

Features of the Programs Applied Bachelor Degree in Secondary and Higher Vocational Education

Elmira Robertovna Khairullina¹, Azat Salimyanovich Valeev², Gyuzel Khusainovna Valeeva², Nailya Shaukatovna Valeeva¹, Andrei Vasilyevich Leifa³, Elena Anatolyevna Burdukovskaya³ & Albina Rafisovna Shaidullina⁴

¹ Kazan National Research Technological University, Tatarstan, Kazan, Russian Federation

² Sibay institute (branch) of Bashkir State University, Bashkortostan, Sibay, Russian Federation

³ Amur State University, Blagoveschensk, Russian Federation

⁴ Almet'yevsk State Oil Institute, Almet'yevsk, Russian Federation

Correspondence: Elmira Robertovna Khairullina, Kazan National Research Technological University, Russia, Tatarstan, 420015, Kazan, K. Marksa Street, 68, Russian Federation. E-mail: elm.khair@list.ru

Received: September 29, 2014 Accepted: December 27, 2014 Online Published: January 14, 2015

doi:10.5539/ass.v11n4p213

URL: <http://dx.doi.org/10.5539/ass.v11n4p213>

Abstract

The article aims to identify features of the implementation of the programs applied bachelor degree in secondary and higher vocational education. The article presents the initial results of the implementation of applied bachelor programs in institutions of higher and secondary vocational education, identifies the peculiarities of application programs and academic bachelor degree, justifies organizational and pedagogical conditions applied baccalaureate programs, highlights the advantages and disadvantages associated with realization of the programs applied bachelor degree in education institutions of higher and secondary vocational education. The article may be useful in the development of requirements for the content formation of the theoretical and practical training of applied bachelor degree in higher and secondary vocational education; program design methods for the study of applied bachelor degree in vocational education.

Keywords: applied bachelor degree, features of the programs, secondary and higher vocational education

1. Introduction

The present stage of Russian society development, associated with the intense changes in the political, economic and sociocultural life, due to the impact of market reforms, significantly affects the detection of emphasis and priorities in the education system progress (Chuchalin, 2013; Khairullina, 2007). Currently, the main directions of its development are connected with the change of educational paradigm, renewal the content of education, entry into the world educational area.

The needs of the modern Russian labour market is extremely diverse, however, employers agree with one thing: they need highly qualified staff from worker to scientist, as a number of industries and types of professional activity is so complicated that now in some cases, it is necessary to train to high technologies (Subetto, 2008; Masalimova, 2013). To target vocational education on the solution of this problem, in 2009 the Russian Federation government announced the experiment to create applied bachelor degree in educational institutions of higher and middle management, the essence of which was to raise the status of non-University education, equating to higher education, some degree of technical schools and colleges, corresponding to the innovative development of the economy. 49 of universities and colleges in collaboration with universities took part in the experiment (Radionova & Sidorov, 2013).

In the concept of creation and development of an applied bachelor degree it is written down that qualification of graduates will correspond to the sixth level of the National frame of qualifications of the Russian Federation, and they will be unique experts on a country labor market (Blinov et al., 2010).

According to the plan of the Ministry of education and science of the Russian Federation, the first two years of the experiment were devoted to the development of appropriate programs and changes to "legitimize this level of education".

For the first time the concept of "applied bachelor degree" appeared in "The concept of long-term social and economic development of the Russian Federation for the period till 2020". This direction was called one of ways to increase of availability of the quality education conforming to requirements of innovative development of economy of Russia and modern requirements of society (The concept of long-term socio-economic development of Russia until 2020, 2008). Today it is already possible to say that the applied bachelor degree becomes an integral part of training of the top skills. According to the final report of the "Strategy 2020" program of applied bachelor degree can cover up to 30% of university students to 2020.

Nowadays there are two main models of program implementation of an applied bachelor degree. The first is the training programs developed in the field of SVE (secondary vocational education) in cooperation with universities, the second is the training programmes in the areas of undergraduate HPE (higher vocational education) with the involvement of partner companies (employers) (Smolyaninova et al., 2009; Simonjva & Shepetova, 2013.).

According to the first model, the applicant goes to college. After the third year of training, he passes the state (final) certification on the basic vocational educational program of SVE and continue training throughout the year in the University program HPE. After the third year of training it passes the state (total) certification for the main professional educational program of SVE (secondary vocational education) and continues training within a year in higher education institution according to the HPE (higher vocational education) program. After successfully passing the state (final) certification, the graduate receives the diploma of the state sample about education-a bachelor degree. As a result, the graduate has two diplomas: of secondary and higher vocational education (Chuchalin et al., 2013; Timofeev, 2010).

In accordance with the second model, the applicant goes to the program of an applied bachelor degree to the university. Training is carried out according to the Federal state educational standard. Distinctive feature of this model of training from the academic or traditional bachelor degree is close connection with the enterprise-the partner which students visit, since the first course. In addition, in the course of practice-based learning students get working specialty on the basis of training center of the enterprise (Chuchalin et al., 2013; Timofeev, 2010).

