization skills, independence in the choice of disciplines of the training profile, determination of additional knowledge from different domains that may be useful as part of an educational program, the willingness to pay for it, the attitude towards the student research as a mandatory element of university study. Most students - 72% - are satisfied with the quality of education at the university (Figure 1). In 2018 and 2017 this indicator was slightly lower - 66% and 67%, respectively, which indicates some positive changes in students' grades in this field.
This indicator may consist of the students' willingness to be active in different aspects of the educational process - from participation in project activities to readiness to master additional educational modules.

Students' orientation to future professional activity is shown by their assessment of the educational program in terms of its fullness and intention to work in their specialty after graduation. This is evidenced by the following survey results: 95% of respondents (5% found it difficult to answer) gave one or another assessment of the fullness of their educational program with disciplines useful from the point of view of future professional activity.

So, 66% (29% + 37%) of students as a whole consider the set of subjects they study sufficient for future professional activities (63% in 2017 and 77% in 2018). 18% believe that disciplines, on the contrary, are not enough (34% and 17% in 2017 and 2018, respectively), and 11% think that disciplines, on the contrary, are in excess (Figure 2).
Figure 2. Evaluation by students of the inclusion in the educational program of all disciplines, the study of which is necessary for future professional activities

More than half of the students surveyed - 64% - are going to work in their specialty after graduation (Figure 3), which emphasizes their interest in mastering the educational material and active involvement in the educational process (66% and 64% in 2018 and 2017, respectively).

Figure 3. The intention of students to work in their specialty after graduation

Passing practice is an important element of any learning process, also emphasizing its practical orientation. It can also become a factor in the additional activity of students to more consciously consume the knowledge gained at the university, especially if it is possible, remaining within the educational process, to test this knowledge in practice. During the internship, students may need additional activity associated with the selection and independent search for the place of its passage. So, an independent search for places of practice was noted by 12% of respondents, and the opportunity to offer their own version of the practice place along with the provision of such places by the university was noted by 38% of respondents (Figure 4).
The next area of students' activity - the choice of academic disciplines (modules) within their training profile - may also require additional efforts, since the choice situation always requires awareness and activity in its implementation. The results of the survey show that only a third of the respondents (32%) exercise their right to choose their subjects or modules (38% each in 2017 and 2018), which may be due to the low activity of students or the lack of the ability to equally implement teaching of all academic disciplines provided for the choice (Figure 5).

The results of students' answers to the question about what additional knowledge may be useful to them as part of their main educational program, as well as the willingness to master them on a paid basis, is also one of the indicators of activity within the educational process. The module related to the study of foreign languages (67%) (66% in 2018) is most popular among the respondents, which indirectly confirms their active life position, since knowledge of a foreign language can provide the
widest range of opportunities - from acquaintance with academic and scientific literature on the subject of interest to traveling for internships at foreign universities (Figure 6). Willingness to pay extra for additional modules was noted by 23% of respondents (Figure 7).

![Bar chart showing the percentage of respondents interested in various additional knowledge.](image)

**Figure 6.** What additional knowledge do you think may be useful to you as part of your educational program? (You can select multiple answer options)

![Pie chart showing the percentage of respondents ready to master additional disciplines.](image)

**Figure 7.** Are you ready to master additional disciplines (modules) on a paid basis (in excess of the program)?

And, finally, almost half of the students surveyed (48%) who have a positive attitude to research work can indicate their readiness to do research and development, which demonstrates their activity not only in the educational field, but also in the scientific field (Figure 8).
Figure 8. Do you agree that research student activities, participation in research is a compulsory element of studying at a university?

Students' activity analysis is carried out on the base of their high assessment (by 4 and 5 points) of various aspects of the university’s life: for example, 79% highly appreciate the university’s prestige, 68% participate in conferences, 67% experienced faculty.

Thus, the results of a sociological survey show that at least 20-23% of respondents are ready to be active in various areas of the educational process. These are those respondents who can be described as interested, choosing, independent, analytically oriented, practice-oriented students.

4. Conclusion

Summarizing the results of the survey, it should be noted a positive trend, manifested in the increasing independence of students of the Polytechnic University in the selection of disciplines, the development of their skills in selecting places of practice in cooperation with departments and university officials. Students are becoming more and more interested in gaining additional knowledge and skills from related fields, as well as from practice [19]. They strive to make themselves known in science, at forums and conferences, organize flexible temporary creative teams that allow them to realize creative ideas and seek partners [20, 21]. The results of the survey let achieve the goals and objectives of the study. As a result of survey enough high level of Polytechnic university student satisfaction with education obtained is revealed. Also positive trends of students getting greater degree of autonomy in the selection of disciplines, of students developing skills of selecting places of practice are detected. As well as students show their motivation to get additional knowledge and skills from related spheres of practical application. They actively take part in scientific forums and conferences. All of these areas are typical for almost a quarter of students of the Polytechnic University, which indicates a large share of unrealized potential in this area.

Considering the above, it should be noted that the emerging type of active student and the creation of conditions in the educational space for him requires further deep sociological study of the behavioral model, analysis of factors influencing the motivation to study and designing tools to improve the management of educational space.

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