Factors determining professional choices of students in educational institutions

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1. Introduction

The cooperation between the business community and educational institutions in the system of professional education is a system of relations aimed to create conditions that would enhance the effectiveness of the educational institution, the development of its strategic potential, updating the content of education by strengthening its practical orientation. The
participation of the business community in the activities of educational institutions can be mutually beneficial both for business structures and educational institutions. For educational institutions, this results in additional sources of funding, including for scientific research, an improvement of material and technical equipment of the educational process, expansion of opportunities for future employment of graduates in partner enterprises, etc. For enterprises, cooperation with educational institutions means the opportunity to participate in their management, educational and scientific activities, to adjust educational programs in accordance with professional requirements, to create, on the basis of an educational institution, a scientific and production infrastructure for the implementation of their own innovative projects, to attract teachers and students for the implementation of business projects (Naushad, 2018; Bogdanović et al., 2018; Senan, 2018).

The combined advantage of cooperation is related to the long-term nature of partnerships, which guarantees their reliability, emphasizes the strategic direction of interaction and provides a synergistic effect from the joint achievement of goals. Large corporations begin to demonstrate an active interest in solving the problems of professional training of personnel. For example, the Roscosmos State Corporation for Space Activities signed an Agreement on Cooperation and Joint Activities in the field of forming an effective modern system of training of qualified personnel for the rocket and space industry (Agreement on the creation of a scientific and educational consortium was signed). This Agreement provides for the creation of the Space Scientific and Educational Innovation Consortium, the Council of which includes representatives of Roscosmos, the Ministry of Science and Higher Education of Russia, leading Russian universities, as well as heads of enterprises of the rocket and space industry.

In addition, we note that the rapid development of technology in general changes the requirements for the working process, continuously complicating it and increasing the qualification requirements for employees involved in it. As V. A. Rogova (2018) notes, "without appropriate personnel provision the solution of problems related to increasing production and economic potential, improving socio-economic efficiency and many others becomes difficult to achieve". This, of course, makes it necessary to expand the theoretical training of mid-level specialists, skilled workers and employees, to form their understanding of the theoretical foundations and principles of technological processes. In this regard, applied baccalaureate is considered an effective way of training, providing the broadcast of information to students, focused on specific jobs and, in some cases, on specific enterprises. Projects that provide for the integration of educational levels for the purpose of the professional orientation of young people are implemented not only in the system of vocational education but also in general education institutions. For example, in Moscow, there is a so-called mega-project of the unified educational environment (Sergei Sobyanin spoke about the creation of a unified educational environment in schools). The project aims to provide students with the opportunity to master the profession of a mid-level specialist or to obtain pre-professional knowledge and to form competence in the future direction of training in higher education.

At the same time, the participation of the business community in the activities of educational institutions related to professional training is still fragmented. In addition, the choice of an educational institution and direction of educational training, despite the measures taken, retains the features of spontaneity and haphazardness. Our survey of high school students, as well as numerous similar surveys of schoolchildren and university students, show that the main criteria for choosing an educational institution are often its fame, state diploma, and recommendations of friends and relatives. These indicators serve only as an indirect guarantee of the quality of the educational process and do not prove the consciousness of professional choice. In our opinion, the answers of respondents to the question about the expectations from the future study in the system of professional education are also indicative. 45.2% of the respondents expect to receive deep, academic knowledge with the prospect of its use in future professional activities. 23% consider an educational institution as an inevitable temporary instance, the result of which is to obtain an educational document. 18% of the respondents expect a rich student life in the company of classmates, while 5% – deferment from the army. 5% do not expect anything and plan to continue their
Thus, we can conclude that there is a lack of a clear balance of interests of subjects, interested in the transformation of the professional training system.

2. Methods and Materials

For the purpose of the scientific study of this issue, we consider it necessary to introduce into scientific circulation the terms "conscious enrollment" and "conscious employment" in relation to applicants and graduates of educational institutions in the system of professional education. By the conscious enrollment, we understand the enrollment of an applicant in an educational institution on the basis of a conscious choice of a specific direction of future training, taking into account the consequences of the choice made. The criteria for assessing conscious enrollment in an educational institution can be as follows:

1. high degree of awareness of the applicant about the features of the market of educational services;
2. applicant’s conscious personal choice of the direction of future education;
3. applicant’s stable and reasoned desire to find a job in the field of activity corresponding to the chosen educational direction;
4. possession of information about the prospects of employment in the chosen direction of training after graduation;
5. applicant’s participation in career guidance and consideration of the results of career guidance counseling;
6. applicant’s plan for the development of their professional activities (career development plan/scheme of personal professional prospects);
7. applicant’s consideration of the social importance of the chosen direction of training, as well as their desire to bring benefit for the state with the help of knowledge and competences, gained and mastered in the educational process;
8. absence of apparent significant obstacles to the applicant’s future employment in the chosen direction after graduation.

