

Article

Some issues of formation of economic competence of non-economic specialty students

Abdimanap Zholdasbekov, Makhsat Aimenov*, Karlygash Zholdasbekova

M. Auezov South Kazakhstan University, Shymkent 160012, Kazakhstan

* **Corresponding author:** Makhsat Aimenov, zhambul_ukgu@mail.ru

CITATION

Zholdasbekov A, Aimenov M, Zholdasbekova K (2024). Some issues of formation of economic competence of non-economic specialty students. *Journal of Infrastructure, Policy and Development*. 8(16): 10337. <https://doi.org/10.24294/jipd10337>

ARTICLE INFO

Received: 14 November 2024
Accepted: 9 December 2024
Available online: 23 December 2024

COPYRIGHT

Copyright © 2024 by author(s).
Journal of Infrastructure, Policy and Development is published by EnPress Publisher, LLC. This work is licensed under the Creative Commons Attribution (CC BY) license.
<https://creativecommons.org/licenses/by/4.0/>

Abstract: The article presents the experience of formation and development of economic competences of non-economic specialty students. The modern world is quite complex, diverse, and multidimensional, in order to adapt to it, work effectively, it is necessary to have information about market relations, relations in the sphere of production, consumption, exchange, distribution, and also to be able to connect these areas, navigate the laws operating in these areas. It should be noted that the formation and development of a specialist's economic competence occurs throughout his or her entire professional life. In our study, the process of forming economic competence is considered as its formation at the stage of mastering economic disciplines, relevant special courses and methodical support. Training in higher education should lead to the acquired knowledge being transferred into the activity of combining elements into an interconnected structure, into the skillful distribution of resources, into the activity that brings profit and has the form of capital investment, in other words, the individual, acquiring knowledge for himself, should be able to transform it into a socially significant value. This requires the search for and implementation of new approaches in the content and organization of the educational process at all levels of education. Research devoted to the role of education in the preparation of future non-economists for economic competence focuses on the preparation of an individual for the economic literacy of an entrepreneur. One of the main tasks of the education system should be preparation for successful socialization in the context of involvement in entrepreneurial relations. It is students and young specialists who have advantages in entrepreneurship in the current conditions: they have the opportunity to obtain specialized knowledge and skills in the field of economics; they can start their own business, relying on economic knowledge. Therefore, the role of higher education is increasing, since it helps to meet the needs of society and implement its socially significant goals. This poses new challenges for universities to transfer the necessary economic knowledge, skills and abilities to students, and to develop their economic competence. The development of basic economic competences in a student is a guarantee of his competitiveness in the labor market and the basis for making reasonable economic decisions in the daily life of every person.

Keywords: competence; economic competence; competence of future specialists; competence of non-economists; bachelors of non-economic specialties; students; educational process; economic literacy

1. Introduction

An important link in the formation of a graduate with the qualifications that higher education provides is the university, since it is there that the student receives the knowledge, skills and abilities necessary for future fruitful functioning. The development of a conscientious attitude towards work, responsibility, focus on identifying problems, determining one's actions to achieve a goal – this should correspond to the specialist's abilities. This requires searching for and implementing

new approaches to the content and organization of the educational process at all levels of education.

The study of the individual's economic competence problems has become more active in recent decades. The study of the formation of the ability to navigate in the tasks of economic management remains relevant today, as it is included as a component in the complex of training programs for specialists of different levels and areas. Analysis of studies of Ackermann and Siegfried (2019); Allgood and Walstad (1999); Arzheimer (2015); Arbuckle (2016); Birke (2012); Carlsson and Eliasson (1995); Ermakova (2023); Omidvar et al. (2011) shows that economic competence is an important part of the professional training of teachers, which is largely determined by the state of economic development of modern society, which assumes the active participation of each specialist in market relations.

In the studies of the above-mentioned authors, special attention is paid to the need to develop economic skills of students, the importance of mastering these skills for professional growth and theoretical prerequisites for the development of economic competence, while the rationale for scientific support for the development of this competence remains insufficiently studied, namely: there is no set of organizational and pedagogical conditions that contribute to its successful implementation, which requires further research.

The development of basic economic competencies in a student guarantees his competitiveness in the labor market, as well as the adoption of correct economic decisions (Pyadina and Tsareva, 2017).

