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DESIGNING AND IMPLEMENTING APPLIED BACHELOR'S PROGRAM: A COMPREHENSIVE DEVELOPMENT MODEL

Abstract: Modern education faces the challenge of integrating theoretical knowledge with practical skills, which is particularly crucial for the training of mid-level professionals. Practice-oriented educational programs shorten the adaptation period for graduates and enhance their competitiveness in the labor market. Special attention is given to applied bachelor's programs that combine theory and practice, fostering rapid professional development of graduates.

The European higher education system offers short cycles leading to a bachelor's degree. The practical focus of these programs is ensured through partnerships between educational institutions and industry organizations, enabling students to develop the professional skills required by employers. This makes applied bachelor's programs key elements of educational reforms in the EU.

In Kazakhstan, applied bachelor's programs have not yet gained widespread popularity due to a lack of regulatory support, but successful pilot projects demonstrate the potential of this direction. These programs integrate theoretical and practical training, approaching education with consideration of real-world functional tasks.

The need to adapt educational programs to meet the current demands of the labor market is extremely important for preparing qualified personnel. This underscores the importance of continually improving educational initiatives to develop programs that successfully combine theory with practice and meet the needs of a dynamic economic environment.

Keywords: applied bachelor's degree, short cycle in higher education, model, educational program.

Introduction

Currently, there is a growing need for educational programs that can combine deep theoretical knowledge with the practical skills necessary for professional work. The main difference between such programs and traditional academic ones lies in their practice-oriented nature. This means that during their studies, students should have the opportunity to apply theoretical knowledge in practice and develop practical skills in real working conditions. This approach helps graduates adapt more quickly to the demands of work in organizations, reducing the need for a long adaptation period after graduation. These types of programs are known as applied bachelor's degree programs. They focus on closely linking theoretical education with practice, making graduates more attractive to employers and better prepared for professional activity.

In the structure of higher education qualifications in Europe, there are specializations aimed at the practical application of knowledge, which are implemented through programs leading to a short-cycle bachelor's degree (European Commission). Specifically, a short-cycle bachelor's degree is a qualification level that often takes less time to complete compared to a traditional bachelor's degree. These programs provide graduates with practical and applied

skills, enabling them to enter the labor market more quickly and begin their professional careers (Cedefop E., 2018). This approach makes education more flexible and oriented towards the immediate needs of the labor market.

The concept of applied bachelor's degrees in the context of short-cycle higher education in Europe is widely regarded as a means of rapidly and effectively addressing the need for highly qualified personnel to meet current labor market demands. Within the European Qualifications Framework, the applied bachelor's degree corresponds to levels 5 and 6, which confirms the recognition of these programs as a significant educational segment (European Commission, 2018). These educational programs are focused on providing students with specific professional knowledge and skills with an emphasis on the practical component, allowing them to become active participants in the workforce more quickly (EUA, 2023). For example, according to a study by the European Commission, applied bachelor's programs have become an important component of educational and professional system reforms in EU countries, contributing to the re-mobilization of knowledge and skills in line with the demands of the market economy (Markowitsch J., Hefler G., 2019).

Applied bachelor's degree programs in the context of short-cycle higher education in Europe strengthen the connection between educational institutions and local enterprises, ensuring the competitiveness of graduates in the labor market. These programs often collaborate with industrial partners, offering internships and projects that help develop skills in demand by employers (Hoeckel K., Schwartz R., 2010). In several countries, such as the Netherlands and Germany, applied programs focus on integrating theoretical knowledge with practical skills, enhancing the quality of specialist training (Teuber S., 2012). Specifically, a study by Eurydice found that graduates of applied programs demonstrate high employment rates (European Education and Culture Executive Agency, 2018).

In Kazakhstan's higher education system, applied bachelor's programs have not yet fully established their status and become widely recognized and standardized, as a stable system and regulatory framework for such educational programs have yet to be created. However, there is already experience and examples of implementing such programs within a pilot project.

The goal of the pilot project is to implement educational programs in which students simultaneously acquire practical skills directly related to their profession, typically characteristic of technical and vocational education, and deep theoretical knowledge and fundamental training, typical of higher education.

Materials and Methods of Research

This study utilized a variety of methods and materials, allowing for a comprehensive analysis of the implementation and realization of applied bachelor's degree programs. The surveys conducted and the data obtained on the practical aspects of the educational process provided a foundation for developing and proposing a model for designing and implementing applied bachelor's programs as a short-cycle higher education.

