

**MSC 2020****International Scientific and Practical Conference «MAN. SOCIETY.  
COMMUNICATION»****MODERN FORMS OF CAREER GUIDANCE: PARTNERSHIP  
BETWEEN SCHOOLS AND HIGHER EDUCATION  
INSTITUTIONS**

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**Abstract**

Career guidance at the university is an essential element of personnel policy for the Novgorod region and the choice of Novgorod State University as the main university for higher education. When developing a strategy for career guidance, we proceeded from the fact that Novgorod State University has supporting university status and is positioned as an innovative scientific center. However, the location of the Novgorod region between St. Petersburg and Moscow is associated with a high risk of youth outflow to these large cities. The model of career guidance work that exists at the Institute of Medical Education is designed to form a readiness of students for continuous education, needed for a modern specialist, long before the moment they enter the university. At the Institute of Medical Education of Novgorod State University, “Biomedical School” is used as a form of career guidance. This school is an educational and scientific structural unit of the university, provides continuity of general and vocational education, career-oriented, pre-specialized and specialized additional and / or in-depth training for students of secondary schools in Veliky Novgorod in the natural sciences. A survey was conducted of senior pupils who studied at the biomedical school and their parents about the satisfaction of studying at “Biomedical school”, which showed that this type of career guidance gives fairly accurate information about the profession of a doctor or a pharmacist and makes a clear idea of the way the teenager studies the profession.

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*Keywords:* Career guidance, partnership, school, system, teenager, university



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## 1. Introduction

Introduction: sustainable state development is determined by the ability of higher education system to respond quickly to the changing needs the labor market by adjusting the professional education. That is especially important in training educational, ecologic and health care specialists. Adaptation and compliance of education with the needs of the national economy is a determining factor (Hooley & Dodd, 2015; Sustainable Development Goals. UN and Russia, 2016). So, for supporting universities, the primary task is the employment of graduates at the enterprises of the university localization region (Buryak, 2017). Such a situation requires schoolchildren to determine their future profession early and consciously, since this represents the basis of a successful and wealthy professional career (Gurtov & Khoteeva, 2018), and the creation of the most effective ways of career guidance. Therefore, in 2018, the President in his message to the Federal Assembly proposed the introduction of early career guidance for schoolchildren program “Ticket to the Future” (Message from the President of the Russian Federation to the Federal Assembly 03/01/2018, 2018). The relevance of this decision is confirmed by the fact that many of the students, having entered higher education institutions, do not complete their education. For some of them, it happens because they understand that they made a mistake with the choice of profession. Others, having graduated from high school and starting to work in their acquired specialty, do not attempt professional development, although in the current economic situation it is required that young people learn to adapt to changing circumstances when planning their professional career (Ivanov & Yakimov, 2018; Luchenkov, 2015; Zanazzi, 2016).

Career guidance work is of most importance for any university. Its role is to ensure the continuity of the levels of education, to attract applicants to the university, and in modern conditions, career guidance is becoming a product of the partnership between the schools and the higher educational institution. The main goal is formation of readiness for a conscious choice in a teenager’s mind, adjustment and implementation of their professional interests, awareness of the requirements of the profession (Federal Law “On Education...”, 2020; Zhurkina et al., 2016). To form such a life position, teenager requires many factors, one of which is that he receives information about a profession from a real specialist in a particular profession, conducted in an accessible form for his age. Another important factor is the constancy of career guidance work, which requires development and presentation in a continued system (Panov, 2017).

That is why one of the priorities of the Yaroslav-the-Wise Novgorod State University Institute of Medical Education (NovSU IMO) is to develop a strategy for accelerated development of human resources in the region, including the preparation of graduates in the most popular medical specialties. Partnership technologies include cooperation with schools of the regional center and career guidance among schoolchildren.

## 2. Problem Statement

Biomedical classes in which schoolchildren devote more time to studying biology and chemistry also exist in secondary schools. A survey of career counseling consultants in high school in New Zealand was conducted by Aspden et al. (2015) to determine their level of knowledge of the pharmacist profession. The survey showed that more than 90% of professional consultants were familiar with the role of pharmacists, however, many had a limited understanding of the functions of a pharmacist. One of the

suggestions for improving career guidance in this specialty was the wider involvement of actual pharmacists and pharmacies in this work (Aspden et al., 2015).

This study aims to justify the creation of a biomedical school on the basis of the University and the feasibility of attracting students to improve the quality of ongoing career guidance work.

