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PREPARING FUTURE TECHNOLOGY TEACHERS FOR DEVELOPING ENTREPRENEURIAL COMPETENCE IN HIGH SCHOOL STUDENTS

Abstract

The article examines the issue of preparing future technology teachers to develop entrepreneurial competence in high school students. The relevance of this problem is due to the need to integrate entrepreneurial education into general secondary education institutions, which will help develop skills in students that are necessary for effective activity in the modern economic environment. The authors analyze the role of technology teachers in the process of forming entrepreneurial competence in students, emphasizing the importance of developing not only theoretical knowledge but also practical skills for effectively teaching high school students.

In particular, the article focuses on the necessity of preparing future teachers to use interactive teaching methods, such as business simulations, role-playing games, and case studies, which allow students in pedagogical universities to practically master methods of developing entrepreneurial skills in high school students. It is determined that these methods not only promote the development of

students' critical thinking but also help them develop practical skills in business management, financial planning, marketing, and management processes.

The article places great emphasis on the integration of entrepreneurial education into the training system for future technology teachers, as these educators have the most significant influence on the formation of entrepreneurial competence and economic literacy in high school students. A number of recommendations are proposed to improve the training programs for these specialists, including the study of the basics of entrepreneurial activity, business planning, and financial literacy, as well as the integration of modern methodologies aimed at developing entrepreneurial skills in high school students within general secondary education institutions.

The scientific findings presented in the article may be useful for researchers, teachers in higher pedagogical education institutions, as well as methodologists involved in the development and improvement of programs for training future technology teachers. It will also be beneficial for educational managers who aim to integrate entrepreneurial competence into the educational process for high school students in Ukraine, as well as for educators who wish to expand their knowledge and skills in entrepreneurial education.

Keywords: technology teacher training, entrepreneurial competence, high school students, interactive teaching methods.

Problem Statement. The modern development of the economy, rapid globalization, and constant changes in the technological environment impose demands on professionals that go far beyond basic theoretical knowledge. An essential condition for success is the ability to adapt this knowledge to real-world conditions and find solutions to various problems that arise during professional activity. This requires not only a deep understanding of theoretical foundations but also the practical application of acquired knowledge in real economic situations.

At the same time, the importance of personal competencies such as the ability to quickly adapt, managerial skills, critical thinking, and a creative approach to problem-solving is increasing.

One of the most significant components of professional training is the formation of economic competence, which encompasses knowledge of finance, entrepreneurship, economic analysis, resource management, as well as practical skills that enable effective functioning in a dynamic labor market. Such competence includes the ability to analyze economic processes, make sound financial and managerial decisions, and understand the principles of business and economic development at all levels. Economic competence is not only an important tool for professionals but also a necessary condition for ensuring the stability and competitiveness of both public and private institutions.

However, the existing problem is that most educational programs, especially at the higher education level, do not give sufficient attention to the development of economic competencies, significantly limiting students' opportunities in their future professional activities. Many educational institutions, although they include economic disciplines in the training programs for specialists, fail to ensure proper integration of theory with practice, leading to insufficient preparation of students for work in real market conditions. This also negatively impacts their competitiveness, as modern employers demand that candidates be able to quickly adapt to changing conditions and make effective decisions.

In this regard, there is a need to rethink approaches to the organization of the educational process, especially in terms of integrating economic disciplines into the training programs for specialists in various fields, such as pedagogy, engineering, economics, and others. Teachers and methodologists must take into account the modern requirements for economic knowledge and practical skills that are essential for the successful careers of graduates. In particular, it is important to

develop skills in financial literacy, entrepreneurship, and project management, which should be integrated into the curricula at all stages of student training.

Despite the reforms in higher education in Ukraine, the issues surrounding the formation of economic competence remain relevant and require a comprehensive approach to address them. This requires changes in the structure and content of academic programs, as well as the updating of teaching methods for economic disciplines. The reform of the educational process should include adaptation to international standards, which will improve the level of economic training for students and ensure their readiness to face the challenges of the modern labor market.

Analysis of Recent Research and Publications. The analysis of recent research on the issue of economic competence formation indicates active research on this topic both in Ukraine and abroad. The works of Voronina M. Yu. [2; 3] and Sedov O. M. [6] discuss the importance of developing economic competence in students at various stages of their education, starting from secondary school to higher education. They emphasize that to form economic competence, an interdisciplinary approach should be used, integrating economic disciplines with other subjects.

Research by Lysenko O. O. [5] and Bondarenko L. V. [1] highlights the necessity of implementing entrepreneurial education into higher education curricula. The authors note that the development of entrepreneurial competence in students not only improves their financial literacy but also prepares them to run their own businesses or take managerial positions in companies.

The expansion of entrepreneurial education is critical for adapting to the new demands of the modern labor market and supporting innovative development. International studies, particularly those by the European Commission [7] and OECD [8], emphasize the importance of developing entrepreneurial competence at all levels of education. This includes not only acquiring economic knowledge but

also developing key skills such as critical thinking, strategic analysis, risk assessment, and making informed decisions under uncertainty.