2. Materials and Methods

In the process of studying this problem, we performed analysis of the FSES SVE (Federal state educational standards of secondary vocational education) in terms of professional practice-oriented training, FSES HVE (Federal state educational standards of higher vocational education) bachelor in terms of professional theoretical training, professional standards. The expert assessment of training models of applied bachelors according to the programs developed in the areas of training of HPE and SVE bachelors was carried out; questionnaires, interviews with study participants (faculty, administration, employers) was conducted to identify the characteristics of academic programs and applied baccalaureate features of the implementation of the applied bachelor degrees in secondary and higher vocational education, the advantages and disadvantages of applied baccalaureate programs, organizational and pedagogical conditions of their effective realization in the system of secondary and higher vocational education.

3. Results and Discussions

In the basis of the applied baccalaureate program are SVE and HVE educational programs, which are focused on obtaining theoretical training and the acquisition of practical skills in the production. It is reflected in changing of hours of the academic bachelor degree practical part of concrete direction. Moreover, the practical part of the program, including laboratory and practical classes, educational and industrial practice, is not less than half of the total time allotted for training.

At present, universities leave out a huge number of students in various fields, and immediately the question of employment arises. Due to the modernization of many enterprises employers make more and more great demands of graduates. Therefore, the main goal of the applied baccalaureate is getting a graduate of the full set of knowledge, skills, proficiency in the competencies of the studied areas in order to start work immediately.

When developing structure and content of potential of implementation quality of applied bachelor degree programs it is necessary to reflect the minimum general requirements of the Concept of creation of applied bachelor degree programs:

- 1) to have personnel capable of studying the labour market needs of the region, development programs, including vocational modules, organization and content of the theoretical and practical component of the program; personnel potential educational institutions should include not only faculty, but also representatives of employers with experience of practical professional activities related to the implementation of the program;

2) to have the material, scientific and methodical base which is necessary for the program implementation: the practice base on the enterprises, the newest laboratories and workshops equipment, computer providing, manuals, exercise machines, access to corresponding new (the last five years) literature, including electronic media;

3) to have a productive mechanisms of graduates' employment, contracts with employers (in terms of participation in the annual update, clarification of the results of the exploration program; use of laboratories, training grounds enterprises, databases practices, participation in management practice; development jobs diploma projects and programs of the state final examination, participation in their implementation; organization of courses of improvement of qualification of teachers, their training).

Table 1. Features of an applied and academic bachelor degree

Criteria	Applied bachelor degree	Classical (academic) bachelor degree
Main objective	Training practice-oriented workers for practice in the real economy and business	Training of scientists for research and analytical activity of theoretical and methodological nature
Training period	4 years	4 years
Share of practical and practice-oriented training	50% of the time allotted for training (including laboratory and practical classes, educational and industrial practice)	20% of the time allotted for training (including research)
Links with employers	Obligatory participation of partners-employers in shaping curricula, programs, laboratory and practical training, educational and industrial practices	Not registered
Graduation document	State diploma of the applied bachelor	State bachelor's degree
Possibility of training continuation in a magistracy	Possibility to enter the Master's program on a competitive basis	Possibility to enter the Master's program on a competitive basis

Table 2. Results of pilot research of the relation of teachers to programs implementation of an applied bachelor degree, % of positive answers

Questions	PPS SSUZ (teachers of secondary education)	PPS VUZ (teachers of higher vocational education)
training a new generation of professionals possessing a deep theoretical knowledge and practical training	84,9	54,5
practical training organization on the basis of relevant companies with the possibility of further employment	100	100
highest level of employability of graduates by employers	81,8	13,5
widespread use of active teaching methods in place for future work	44,9	75
affordable compared universities' tuition of training on a contractual basis	100	100
possibility of accelerated education for applicants on the basis of higher or specialized secondary vocational education	100	100

Test results conducted on the ascertaining step experiment involving teachers from AGNI (ASOI Almetievsk State Oil Institute), KGASU (KSACU Kazan State Architecture and Construction University) and KATC (Kazan Aviation Technical College) allowed to determine their relationship to the applied baccalaureate programs

(percentage of positive responses are presented in Table 2).

The results of the survey indicate that 84.9% of colleges teachers and 54.5% of university professors believe that the implementation of the applied baccalaureate programs contributes to the training of new generation of professionals, possessing theoretical knowledge and deep practical training; 81.8% of colleges teachers and 73.5% of university professors consider the highest level of employability of graduates by employers; 44.9% of colleges teachers and 75% of university professors believe, it is necessary to use active learning methods on the future place of work; 100% of teachers noted the benefits of implementing programs of applied bachelor degree affordable universities tuition on a contractual basis in comparison with other institutions, the possibility of accelerated education for applicants on the basis of higher or specialized secondary vocational education, organization of practical training on the basis of specialized enterprises with the possibility of further employment. So, the obtained data allowed to conclude on relevance of implementation of experiment on programs realization of an applied bachelor degree.