### **3. Research Questions**

1. To evaluate the system of organization of career guidance work with students at the Institute of Medical Education of Novgorod State University

2. To estimate the results of two years of work with adolescents of the Biomedical school, outlining an educational and professionally oriented path using new information technologies.

3. To consider the role of some forms of career guidance with students of different ages during the All-Russian Career Guidance Forum and the Science 0+ festival.

4. To assess the impact of the interuniversity WorldSkills championship as a factor in the intensification of career guidance.

### **4. Purpose of the Study**

Purpose of the Study is to consider modern innovative forms, methods and technologies used in career-oriented education of adolescents through a partnership between a school and a university, and evaluate the preliminary results of the “Biomedical School” program.

### **5. Research Methods**

BMS students are offered full-time theoretical, practical and laboratory classes of a medical and natural-science orientation in accordance with an additional general developmental program; occupational safety and health training and then practical work in modern biological, chemical, clinical laboratories, as well as on the clinical bases of medical institutions together with NovSU departments; participation in research and scientific conferences. Lectures, practical, and laboratory classes at BMS are conducted by leading experts in various fields of medicine, biology, and chemistry. Training in continuing education programs takes place with the direct participation of specialized university departments.

Modern teaching technologies at BMS include gamification (solving educational and situational problems, working in a simulation center), foresight (sightseeing, project activities), leadership, interaction with tutors - university students, which is especially attractive for schoolchildren. Training in the program lasts for 2 years, involves systematic full-time and distance classes with a group of 9-11 grade students and is designed for 102 hours of theoretical classes, practical, laboratory work and self-study.

The analysis of the forms of career guidance of the pharmaceutical department for 2018-2020 was carried out and the results of the work of the “Biomedical School” program were summed up.

Methods used to analyze the effectiveness of career guidance work included an interview and a survey (for students and their parents).

The survey was conducted among 10 graduate school students studying for the second year under the BMS program, 20 senior pupils of the first year and 10 of their parents.

The basic survey questions were as follows:

- Did you gain new knowledge and skills in the field of medicine during your studies at BMS?
- Have you received sufficient information about the profession of a doctor / pharmacist?
- Did the BMS course information help you in drawing up your future career path?
- How much did the training contribute to the development of skills, which ones?
- Do you consider the methods used by BMS teachers clear for your application and understanding?

Also, number of applicants and entrants to the NovSU Institute of Medical Education among BMS graduates was registered.

## **6. Findings**

### **6.1. Results**

Career guidance at NovSU is organized for children of various ages, using innovative methods, such as “ProjeKTORIA”, “Science 0+”. In February 2018, a new form of career guidance work “Biomedical School” (BMS) was proposed. The main goal of the implementation of the BMS program is to provide the university with professionally-oriented applicants with a high level of preparation for mastering higher professional education programs, the formation of steady motivation for students to choose the profession of a doctor or pharmacist, and assistance in choosing the university's specialties for applicants.

This system is integrated into educational and scientific activities of the university, provides continuity of general and vocational education, career-oriented pre-profile and profile training for students of secondary schools in Veliky Novgorod in the field of natural sciences. BMS operates on the facilities of the NovSU IMO, and also uses the sites of secondary schools in the city. The educational process at BMS is regulated by programs of extracurricular activities, an additional general developmental program in natural sciences, and a work plan for the academic year.

BMS promotes scientific knowledge importance, achievements of medical science and develops students' interest in scientific activities, as well as it increases the initial level of knowledge of applicants entering NovSU. On top of that, BMS provides some preliminary adaptation to the first year in high school. The methods used in the system allow students to develop the ability to use theoretical knowledge in life and also create conditions for identifying students who want to get a medical profession; to form students' interest in that field. Popularization of the basics of medical knowledge is of great importance, as are informing schoolchildren on the ways of a healthy lifestyle and disease prevention; fostering a responsible attitude to their health and promoting a healthy lifestyle among peers; acquisition of additional competencies in providing first aid for injuries and life-threatening conditions, caring for seriously ill patients. In addition, the priority tasks of the program are the development of students' creative abilities through design, educational and research activities. Joint scientific and scientific-practical events, conferences, round tables, study tours at the clinical and training facilities of NovSU are conducted within the BMS program.

Career guidance work with schoolchildren can be carried out by tours to IMO departments, accreditation and simulation center (including simulated pharmacy). Potential applicants are provided with online information about career guidance services oriented to them.

