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FORMING STUDENTS' ENTREPRENEURIAL CORE COMPETENCIES IN THE LESSONS OF THE SUBJECT "TECHNOLOGY"

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Abstract. This article considers, as a research object, the formation of students' basic entrepreneurial competencies in the lessons of the school subject "Technology". The essence and structure of entrepreneurial competence and the potential of the subject in this respect are analysed. The author presents a structural-functional model of formation, the components of the competence with their indicators, and the criteria for the levels of formation. The results are illustrated with a scheme, a model, a diagram and tables.

Keywords: subject "Technology", entrepreneurial competence, basic competencies, competency-based approach, project method, business game, level of formation, pedagogical model.

Introduction

In the modern education system, the ability to apply knowledge, skills and abilities independently in practical situations — that is, competence — is coming to the fore rather than their mere acquisition. The competency-based approach is established in the state documents and state education standards of the Republic of Uzbekistan as the main measure of learning outcomes. In particular, fostering in students an entrepreneurial spirit, initiative and independent-activity skills has become a pressing task.

By virtue of its practical-activity orientation and its focus on project-based work and product creation, the subject "Technology" provides fertile ground for forming entrepreneurial core competencies. In the lessons, the student passes through the stages of developing an idea, planning resources, making a product and evaluating it, which is a natural model of entrepreneurial activity.

The aim of this article is to provide a theoretical justification, as a research object, for forming students' entrepreneurial core competencies in Technology subject lessons, and to develop its structure, model and criteria of formation.

Literature review and methodology

The theory of competence and core competencies was developed in the works of scholars such as A.V. Khutorskoy and I.A. Zimnyaya. An internationally recognised classification of entrepreneurial competence is given in the European Union's EntreComp (Entrepreneurship Competence Framework), in which the competence is divided into three areas — "ideas and opportunities", "resources" and "into action". In Uzbek pedagogy, the competency-based approach and pedagogical technologies have been treated in the works of N. Sayidakhmedov and other researchers.

The research methodology is based on analytical (study of scientific-pedagogical literature), systemic-structural (development of the competence structure and the model) and modelling methods. The object of the study is the educational process of the subject "Technology", and its subject is the pedagogical conditions and means of forming entrepreneurial core competencies within this process.

Results and discussion

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1. Concept and essence of entrepreneurial competence. Entrepreneurial competence is understood as a person's ability to independently carry out purposeful activity aimed at identifying an idea, evaluating it, mobilising resources and creating value. This competence is connected not only with economic activity but also with the student's initiative, responsibility and creativity in personal and social life. Therefore, it is included among the core (universal) competencies.

2. Structure of entrepreneurial core competence. According to the EntreComp model, entrepreneurial competence consists of three interrelated areas: ideas and opportunities, resources, and into action. Each area encompasses a number of specific competencies. This structure is shown in Figure 1.

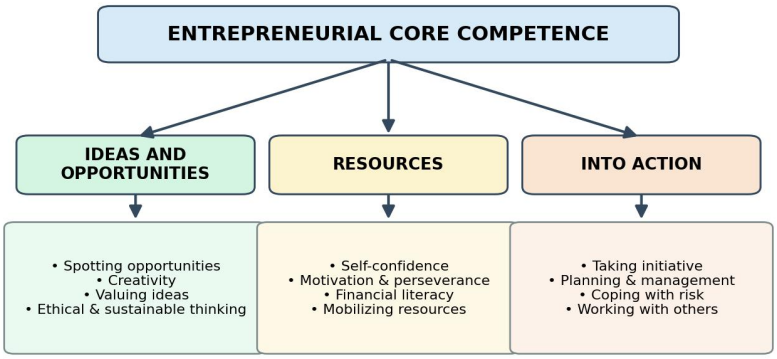


Figure 1. The structure of entrepreneurial core competence.

The components of these areas and their indicators, observable in the student's activity, are summarised in Table 1.

Component	Content	Indicators of manifestation
Ideas and opportunities	Spotting opportunities, generating and evaluating creative ideas	Proposes a new idea, turns a problem into an opportunity
Resources	Self-confidence, motivation, financial-economic literacy	Plans time, materials and funds; pursues the goal
Into action	Initiative, planning, risk management, collaboration	Implements the plan, works in a team, evaluates the result

Table 1. Components of entrepreneurial core competence and their indicators.