The survey data comprised the results of questionnaires and polls conducted among students, teaching staff, and employers involved in the pilot project. Data collection was carried out using online surveys that included both closed and open-ended questions. The data was processed using statistical analysis software.

In-depth interviews were conducted with program directors, instructors, and employer representatives to gain a deeper understanding of the experience of organizing programs and the educational process.

A comparative analysis of existing methodological approaches to creating educational programs was performed. Additionally, an analysis of the content of the educational programs developed within the framework of the pilot project was conducted, including a qualitative analysis of curricula and materials.

Results and Discussion

The implementation of applied bachelor's degree programs (short-cycle) at the higher education level was conducted in a pilot mode based on the order of the Minister of Science and Higher Education of the Republic of Kazakhstan No. 14 dated July 28, 2022.

According to this order, methodological recommendations were approved for admission to the pilot mode of training in applied bachelor's degree programs (short-cycle) at the higher education level. Eight higher education institutions (HEIs) and areas of training were defined within the framework of the pilot project, as presented in Table 1.

Table 1

Higher Education Institutions and Fields of Study in the Pilot Project

№	Code and Classification of Education Area	Name of Training Fields	Code and Name of Applied Bachelor's Program
L.N. Gumilyov Eurasian National University			
1	6B04 Business, Management, and Law	6B041 Business and Management	5B04104 – Accounting and Audit
M. Auezov South Kazakhstan University			
2	6B11 Services	6B111 Service Sector	6Br11101 – Tourist Business
Al-Farabi Kazakh National University			
3	6B06 Information and Communication Technologies	6B061 Information and Communication Technologies	5B06101 – Data Engineering
Karaganda Industrial University			
4	6B07 Engineering, Processing, and Construction Industries	6B071 Engineering and Engineering Affairs	5AB0710101 – Applied Bachelor's in Chemical Production, 5AB0710700 – Applied Bachelor's in Heat Power Engineering
	6B07 Engineering, Processing, and Construction Industries	6B071 Engineering and Engineering Affairs	5AB0710101 – Applied Bachelor's in Chemical Production, 5AB0710700 – Applied Bachelor's in Heat Power Engineering
D. Serikbayev East Kazakhstan Technical University			
5	6B07 Engineering, Processing, and Construction Industries	6B071 Engineering and Engineering Affairs	5B07101 – Transport, Transportation Equipment and Technologies, 5B07102 – Digital Agro-systems
	6B07 Engineering, Processing, and Construction Industries	6B071 Engineering and Engineering Affairs	5B07101 – Transport, Transportation Equipment and Technologies, 5B07102 – Digital Agro-systems
S. Utebayev Atyrau University of Oil and Gas			
6	6B07 Engineering, Processing, and	6B072 Production and Processing Industries	5B07201 – Oil and Gas Technologies

	Construction Industries		
M. Kozybayev North Kazakhstan University			
7	6B08 Agriculture and Bioresources	6B081 Agronomy	6B08101 – Agronomy
Satbayev University			
8	6B06 Information and Communication Technologies	6B062 Telecommunications	Telecommunication Systems and Networks

Higher Education Institutions (HEIs) within the pilot project have developed 10 applied bachelor's degree programs. The development and approval of these applied bachelor's programs were carried out considering the needs of the regional labor market and with the participation of stakeholders.

The applied bachelor's degree programs at HEIs were developed with two different durations: a three-year program consisting of 180 credits and a two-year program consisting of 120 credits. Following the implementation of the pilot project, a survey was conducted among students, faculty members, and employers to gather insights on the experience of organizing applied bachelor's programs at the HEIs participating in the pilot project. Based on the data obtained, a model for the development and implementation of applied bachelor's programs as a short cycle of higher education was created, as presented in Figure 1.