By analogy, conscious employment of a graduate of an educational institution is related to their conscious choice of the place of future employment in close connection with the mastered direction of training. We consider the following to be the criteria of graduates’ conscious employment:

1) high speed of employment of the graduate (within six months from the moment of receipt of the educational document);
2) graduate’s conscious, purposeful search for vacancies in the field of activity corresponding to the mastered direction of training;
3) graduate’s actual work conditions’ compliance with preliminary expectations (material remuneration, professional requirements);
4) graduate’s employment in the mastered direction of training;
5) active use in the labor activity of the knowledge acquired in the educational institution and the mastered professional competences;
6) assistance of the educational institution in solving the problem of employment of the graduate (professional/pre-diploma practice with the prospect of subsequent employment, the cooperation of the graduate with the center for the promotion of graduates’ employment, functioning in the educational institution, etc. );
7) high degree of the graduate’s awareness about the features of the conjuncture of the labor market;
8) lack of any significant barriers to the graduate’s employment in the field of the mastered educational direction.

We consider that on the basis of the formulated criteria, calculation of coefficients of consciousness of enrollment and employment can be performed according to the following formulas:
We believe that the proposed indicators can find practical application in expert studies of the dynamics of the vocational education system. For example, they can be used in the construction of strategic forecasts of the inflow of labor resources that have mastered a specific direction of educational training to the labor market. The calculation of the proposed indicators can be useful in assessing the gap between the demand for education and the actual supply of skilled professionals in the labour market. In addition, for an educational institution, the knowledge about the level of consciousness of the choice made by applicants in favor of a particular direction of educational training gives it the opportunity to adjust its educational policy in such a way as to promote the growth of graduates’ employment consciousness.

3. Results and Discussion

Practical approbation of the proposed indicators, conducted in the form of a survey of students of selected educational institutions and graduates of higher education institutions in Moscow, allowed us to draw the following conclusions [3].

### Table 1

<table>
<thead>
<tr>
<th>Training areas</th>
<th>Average value of the conscious enrollment criterion, (1-5 points)</th>
<th>Kcen</th>
<th>Average value of the conscious employment criterion, (1-5 points)</th>
<th>Kcem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Areas that are not priorities for modernization and technological development</td>
<td>4.1</td>
<td>4.5</td>
<td>4.4</td>
<td>4</td>
</tr>
<tr>
<td>Areas of priority for modernization and technological development</td>
<td>3.2</td>
<td>4.2</td>
<td>3.4</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Let's assign a range from 1 to 5 points to the value of each criterion, where 1 point means the discrepancy or extremely low compliance of the respondent’s response with the wording that contains the criterion; 5 points – full compliance of the respondent’s response with the wording that contains the criterion.

According to the data presented in Table 1, the actual values of $K_{cen}$ and $K_{cem}$ do not exceed 4 points, which proves that the levels of applicants’ conscious enrollment and graduates’ conscious employment are insufficient. Moreover, if the lack of consciousness in
terms of enrollment can be explained by the influence of a set of external factors on the professional choice of applicants (for example, the authority of parents or friends, under the influence of which the choice of the direction of future professional training is made), the relatively low value of Kcem indicates the insufficient development of the issue of students’ professional self-determination by educational institutions themselves.

4. Conclusion

The study shows that the professional education system has not sufficiently resolved the issue concerning the assistance of educational institutions in the professional self-determination of students and the consciousness of their choice of the place of future employment in close connection with the mastered direction of educational training (Shatskaya, 2017). In this regard, we believe that a critical theoretical analysis of management approaches to the institution of educational activities is required, the result of which may be the choice of an approach that will increase the adaptability of the educational process to the needs of the national economy and the consciousness of employment of future graduates.

Bibliographic references

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1. MIREA – Russian Technological University, Moscow, Russia. E-mail: shatskaya.ir@mail.ru
2. The survey was conducted in the framework of R&D "Development of Analytical Tools for Accounting and Evaluation of Factors Affecting the Competitiveness of Educational Institution" by the Federal State Budgetary Institution of Higher Education "MIREA - Russian Technological University" (01.10.2018 – 31.12.2021).
3. The survey was attended by 452 students of 9-11 grades of selected educational institutions in Moscow, as well as 411 graduates of selected educational institutions of higher education, who graduated in 2016 and 2017. The survey was conducted in the framework of R&D "Development of Analytical Tools for Accounting and Evaluation of Factors Affecting the Competitiveness of Educational Institution" by the Federal State Budgetary Institution of Higher Education "MIREA - Russian Technological University" (01.10.2018 – 31.12.2021).