Age is always taken into account when working with schoolchildren. For example, during All-Russian Career Guidance Forum and the Science 0+ festival, NovSU IMO pharmaceutical department hosted “Pharmacy underfoot” learning case - for 5-7th graders; “Who wants to become a pharmacist” quiz and “Why is it worth it?” choose a profession as a pharmacist and study at NovSU” video, prepared by students studying in this specialty - for 9-11th graders.

Involvement in career guidance work forms following competencies in students: understanding of the social significance of their future profession; the ability to work in a team, communicate effectively with people, which is especially important for a medical professional; take responsibility for the work of your team. All this could prove to student, that his choice of future profession is correct.

Recently, an inter-university championship by WorldSkills standards is gaining popularity - a competition of professional excellence between students of higher educational institutions. The Russian division of WorldSkills seeks to reform the entire system and methods of vocational education, as in recent decades, university graduates at their workplace often could not apply acquired abstract skills directly for their upcoming work, and have been forced to complete extensive workplace training to learn practical competencies. Pharmaceutical organizations and enterprises are in dire need of personnel that would meet modern requirements of world standards straight after graduation. Such specialists can be found among participants in WorldSkills championships at various levels. At the competitive venues of the championships, university professors and professionals in the relevant field work as judges.

As part of the WorldSkills University Championship regional stage held at the NovSU in 2019, schoolchildren of Novgorod (about 200) could directly observe the work of competitors at Pharmaceutics competency venue (Okonenko et al., 2019), who attended the event later revealed an increase in number of those who wished to become more familiar with the profession of a pharmacist and take part in the WorldSkills Juniors Pharmaceutics contest. In the future, such interaction will allow for career guidance from an earlier age and will lead to partnership in the school-university-workplace system.

Those who are already inclined to choose medical specialties as their profession receive more complete information about them at the biomedical school.

During the two years of BMS existence, 68 students underwent training, of which 10 completed the course, 58 continue education. 93.3% of all survey respondents rated BMS as effective career guidance method. 70% of BMS second-year graduates applied and entered NovSU Institute of Medical Education the following year.

## **6.2. Discussion**

Analogues of the biomedical school exist in other countries. Thus, in schools two-year courses in the areas of training "beauty and health" (medicine and health) are conducted in India, there are also other accredited professional educational institutions of open and distance learning modes (Agrawal & Agrawal, 2017; Goel, 2017).

According to senior pupils who studied at the NovSU IMO biomedical school, and their parents, this type of career guidance gives fairly accurate information about the profession of a doctor or pharmacist, about the needs of the region in this profession and makes a teenager clear about the way of learning the profession. As a result of training at the BMS, the main indicators of inclination are formed in a teenager for a reasonable choice of profession, namely:

- 1) self-manifesting activity in obtaining the necessary information about the profession of a doctor or pharmacist,
- 2) the possibility of designing one's future through modern teaching methods, drawing up your professional plan, the path to a career,
- 3) the formed attitude to the work of the doctor, as to life value (the formation of the student's confidence in the social significance of work),
- 4) self-knowledge of the student (in-depth study of their professionally important qualities),
- 5) the student has a sound professional plan (the ability to analyze his professionally important qualities).

"Applicant" section on the NovSU website provides up-to-date and accurate information, assistance in self-determination to parents, teachers, and schoolchildren. This form of work is becoming increasingly popular in many countries, however, schoolchildren and their parents have difficulty finding the right information on the Internet (Galliott, 2017). Therefore, special lessons are dedicated to finding information on web sites of universities and colleges in Canadian schools (Dehaas, 2014).

The WorldSkills Juniors movement is also gaining popularity, as other researchers indicate (Panina & Kvashina, 2019).

## 7. Conclusion

NovSU Institute of Medical Education has created a system of continuous career guidance. It is necessary to draw the attention of their partners (school teachers, parents) to the information presented in the "Applicant" section on the NovSU website to increase the interest of future applicants to the university. Involvement of highschool students in the biomedical school allows the University to solve issues of improving the training level of applicants and to ensure stability of recruitment to the University.

Within the framework of the biomedical school, professional orientation in the specialty Pharmaceutics should be expanded using the practice of WorldSkills Juniors. The developed "Biomedical School" program is an effective systematic approach to organizing career guidance activities among schoolchildren, as it uses a combination of innovative teaching technologies, is based on the close interaction of the school and the university, and allows students to formulate stable motivation for choosing the profession of a doctor or pharmacist, and it also forms a clear understanding of the learning process for the chosen profession.

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