In these studies, particular attention is given to integrating practical knowledge into curricula to prepare students for rapid changes in the business environment, particularly in the context of globalization and technological innovations. Furthermore, the importance of collaboration between educational institutions, businesses, and other social institutions to ensure quality entrepreneurial training is emphasized.

One of the key aspects of these studies is the role of educators in shaping an entrepreneurial culture among students. Teachers and lecturers should not only impart theoretical knowledge but also help students develop practical skills that will be useful in real-life situations. This includes using case methods, role-playing games, and practical tasks that stimulate creative approaches to problem-solving and the ability to adapt to rapidly changing conditions in the labor market.

The issues of forming economic competence are also highlighted in the works of Lapshin I. O. [4] and Voronina M. Yu. [2; 3], who explore methods for integrating entrepreneurial education into the training programs for future specialists in economics. They stress the need to create curricula that combine theoretical foundations of economics with practical skills that promote the development of entrepreneurial initiatives among students.

The aim of the article is to explore the features of preparing future technology teachers to develop entrepreneurial competence in high school students, to identify the main methods of integrating entrepreneurial education into the educational process, and to analyze the effectiveness of pedagogical approaches aimed at developing students' entrepreneurial skills, critical thinking, and the ability to make informed decisions in the context of the modern economic environment.

Presentation of the main material of the study. The process of developing economic competence in high school students has several important aspects that require the integration of theoretical knowledge and practical skills. The first important stage is identifying the key components of students' economic competence, including economic literacy, the ability to make informed decisions, managing finances and business processes, and entrepreneurial skills. To ensure that these components become part of the preparation of high school students, it is essential to integrate economic knowledge into the general curriculum, which will create a system of knowledge capable of shaping a comprehensive approach to solving real economic problems.

Economic literacy serves as the foundation for further development of economic competence. It encompasses knowledge of key economic concepts, such as market, supply and demand, inflation, taxes, and other essential economic processes. High school students should have a clear understanding of how economic mechanisms function in order to effectively apply this knowledge in real life. This knowledge not only helps to understand how the economy works but also enables students to navigate financial matters, which is essential for everyday life.

The ability to make informed decisions is an important component of the economic competence of high school students. The ability to assess economic situations, predict the potential consequences of different decisions, and choose the most optimal options helps students not only to better understand economic processes but also prepares them for decision-making in real life. This may include financial planning, choosing between different investments, or evaluating the economic viability of certain business initiatives.

Financial management and business processes are an essential part of forming economic competence in high school students. These skills enable students to understand the basics of financial management, organize and control

their finances, and apply their knowledge to achieve financial goals. Furthermore, students need to learn the basics of business planning, managing expenses and income, and developing strategies to achieve financial success.

Entrepreneurial skills are an integral part of the economic competence of high school students. The ability to create and develop business ideas, understanding the principles of running a business, developing business plans, and organizing entrepreneurial processes are all necessary for students to implement their ideas in the future. These skills are also important for the development of critical thinking and the ability to search for new opportunities in various areas of economic activity.

For these components to become part of the preparation for high school students, it is important to integrate economic concepts into the education system. This will create a system of knowledge that ensures a comprehensive approach to solving real economic problems that students may encounter in everyday life. Integrating economic education into the learning process allows for the combination of theoretical foundations with practical skills, which are necessary for the successful application of knowledge in real-life situations.

Ensuring this integration requires the implementation of active teaching methods, such as business simulations, case methods, role-playing games, and project-based learning. These methods promote the development of critical thinking, help students apply the knowledge gained in technology lessons in practice, and ensure the formation of real skills necessary for success in the economic field.

One of the main directions that contribute to the development of economic competence is the integration of project-based and simulation methods into the educational process. Through business simulations, role-playing games, and other active learning methods, students can acquire practical skills by applying theoretical knowledge to solve economic problems. In particular, these methods

can help students develop the ability to make decisions in conditions of uncertainty and a rapidly changing market.

Based on the analysis of the research by Lysenko O. O. [5] and Bondarenko L. V. [1], it can be noted that for the development of entrepreneurial skills, it is necessary to include in the educational process the study of business planning, marketing, financial management, as well as negotiation skills and management strategies. Practical internships at businesses, participation in startups, and other real-life projects are also important as they allow students not only to gain knowledge but also to acquire experience in running a business under real conditions.

For effective formation of economic competence in high school students, it is important not only to use traditional teaching methods but also to actively implement modern approaches that provide a deeper understanding of economic processes and develop practical skills. In particular, the integration of economic education into the learning process requires the use of various methods that not only improve the assimilation of material but also promote the development of critical thinking, the ability to make informed decisions, and the active application of knowledge in real life.