Figure 1

Model for the Development and Implementation of Applied Bachelor's Programs as a Short Cycle of Higher Education

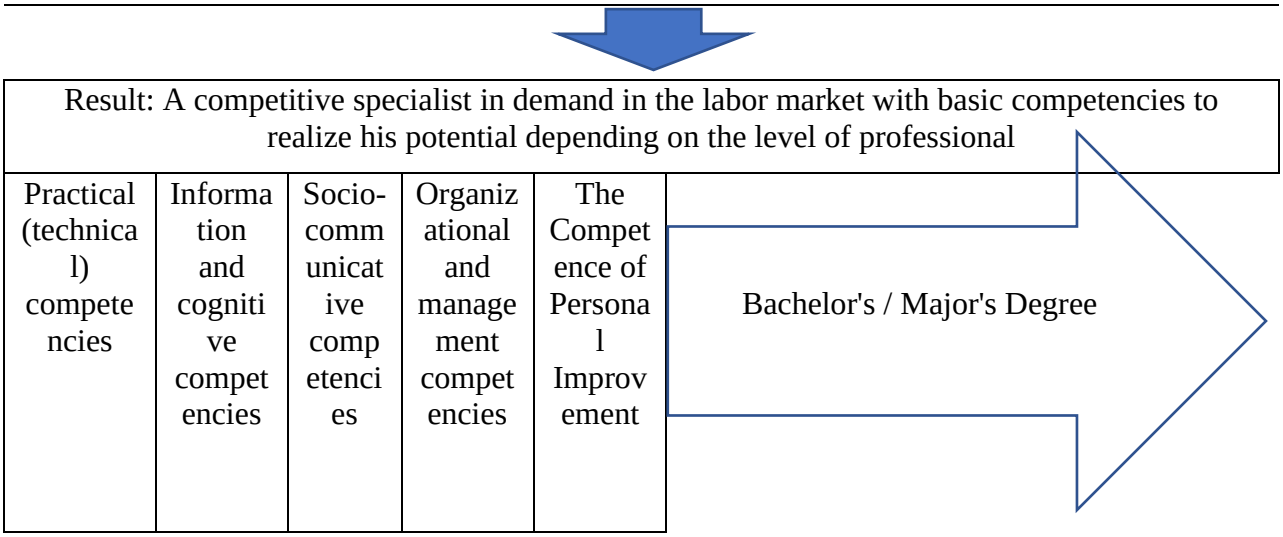
Methodological level	***Objective:*** To prepare competitive, practice-oriented specialists within the short-cycle higher education system for specific positions, equipped with professional knowledge, skills, and competencies that meet employer requirements.		
	Approaches:	*Patterns:*	*Principles:*
	- student-centered approach - practice oriented approach - competency based approach	1) **Dependence on Pedagogical Conditions** 2) **Sequential Nature, Implemented in Three Stages** 3) **Dependence on Applied Methods, Forms, and Resources** 4) **Dependence on the Unity of External and Internal Activities, Including the Activities of Educators and Students**	- integration of theory with practice - practical action of knowledge - individual approach to learning

Processual level	**Conditions for the Effective Organization and Implementation of Applied Bachelor's Programs as a Short Cycle of Higher Education**:		
	Theoretical preparation	*Practical preparation*	*Necessary resources*

	Basic Theoretical Knowledge of Core and Specialized Courses: Graduates need to possess a deep understanding of their subject area. This includes knowledge of key concepts, methods, theories, and trends within their chosen field.	- vocational fieldwork - work based learning - dual education - networked learning	- Educational program developed jointly with industry organizations - Contract with industry organizations - Material and technical base corresponding to the needs of the industry
	Stages of Development of Applied Bachelor's Programs as a Short Cycle of Higher Education		
	The purpose of the 1st stage is to request the partner's organization to train specialists within the framework of short-cycle programs	The goal of the 2nd stage is the joint development of the Applied Bachelor's Degree Program with the partner organization(s)	The goal of the 3rd stage is the practice-oriented training of an applied bachelor

	Form	*Methods*	*Means*
Instrumental level	Lecture Practical exercises Seminars Project activities Internship	**Case method:** Learning from real examples and cases that students may encounter in their future professional activities. **Interactive teaching methods:** They include the use of modern educational technologies, webinars, online courses and other means. **Study Tours:** Provide hands-on experience in a variety of learning environments and contexts **MOOC training:** Involves the use of various online platforms and resources to gain knowledge and study the subject in depth.	Educational program developed jointly with industry organizations; Contract with industry organizations; Material and technical base corresponding to the demand of the industry

Evaluation level	Monitoring the effectiveness of training applied bachelors in the framework of short-cycle higher education programs		
	Ways to monitor the effectiveness (quality) of training		
	Levels		
	Low	Average	High



As shown in the model, the main goal is to prepare a competitive, practice-oriented specialist within the short cycle of higher education for a specific position, possessing professional knowledge, skills, and competencies.