To a greater extent, scientists emphasize the need for the formation of the economic layer in its dynamics in students, to a lesser extent, the process of formation of this ability itself receives scientific coverage. It is necessary to establish a whole complex of methods, using their integration, so that issues related to the competences of future specialists in a non-economic profile receive more precise definitions, are specified and resolved. We are talking about modeling the process of formation, identifying components, clarifying the relationship between them, etc., in general, it is necessary to cover competence in the pedagogical aspect.

Studying at a higher school leads a person to self-knowledge and knowledge of the surrounding reality; in addition, a person begins to realize his place in the sphere of activity. This knowledge has its own dynamics, since the changing world is cognized. The results obtained by the above-mentioned researchers are of great importance for our work. However, the cited works examine the problems of training the personality of an entrepreneur, and not the formation of the competence of a person in the sphere of economic relations.

Today, the need for transformations in universities is becoming more and more noticeable, this is due to the fact that the satisfaction of some personal or social requirements causes others to appear, new motives arise, and spheres of innovation arise. All this suggests that a specialist of a new formation is needed, who would be able to respond to all the challenges of modernity, while demonstrating his creativity. Thus, it is necessary to reveal and develop in the future specialist personal characteristics related to the activity, as well as characteristics related to his profession and the basics of management.

At the university, a student studying at a non-economic profile faculty must acquire knowledge of the profession in an economic context (Tim and John, 2023). A goal-oriented, prepared student will be able to achieve a good position in society in the future, as well as high security; there is a close connection between the development of the individual and the development of the economy and society. At present, the state's position is directly related to the level of application of electronics, robotics, etc. in production, in industry, as well as to the extent to which innovative methods of information, methods of corporate labor, innovative education, etc. are widespread.

All this will improve the quality of training specialists, will lead to the efficiency of graduates, and consequently to the efficiency of enterprises. The country will be able to occupy a worthy international position, and the standard of living of citizens will increase significantly. The improvement of the living conditions of the people will be associated with the use of new equipment, the efficiency of specialists, the country's entry into the system of geographical distribution of spheres of activity in leading positions.

Thus, the problem of developing economic competence of university students is relevant and is determined by a number of objectively existing contradictions, which include contradictions between the increased demands of society for the level of training of future specialists capable of working effectively in the changed conditions of the socio-economic environment and the existing system of their professional training; contradictions between the objective need for a methodology for developing economic competence of university students and the inadequacy of substantive and methodical support for this process.

The above-mentioned contradictions necessitate solving an important socio-pedagogical problem – based on understanding the experience of developing an individual's competence in the field of entrepreneurship, identifying the principles, mechanisms, methods and organizational and pedagogical conditions of this activity from the standpoint of modern requirements and for the future.

The aim of the study: to develop and identify the advantages of a competency-based approach in the formation of economic competence of students majoring in non-economics.

2. Methods and methodology

The methodological basis is the most important provisions of the dialectic of the doctrine of personality development; the provision on the interrelation and interdependence of phenomena, in particular on the interrelation of ongoing socio-economic changes and the renewal of the education system; the theory of the system-activity approach, the theory of entrepreneurship, reflected in the works of leading domestic and foreign scientists in the field of pedagogy, psychology, entrepreneurship, sociology and economics.

The research methodology is the result of integration, interpenetration of philosophical, psychological, logical, cybernetic provisions and provisions of pedagogical theory.

Development of methodological foundations of this pedagogical analysis, based on the principle of systemic nature, is an independent, very relevant and promising scientific direction.

In this study, from the standpoint of systemic methodology, the problems of comparative pedagogical analysis of higher professional education systems in developed countries were considered and described, professional and pedagogical features and development trends of these systems were identified, and the possibilities of using the experience of developed countries were analyzed.

Comparative pedagogical research related to the study of the effectiveness of professional training of specialists in universities is very productive if it is carried out on the basis of the methodological principle consisting in “studying the general in the individual and through the individual”. This principle is realized in the search for the general, the special and the individual.

In this study, this principle was used to determine the general and special methodological approaches in the higher education system of developed countries when analyzing their current state, as well as when identifying the leading trends in their development. Therefore, the methodological approach is a study of qualitative and quantitative indicators

The following methods of study were used in the work:

- 1) the procedure of mental division of the object;
- 2) integrative consideration of the elements of competence;
- 3) the study of economic competence in relation to all possible objects;
- 4) transitions from the particular to the general, establishing similarities.