Respondents of Almet'yevsk State Oil Institute, Kazan State Architecture and Construction University and Kazan Aviation Technical College marked out the following advantages of programs implementation of an applied bachelor degree: their practice orientation with the introduction of tier professional education; optimization of time and costs on follow-up teaching graduates by employers' organizations; adaptation of educational programs of an applied bachelor degree to requirements of professional standards; shortening of graduates entering the labor market in terms of the demographic crisis; increasing the number of employed graduates of applied bachelor programs; expansion of variability and reduction of duplication of educational programs at the secondary and higher vocational education.

Among the disadvantages associated with the implementation of applied bachelor programs, they noted the following: the absence of a coordinating body controlling the course of the experiment for the implementation of applied bachelor programs at both the secondary and higher education institutions; insufficient development of normative legal documents regulating the implementation of the applied bachelor programs; the underdevelopment of interaction mechanisms between participants, financing programs; formal participation of employers in realization and monitoring of applied bachelor programs; unresolved question about the form of the diploma; weak standard and methodical providing programs of an applied bachelor degree; lack of experiment stimulation mechanisms; ambiguity of the mechanisms of the final state certification at the level of secondary and higher educational institutions in cooperation with employers; loss of the enrollment with an appeal to the Armed Forces of the Russian Federation.

During research we also revealed and proved the following organizational and pedagogical conditions of programs implementation of an applied bachelor degree: integration of institutions of higher and secondary vocational education, while preserving their independence and uniqueness at the federal and regional levels; active dialogue between education and industry in the definition of general and professional competencies; willingness of engineering and pedagogical personnel of professional education institutions to solve organizational, informative, technological and methodological challenges for the implementation of the applied bachelor programs, their ability to self-improvement; information support of applied bachelor programs; elaboration of educational and methodical materials of new generation; testing of innovative educational technologies.

4. Conclusions

Thus, the applied bachelor degree assumes training of students according to the baccalaureate program where the main, basic unit is the same as it is provided in the standard, and additional part is practice-oriented which displays a clear qualification. Analyzing the applied bachelor program, it is possible to reveal the positive moments:

- 1) After graduating from the applied bachelor program, the student receives a profession and goes to work. If he needs, for some reason, in deep knowledge in some areas, he may continue training in a magistracy. This "modularity" of educational programs is widespread abroad. Real experience with people making the same career, adds professional outlook and enhances graduate professional experience.
- 2) Applied bachelor programs assume receiving concrete applied qualification by students. Today it is extremely important as many employers say about absence of qualified specialists. Programs of applied qualifications will allow to weaken a problem of shortage of such workers.
- 3) Applied bachelor programs will allow to make the system of the higher education more flexible.
- 4) But, as well as in each discussed question, in an applied bachelor degree there are shortcomings. Applied

bachelor degree, being a new form of education, can "work" only under a certain condition-when there is the specific employer, ready to participate in training of specialists. In this situation it is favorable to higher education institutions to cooperate with PVE (Primary vocational education) and SVE (Secondary vocational education) system: to assume theoretical training, and give the organization of practice and all applied modules to the employer. Today, the University itself evaluates, assigns a qualification and manufactures specialist on the labour market.

References

- Blinov, V. I., Dudyrev, F., Esenina, E. Y., Leibowitz, A. N., & Faktorovich, A. A. (2010). *The concept of creation of applied baccalaureate programs in the system of education of the Russian Federation* (p. 17). Moscow, Federal Institute for Educational Development.
- Chuchalin, A. I. (2013). Application of the standards of the International Engineering Alliance for the design and evaluation of the quality of higher and secondary vocational education. *Higher Education in Russia*, 4, 12-25.
- Chuchalin, A. I., Yatkina, E. J., Choi, G. A., & Shamritskaya, P. S. (2013). Criteria for professional public accreditation of educational programs and ACT VPO technical specialties and directions. *Engineering Education*, 12, 76-90.
- Khairullina, E. R. (2007). Orientation of students to self-development of core competencies in the design and creative activity. *Science and Education Journal*, 7.
- Masalimova, A. R. (2013). *Corporate training the mentors* (p. 183). Printing Service-XXI Century Press, Kazan.
- Radionova, L. V., & Sidorov, I. V. (2013). Applied Baccalaureate as a form of practice-oriented training engineering students. *Socio-anthropological issues of the information society*, 1. Retrieved from http://e-koncept.ru/teleconf/1/rynok_truda_i_obrazovanija/prikladnoj-bakalavriat.html-State.reg.EnumberF577-49965.-ISSN2304-120X
- Simonjva, I. N., & Shepetova, V. A. (2013). Modernization of the structure of competences in the new information and communications environment of the educational environment of a technical college. *Modern problems of science and education*, 6.
- Smolyaninova, O. G., Dostovalova, E. V., & Savelyev, O. A. (2009). *Organization of educational process bachelors/masters of pedagogy in a modular credit/rating system training* (p. 294). Siberian Federal university, Krasnoyarsk.
- Subetto, A. I. (2008). Conceptual and theoretical foundations to solve the problem of quality of education in Russia. *Siberian Education Journal*, 1, 75-87.
- The concept of long-term socio-economic development of Russia until 2020. (2008). Retrieved from <http://2020strategy.ru>
- Timofeev, Y. (2010). Problems of cross-cutting educational programs. Vocational Education. *Capital*, 4, 36-37.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).