The analysis led to the conclusion that the feature of applied bachelor's programs is their increased practice orientation and the short time required to "produce" a specialist. To realize this feature, it is necessary to define a methodological basis, which in this model is represented by the following main approaches:

- Student-centered approach;
- Practice-oriented approach;
- Competency-based approach.

The distinctive feature of these approaches is the active involvement of students in the educational process, focusing on the practical application of knowledge and the development of specific competencies. These approaches make learning more targeted, allowing students to actively participate in their education, develop independent work skills, and apply acquired knowledge in practice. All three approaches aim to form not only theoretical but also practical skills necessary for successful work.

Therefore, the main principles of developing applied bachelor's programs are:

- Integration of theory with practice;
- Practical application of knowledge;
- Individual approach to learning.

To determine the interrelationship of various aspects of the educational process, its optimization, and improving its effectiveness at the methodological level, the following patterns were identified:

- Dependence on pedagogical conditions;
- Stepwise nature, implemented in 3 stages;
- Dependence on applied methods, forms, and tools;
- Dependence on the unity of external and internal activities, the activities of the teacher and the learners.

The uniqueness of these patterns lies in describing specific aspects of the educational process and emphasizing the importance of certain conditions, stages, methods, and interactions among participants in this process.

After determining the methodological basis, the model's structure provides for the creation of conditions for the effective organization and implementation of applied bachelor's programs as a short cycle of higher education. These conditions include theoretical and

practical training and the necessary resources for implementing the applied bachelor's program. The conditions also include stages of developing applied bachelor's programs as a short cycle of higher education, which allow identifying the real needs of the labor market and employers, ensuring future employment for students. Considering current employer requirements during joint development with stakeholders will enable building education with practical significance in mind. In training specialists, primary attention will be given to the practical part of education, allowing students to immediately apply acquired knowledge and skills in practice.

At the instrumental level of the model, the forms, methods, and tools of learning used in preparing applied bachelors are defined.

The feature of organizing the educational process in applied bachelor's programs is the use of various forms of learning that allow students to acquire knowledge and skills through diverse learning methods.

The methods presented in the model suggest learning through real examples and case studies, which will help students apply theoretical knowledge in practice. Interactive methods will create an educational environment that actively interacts with students and provides opportunities for active participation and direct interaction with the learning material. Educational trips expand students' professional skills. MOOCs provide access to online learning, expanding opportunities for in-depth study of the subject.

Learning tools consider labor market demands, ensuring the relevance of education, cooperation, and partnership for practical training and internships for students. The material and technical base, corresponding to industry requirements, will provide students with the necessary resources and conditions for learning and practical activities.

For the successful development and implementation of applied bachelor's programs as a short cycle of higher education, monitoring and evaluation of learning effectiveness are necessary. Therefore, the model includes an evaluative level, which allows for assessing and measuring students' competencies, as well as evaluating the effectiveness of the training program itself. Through the evaluative level, it is possible to check the achievement of set goals and respond appropriately to identified problems, making necessary adjustments to improve the quality of the educational process.

Such a model of integrating applied bachelor's programs into the higher education system will allow for the development and continuous updating of applied bachelor's programs, effectively preparing students for modern labor market needs.

Conclusions

In the modern world, there is a growing need for educational programs that combine deep theoretical knowledge with practical, relevant skills tailored to professional requirements. This need arises from the necessity for graduates to transition quickly into the workforce and adapt rapidly to workplace conditions. Applied bachelor's programs offer an optimal solution to this challenge by providing practice-oriented training and swift integration into the labor market.

In Europe, such programs have become an important component of the educational system, aligning with levels 5 and 6 of the European Qualifications Framework. They equip graduates with all the necessary tools for immediate professional activity. Research shows high employment rates among graduates of applied programs, making this approach an effective solution for both job seekers and employers.

In Kazakhstan, initiatives to implement applied bachelor's programs are also beginning to take shape, although there is still a need for the development of a stable regulatory framework and full recognition of this approach. Nevertheless, pilot projects are already underway, demonstrating positive results by integrating theoretical and practical training within higher education. The pilot project has shown that applied bachelor's programs can effectively meet the needs of the regional labor market. The developed model can serve as a

foundation for further scaling and standardizing applied bachelor's programs within the higher education system in Kazakhstan.

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