The following control methods were also used:

- (1) information related to competence was extracted by asking;
- (2) information obtained during a conversation on a given topic;
- (3) research based on questions selected according to specific patterns, and answers to these questions, etc.

Among the methods used were those based on experience at the university:

- 1) focused, goal-oriented study of individuals in natural conditions;
- 2) methods were used that included associations; in this way, a person could not show himself better or worse reliable information was collected.

The materials needed for our research were also obtained during the experiment in conditions close to natural ones.

Experiments were conducted with the aim of changing the educational process. A large amount of material was checked by numerical systematization; graphs were created based on the results of the experiment.

The research base is M. Auezov South Kazakhstan University, Shymkent, Kazakhstan.

110 students were involved in the experimental activity:

control group—55 students; experimental group—55 students.

The study was carried out in several stages:

The scientific novelty of the study lies in the fact that it identifies the main shortcomings of economic training at the university: misalignment of goals, discrepancy between the theoretical and practical components, impossibility of widely using the activity-based approach within the traditional system, poor development of

the practical component, predominance of pedagogical or psychological orientation; determines the motives for engaging in entrepreneurial activity (high level of income; independence; increased self-esteem and public recognition; self-development; development of a social circle; opportunity to travel) and requirements for graduates of a modern university in the field of entrepreneurship; proposes organizational and pedagogical conditions for the formation of economic competence: clarity of goals and educational objectives; consistent intensification of the educational process; readiness of the teaching staff to effectively develop economic competences in students.

The theoretical significance of the study is determined by the fact that the work developed pedagogical foundations (a set of principles and mechanisms for their implementation); requirements for content; forms; methods; organizational and pedagogical conditions and indicators of the formation of economic competence of students majoring in non-economics.

3. Theoretical part of the study

A student who has entered a university, as he grows up, acquires knowledge, skills, and abilities, his ideas about life and his place in it will be transformed, the pictures of his future specialty will expand and deepen; from vague ideas about the nature of work, from ideas related to the acquisition of some benefits, a young person will move towards understanding the work of his life, goals will be clarified, and the vision of his functions will become clearer and clearer.

By economic competence of a specialist we mean an integrative quality of the individual, expressed in the unity of his economic knowledge, practical training, ability to carry out all types of economic activity in the management process, influencing the success of solving professional and economic problems of varying levels of complexity, ensuring self-understanding of the importance of economic education for professional activity, which is focused on the ability and readiness of the future specialist to make correct and timely decisions in different economic situations.

Due to this, the inclusion of the economic component in the training of a specialist in a non-economic profile should be structured; the integration of the fundamentals of economic management should be preceded by the identification of areas in the content of cycles in the specialty, the connections of which with the economy are natural and follow from the essence of the problem, in other words, the systems of specialized and economic training should be compared, general cause-and-effect relationships should be considered, an economic interpretation of phenomena should be carried out, and the processes of functioning should be considered in an integrative light.

Active teaching methods in higher education make it possible to design this process, which leads to the construction of an appropriate model that includes the active position of the future specialist, his purposeful acquisition of knowledge, his focus on improving his competences, his desire to understand himself and his place in the professional field (Sergeeva et al., 2018).

The English scientist Raven put forward the position that the competence approach should be considered at the junction of pedagogical and psychological sciences (Raven, 2002). It was Raven who proposed the first systematization of the

competence approach on the following grounds: the formation of competence at different age stages of human development; conditions necessary for the formation and development of competence. On this basis, the researcher considers various types of competence: cognitive (identifying obstacles to achieving goals), affective (enjoyment from work) and volitional (perseverance, determination, will). Currently, the competence approach is the leading one in developed countries.

In our research, key competences involve the formation of a specialist through the implementation of the State Standard of Higher Professional Education; the development of interdisciplinary knowledge and skills, including in other specialties; information, economic, communicative and legal training.

Generalized subject competences are responsible for the ability to use the content of various disciplines when solving specific problems. In a certain sense, this direction is associated with the trend towards universalization of education (Wobker, 2012). At the same time, students' horizons are expanded, and the ability to search for and find non-standard solutions to problems arising in professional activities and everyday life is formed.