In today's world, economic literacy is an essential component of general education, as it allows the younger generation not only to understand the basics of economic processes but also to actively influence the economic environment through their own decisions. One of the key tasks of general secondary education institutions is to prepare high school students to solve real economic problems that arise in the lives of entrepreneurs, policymakers, and consumers. To achieve this, it is important to use innovative teaching methods that combine theoretical knowledge with practical skills.

The use of an interdisciplinary approach, business simulations, project-based learning, case methods, and role-playing games creates conditions for the

effective development of economic competence in students. Involving entrepreneurs and experts, as well as applying modern technologies in education, allows high school students not only to acquire necessary knowledge but also to gain experience that will be useful in their professional lives. In this context, modern approaches to educational activities become key tools for shaping entrepreneurial skills and economic thinking in young people:

1. Integration of an interdisciplinary approach. It is important to combine economic disciplines with other subjects, such as mathematics, geography, history, and social studies, to create a comprehensive understanding of economic processes. For example, when studying economic theories, historical examples of major economic reforms or crises can be used, and geographical factors influencing the economy of regions or countries can be analyzed. This allows high school students to understand the interconnection between various economic, social, and cultural aspects of society.

2. Use of business simulations. Business simulations are an excellent tool for forming economic competencies. They enable high school students to model real economic situations, where students take on roles as entrepreneurs, managers, or financial analysts, making decisions that impact the economy of a business or a state. This not only helps to understand how economic mechanisms work but also teaches decision-making under conditions of limited resources, high competition, and economic instability. Using such simulations in education helps students better understand business processes and the importance of timely decisions in professional life.

3. Project-based learning. Project-based learning allows students to not only acquire theoretical knowledge but also apply it practically. For example, students can develop their own business plan, conduct financial planning for a fictional company, or perform market research on business development in their community. This work encourages creative problem-solving, allows high school

students to see real problems entrepreneurs may face, and teaches them to work in teams and organize work processes.

4. Case method. The method of analyzing real or simulated economic situations allows high school students to reflect more deeply on problems and seek the most effective solutions. Within the framework of the case method, students are tasked with analyzing various economic situations, such as financial difficulties of companies, budget planning, investment projects, strategies for overcoming economic crises, and more. This method fosters the development of analytical skills, critical thinking, and the ability to make sound decisions under uncertainty.

5. Role-playing games. Role-playing games are an effective method for forming economic competence in high school students as they allow students to immerse themselves in the role of an economic actor: entrepreneur, financial consultant, consumer, policymaker, or manager. In this context, students may encounter real economic problems such as managing cash flow, marketing strategies, pricing products or services, and more. This method provides practical experience in making decisions within a given role and solving economic problems through interaction with other participants.

6. Involvement of entrepreneurs and experts. To provide students with a real-world view of entrepreneurial activity, it is beneficial to involve entrepreneurs, economists, and financial experts in the educational process who can share their experiences. These could be lectures, master classes, or thematic meetings where high school students can ask questions and receive practical advice. Such meetings inspire students to pursue their own entrepreneurial initiatives and provide a real understanding of how businesses develop in Ukraine and abroad.

7. Individual research and presentations. To help high school students gain a deeper understanding of economic processes, they can be assigned individual research projects on economic topics: analyzing business development, assessing the macroeconomic situation in the country, or developing ideas for their

own startup. Research may involve gathering and analyzing economic data, and students will present their results through reports or presentations. This promotes the development of research skills, the ability to work with information, and to present ideas effectively.

8. Use of modern technologies. To develop economic competence, it is important to actively use modern technologies. These can include specialized software for financial accounting, business planning, or market analysis. Online resources and electronic platforms for simulating business processes and economic situations allow high school students to work with real data, learn how to forecast and plan, and develop digital literacy skills, which are essential in the modern economic world.

These teaching methods not only help students acquire the necessary knowledge but also provide the opportunity to develop practical skills that will allow them to function successfully in the modern economic environment. They contribute to the development of a creative approach to solving economic problems, the formation of strategic thinking skills, and the ability to make effective decisions in real-life situations.

Conclusions. The preparation of future technology teachers to develop entrepreneurial competence in high school students is an important aspect of modern education that contributes to the development of economic literacy among young people. Teachers must not only impart theoretical knowledge but also help students develop practical skills necessary for successful activity in conditions of economic instability and rapid changes. The integration of an interdisciplinary approach, which combines economic disciplines with other subjects, enables high school students to see the interconnection between different aspects of society and to understand economic processes more holistically. Active learning methods, such as business simulations, role-playing games, and project-based learning, are effective tools for developing critical thinking and decision-making skills in real

economic conditions. Additionally, involving entrepreneurs and experts in the educational process allows students to gain direct experience and practical advice, motivating them towards entrepreneurial activity. The use of modern technologies is an important element in providing students with the tools for market analysis and financial planning, allowing them to adapt to the demands of the modern economy. As a result, preparing future teachers to develop entrepreneurial competence in high school students is an important step in advancing economic education and fostering an entrepreneurial culture in Ukraine.

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