Applied subject competences are related to the activity-based nature of professional education. Unlike generalized subject competences, in this case the ability to effectively use specific knowledge and skills in the studied disciplines in professional activities is formed. This direction is the development of the traditional system of professional training (Starostina and Dragunkina, 2014).

Life skills are important for a professional, as for any person, first of all, for successful socialization in society (Bos et al., 2003). The development of this direction presupposes the need to make appropriate changes, first of all, in the content of professional training. It is important to emphasize that preparation for social adaptation is no less an important task of higher education than professional training. Unfortunately, with the beginning of the reform of the education system, the problems of preparing students for socialization have largely lost their significance, along with the reduction of educational work in higher education.

In general, the implementation of a competency-based approach is aimed at forming a set of competences in accordance with the objectives of professional training (Dyah Kusumastuti et al., 2023).

In our opinion, the main research on the problem of developing professional competences of university students will be aimed at finding more effective psychological approaches and the introduction of new pedagogical technologies.

Modern requirements for training specialists actualize the need to integrate economic knowledge into educational and methodical cycles related to the profession.

Before conducting the tests, it is necessary to check the level of perception of information on the basics of economic management, and the readiness to apply this information in educational professional activities. All this is determined at the first stages of the experiment.

It is very important to create an environment that is conducive to the implementation of pedagogical influence. For our experiment, a normal environment corresponding to traditional teaching was defined.

When forming teams, students with equal opportunities were selected, but the activities of different teams took place in different environments.

Economic systems are constantly changing, introducing new things. Due to this, a future specialist must receive accelerated education, which will help him adapt to the dynamics of situations and events: he must be ready to solve professional problems, must be able to organize his work, have the skills of collective work.

The construction of knowledge integration on the fundamentals of economic management included such a component as the acquisition of skills in preliminary arrangement of actions (general education disciplines according to P.Ya. Galperin).

In addition, attention was paid to the preparation of the student in terms of transforming knowledge into something that can lead to profit. In general, the inclusion of economics in the educational and methodical cycles of teaching non-economist students contributes to the professionalization of education, since the ability to correlate the phenomena of the surrounding life with the ability to meet the requirements of the individual, with the need to share material goods, with trade, etc. is developed.

Traditionally, in higher education, classes in classrooms are replaced by direct involvement of a young person in practice. Teachers believe that preliminary professional orientation is feasible before direct production activity. For this, the future specialist must be placed in conditions that simulate real activity. For this purpose, the student body is divided into small groups, where the actions of an individual student are visible, as are the forms of his communication with colleagues.

There is no consensus on entrepreneurial activity. On the one hand, the sphere of entrepreneurship is considered as a means to quickly become a financially secure citizen, on the other hand as a risky, if not dangerous, form of realizing labor potential. This circumstance has a negative impact on the development of entrepreneurship in general (Revin and Tsybulevskaya, 2015).

At the same time, many works put forward the idea that an entrepreneur is the basis for successful economic development of the country (The Report of European Commission, 2012). We believe that in this sense it is more appropriate to talk about an enterprising worker, regardless of the sphere of his professional activity (Zholdasbekov, 2019). Therefore, not only in the content of most studies, but also in their titles, the task is set to develop the economic competence of students of non-economic specialties, regardless of the profession received by the individual in a professional school. However, not all university graduates (in our study we consider precisely this level of education) can become successful entrepreneurs, at least due to the lack of the necessary personal characteristics, but they need to receive training in the field of entrepreneurship that is adequate to the modern conditions of the country's development (Torres, 2010). Such training will allow graduates to feel confident in making the right decisions arising in solving entrepreneurial problems.

4. Investigations

The results of the analysis showed that almost all students were at the inactive and starting level in terms of the level of economic competence development. The lowest indicators were the results of the diagnostics of social responsibility in the process of educational and professional activity – only 29% of students showed the starting level, the subjects did not present the results of the productive level.

The experimental work was carried out in accordance with the allocated conditions.

The experimental part of the study involved 110 students and 9 teachers.

Based on the analysis of works on the development of students' economic competence, we have identified tasks that should be solved during the implementation of the educational process. These tasks include the formation and development of economic competence; motives for entrepreneurial activity; entrepreneurial spirit; economic and legal literacy; communicative qualities; independence and initiative.

Our study identifies mechanisms for developing economic competence in students majoring in teaching and humanities.

The requirements for the content, forms and methods of economic training of university students are highlighted.

As organizational and pedagogical conditions for the formation of competences in the field of entrepreneurship, we highlight the following: clarity of the goal of training and educational objectives. It is important to note that the goal and objectives change depending on the initial level of preparedness of the student, the dynamics of his development; motivation of students for self-education activities; increase in the share of independent work; awareness of students about possible mechanisms, methods, forms and results of entrepreneurial training; variety of used methods and forms of training; consistent intensification of the educational process; use of new information technologies and especially the Internet; readiness of the teaching staff to effectively develop economic competences in students; establishment of partnerships between students and teachers; assessment of students' achievements based on various methods; taking into account the psychological characteristics of the individual, the level of his orientation to entrepreneurship.

In developing indicators of the development of economic competences, we used data from psychological and pedagogical research in this area, as well as the fact that the requirements for the level of training of graduates of a modern university in the field of entrepreneurship are actually a measure of assessment (criteria) of this training.

The paper proposes the following indicators of the development of economic competence: motivation for entrepreneurial activity; ability to solve economic problems; ability to independently obtain the necessary information; responsibility; involvement in entrepreneurial activity; mobility; propensity to take risks; ability to manage people; ability to bring a started business to a successful conclusion; ability to clearly organize, plan and control the progress of work; ability to establish business contacts; level of economic and legal training related to economic relations.

It is possible to observe the attitude of each student towards his functions, his relationships in macrogroups and microgroups.

The conducted research allowed us to state that there is no need to choose only one form of interaction; most likely, it is effective to combine elements of the work of an individual, a small team, and a team that includes a large number of people.

During the experiment, its participants turned to descriptions of the functioning of the system, representing the movements from receiving the product to the one who purchases it. The students also studied the instructions and recommendations associated with these processes.

The next link in the professionalization of training is the activities of future specialists in production.

Universities and enterprises come to certain agreements concerning the heads of industrial training, the place, etc. All this is documented. Direct performance of functions related to the profession allows for a fairly quick entry into the circle of future responsibilities. During the internship, the student acquires the ability to correlate his work activity with the situation in the field of management; he learns to show creativity in the context of real production. There is also a transition from preliminary arrangements to a specific establishment of actions and the discovery of connections between them.

Practice exerts its significant influence on the formation of a mental picture of economic processes, where the place-context, situations, their analysis and conditions for solving the problem are found.

As a result of professionally oriented training at universities, the inclusion of economic theory, and practical development of skills and abilities in production conditions, so-called economic competence is developed, which subsequently contributes to effective work, the ability to navigate in complex situations, and solve problems related to economic relations.

Based on the analysis of the survey results, it was found that young people generally define an entrepreneur as “a legal entity that has its own business that generates profit” or as “a person who runs a private business and works for himself.”

To the question “Is entrepreneurship possible in the field of education?” 69% of respondents answered positively (“possible”, “anything is possible”, “I have such a goal”, “yes, I see it, but not in the near future”), 20% answered negatively (many of them explained this by the difficulty of forming initial capital) and 11% found it difficult to answer.

Only 52% of graduates of the pedagogical institute see themselves as entrepreneurs at some stage of their lives, 27% do not see such a prospect, the rest found it difficult to answer the question.

Interestingly, 21% of students believe that entrepreneurship and education are incompatible.

Among the forms of entrepreneurship in the field of education, respondents indicated the following: tutoring (100%), private educational center, psychological consultation, additional education, consulting, speech therapy (30%), private lessons (40%); private children’s creativity center (10%), private kindergartens, schools (15%); private correctional institutions (5%).

In response to the question about the difficulties and problems that may arise when organizing their own business in the field of education, students indicated the following: unprofitability (9%), the business will not justify itself (14%), difficulty in obtaining a license for private practice (16%), lack of demand (9%), minimal demand, since “education is free in our country” (14%), high cost of renting premises (38%) (**Figure 1**).

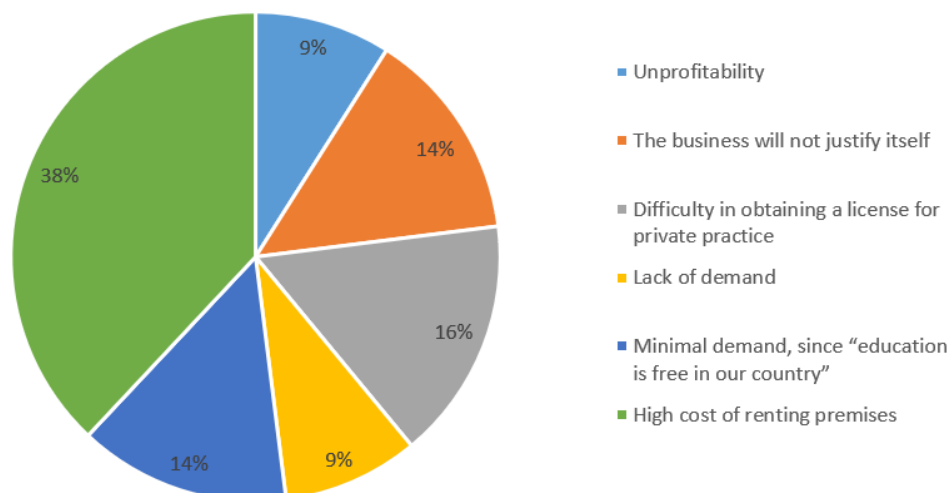


Figure 1. Difficulties and problems in organizing own business in the field of education (according to students).

When asked about the knowledge that aspiring entrepreneurs need, 37% of students at the pedagogical university indicated knowledge in the field of economics, law, including the responsibilities of an entrepreneur; 26% noted the need to study a short course on entrepreneurship, including knowledge of the legislation in this area; 26% are interested in the basics of business and marketing; 11% would like to gain knowledge of the financial foundations of entrepreneurship (**Figure 2**).

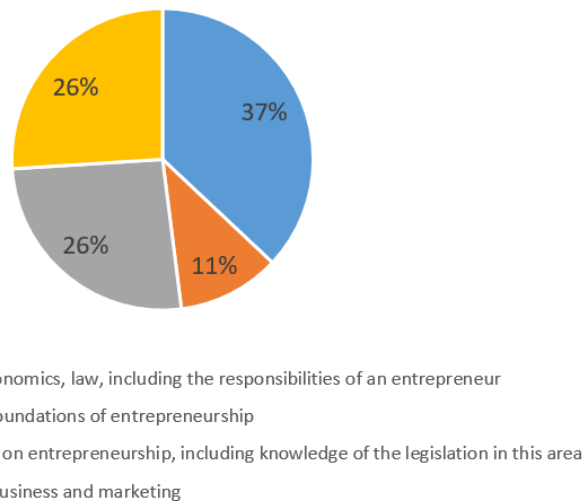


Figure 2. Knowledge necessary for beginning entrepreneurs.

When defining the most important personal qualities of an entrepreneur in the field of education, 45% of future teachers indicated communication skills, competence, leadership; 29%—purposefulness, confidence, responsibility; 26% think that an entrepreneur needs to be mobile.

Assessing themselves as entrepreneurs, 30% of respondents believe that they have the necessary set of qualities for an entrepreneur (“I could conduct entrepreneurial activity”); 32% indicated that they have the necessary industry for such activity; 38% responded that they lack leadership qualities.

The results of the survey allow us to draw the following conclusions: 1) the majority of the surveyed students of the pedagogical university assume that their professional activity as a teacher can be connected with entrepreneurship, 2) in order to become a successful entrepreneur, special knowledge is necessary.

At the beginning of the work it was assumed that the development of the ability related to economic management is based on the integration of methods related to traditions, entrepreneurship and taking into account the situation, which was confirmed during the experiment. The test was carried out on the basis of a model reflecting the dynamics in the acquisition of economic knowledge, its confirmation in the production context, in the acquisition of skills for solving problems on one's own.

Based on the above analysis of the questionnaires of future teachers, it should be noted that they need to obtain the knowledge necessary for entrepreneurial activity within the framework of general and special professionally significant disciplines, which, in turn, requires special training from those who teach specialized disciplines to future teachers of mathematics, physics, Russian language, literature, etc.

The results of the control cut are clearly presented in **Table 1** and **Figure 3**.

Table 1. Assessment of the level of development of economic competence of students majoring in non-economics in the experimental group.

Level	Indicators of development of economic competence (number of students in %)		
	<i>P.</i>	<i>P»</i>	<i>P»»</i>
Low	29.5	72.7	
Average	50	27.3	-
High	20.5	0	-

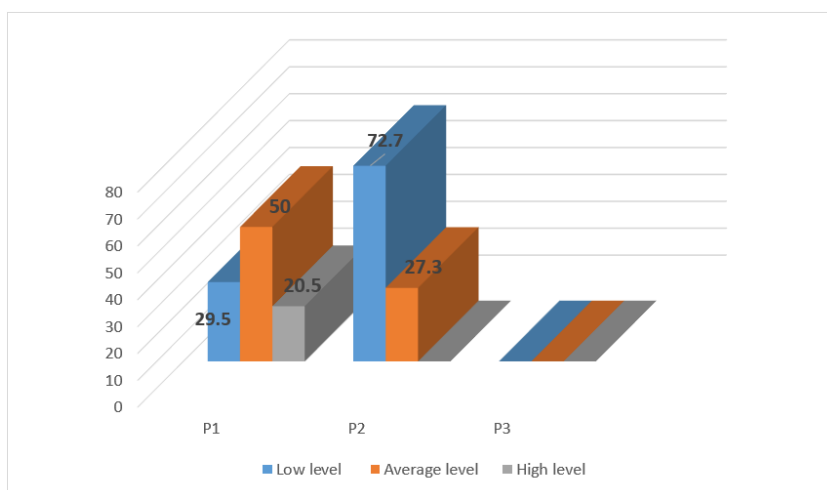


Figure 3. Results of the control cut of the levels of development of economic competence of students.

The results of the intermediate cut allow us to note positive changes in the levels of economic competence development in the experimental groups. Thus, the number of students with a low level of economic competence development decreased by an average of 43%, and positive dynamics of the increase in the number of students with an average level of economic competence development was revealed.

For greater clarity, let's present these changes in **Figure 3**.

The results of the control cut confirmed the presence of positive dynamics in all indicators of the formation of economic competence of students of non-economic specialties, which is consistent with the conceptual provisions of our study and confirms the correctness of the chosen direction of organizing the pedagogical process. The results obtained indicate the effectiveness of the implementation of the model for the formation of this competence when introducing contextual technology, providing a set of pedagogical conditions.

Thus, an urgent need of modern pedagogical education is the development of economic competence in students, which will allow future bachelors to feel confident in the modern labor market.

5. Conclusion

During the study, the following were developed: psychological and pedagogical foundations (a set of principles and mechanisms for their implementation); requirements for the content; forms, methods, organizational and pedagogical conditions and indicators for the development of university students' competence in the field of entrepreneurship were identified.

The advantages of the competence-based approach were highlighted: the focus of the educational process on developing the individual's ability to choose optimal solutions from a variety of possible ones, and to successfully implement the tasks at hand using innovative approaches.

The requirements for graduates of a modern university in the field of entrepreneurship were defined: competence; entrepreneurial spirit; purposefulness; communication skills; economic and legal literacy; ability to use new information technologies; ability to design and construct professional activities; subjectivity of the individual.

This work specified the psychological and pedagogical concepts associated with the inclusion of economics in the system of professional training, clarified the concept of the ability to represent professionalization in an economic context, and defined the basis for integrating traditional, entrepreneurial and situational approaches in the implementation of training students in non-economic specialties.

These provisions make a certain contribution to the theory of professional education and can serve as a basis for further scientific research in the field of improving the activities of higher education in a market economy.

Author contributions: Conceptualization, AZ, MA and KZ; methodology, AZ and MA; software, MA; validation, AZ, MA and KZ; formal analysis, AZ; investigation, AZ and MA; resources, AZ and MA; data curation, AZ and MA; writing—original draft preparation, MA; writing—review and editing, AZ; visualization, KZ; supervision, AZ. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

References

- Ackermann N., Siegfried C. (2019). Does a balanced test form regarding selected-response and constructed-response items overcome gender gap in test scores? An analysis of the format-gender relation in the test of economic-civic competence. *Citizenship, Social and Economics Education* 18(3): 158-176.
- Allgood S., Walstad W.B. (1999). The longitudinal effects of economic education on teachers and their students. *The Journal of Economic Education* 30(2): 99-111.
- Arbuckle J.L. (2016). *IBM SPSS AMOS 24 User's Guide*. Chicago, IL: SPSS Inc.
- Arzheimer K. (2015). *Strukturgleichungsmodelle: Eine anwendungsorientierte Einführung* Methoden der Politikwissenschaft. Wiesbaden, Germany: Springer-Verlag.
- Birke F. (2012) Financial Education and Economic Competences [Electronic recourse] / F. Birke // Available online: <http://www.economiceducation.eu/files/page/seeber-financialcompetence-20120817.pdf>
- Bos W., Lankes E.M., Prenzel M., et al. (2003). *Erste Ergebnisse aus IGLU. Schülerleistungen am Ende der vierten Jahrgangsstufe im internationalen Vergleich*. Münster, Germany: Waxmann.
- Carlsson B., Eliasson G. (1995). The Nature and Importance of Economic Competence. In: Carlsson, B. (eds) *Technological Systems and Economic Performance: The Case of Factory Automation*. Economics of Science, Technology and Innovation, vol 5. Springer, Dordrecht. https://doi.org/10.1007/978-94-011-0145-5_3
- Dyah Kusumastuti, Ricky Agusiadi, Imas Komariyah. Competencies predicting effective executives as the framework for succession planning in higher education. *International Journal of Economics, Commerce and Management United Kingdom*. ISSN 2348 0386 Vol. 11, Issue 1, Jan 2023 Licensed under Creative Common. Page 133. <https://ijecm.co.uk/>
- Ermakova Natalia. (2023) The Development of Economics Students' Lexical Competence in the Framework of Renewable Energy Sources Issues (May 1, 2023). Available at SSRN: <https://ssrn.com/abstract=4428596> or <http://dx.doi.org/10.2139/ssrn.4428596>
- Omidvar G. (2011) Importance Degree of Technical Competencies based on IT Project [Electronic recourse] / Omidvar G. [and others]. Available online: <http://www.ipedr.com/vol13/29-T00048.pdf>
- Pyadina T.I., Tsareva I.A. (2017) Formation of economic competence of students of non-economic specialties // *Synergy of sciences*. 2017. No. 14. – P. 693-699. – URL: <http://synergy-journal.ru/archive/article0904>
- Raven J. (2002) *Competence in modern society: identification, development and implementation*, 396 p.
- Revin I.A., Tsybulevskaya D.L. (2015). Development of entrepreneurial competencies among students of a technical university // *Modern problems of science and education*. No. 2-1.
- Sergeeva M.G., Sokolova N.L., Samokhina I.S. (2018). The concept of stimulating continuous education in the field of economics: basic principles. *Kazan pedagogical journal*. No. 4. – P. 12-15.
- Starostina K.I., Dragunkina M.I. (2014). The problem of developing economic competencies of students of higher and secondary vocational education [Problema formirovaniya ekonomicheskikh kompetentsiy studentov vysshego i srednego professional'nogo obrazovaniya]. *APRIORI*. Series: Humanities [Electronic resource]. <https://cyberleninka.ru/article/n/problema-formirovaniya-ekonomicheskikh-kompetentsiy-studentov-vysshego-i-srednego-professionalnogo-obrazovaniya/viewer>
- The Report of European Commission. Brussels, 2012. *Effects and Impact of Entrepreneurship Programs in Higher Education*.
- Tim Dixon, John O'Mahony (2023). *Pearson Economics 11 The Market Economy Pack*, 1st edition.
- Torres, J. (2010). Research by design: towards a cognitive/transformational model. *Connected 2010 – 2nd International Conference on Design Education*. 28 June – 1 July, University of New South Wales, Sydney, Australia.
- Wobker I. (2012) What do people know about the economy? A test of minimal economic knowledge in Germany [Electronic resource] / I. Wobker, P. Kenning // URL: http://cswww.urz.tudresden.de/~wpeconom/seiten/pdf/2012/DDPE2012_03.pdf
- Zholdasbekov A.A., Aimenov M.Zh., Anarmetov B. (2019). The problem of forming entrepreneurial competencies of students of a pedagogical university // *Proceedings of International Scientific Practical Conference “II-Yunusov Readings: Modernization of the values of the Great Steppe as a key factor in the development of science and education”*. Vol.1, Shymkent. P. 117-121.