3. The subject "Technology" as a field for forming competencies. Because the subject "Technology" is practical and project-based in content, it naturally develops entrepreneurial

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competencies. The student conceives a product idea (ideas and opportunities), plans materials and time and works with self-confidence (resources), and finally makes, presents and evaluates the product (into action). For this reason, the project method, business game, case study and practical work are used as the leading methods in lessons.

4. Structural-functional model of formation. Forming entrepreneurial core competencies is a systemic process consisting of four interrelated blocks: aim, content, technological, and diagnostic-result. The effectiveness of the process is ensured by pedagogical conditions, while the result, through feedback, serves to adjust the aim and content. The model is shown in Figure 2.

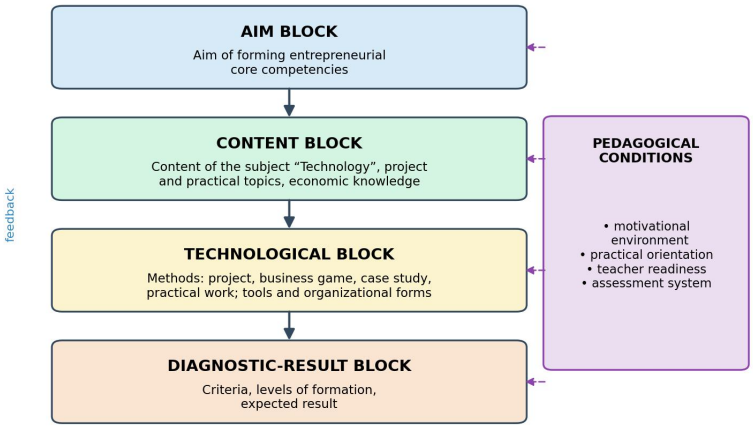


Figure 2. The structural-functional model of forming entrepreneurial core competencies in Technology subject lessons.

5. Criteria and levels of formation. To assess the formation of competencies, motivational, cognitive, activity-based and reflective criteria are distinguished. On their basis, three levels of formation are defined: low, medium and high. A description of the levels is given in Table 2.

Level	Main description
High	Puts forward an independent idea, plans and manages the activity, critically evaluates the result, shows initiative in the team.
Medium	Develops an idea and plans with help, performs the task, but initiative and reflection are limited.
Low	Works on the basis of ready instructions; independent idea and planning skills are not formed; motivation is low.

Table 2. Levels of formation of entrepreneurial core competencies.

The expected effect of the developed model and methods can be conditionally shown in the diagram in Figure 3 using the example of the experimental and control groups.

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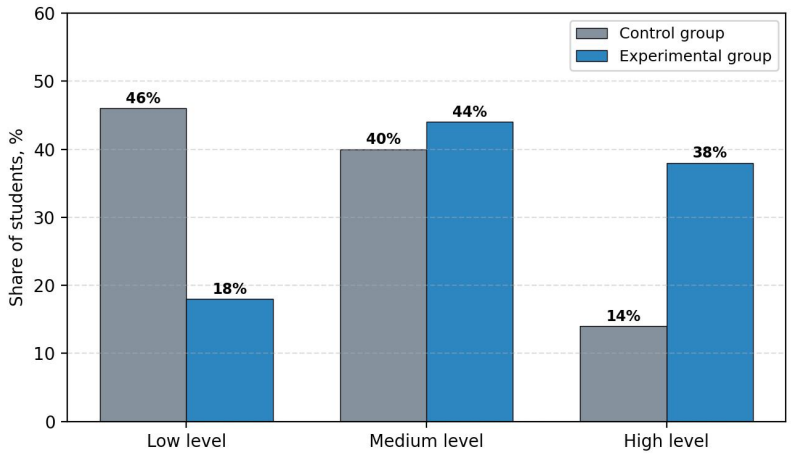


Figure 3. Distribution of the levels of formation of entrepreneurial competencies (illustrative / expected data; the actual figures must be replaced with the results of the pedagogical experiment).

Conclusion

The analysis carried out leads to the following conclusions. First, entrepreneurial competence is a core competence expressing a person's ability to create value by combining idea, resource and activity, and its structure consists of three areas — ideas and opportunities, resources, and into action. Second, by virtue of its practical-project nature, the subject "Technology" is a favourable field for forming these competencies.

Third, it is expedient that formation be carried out systematically on the basis of a structural-functional model comprising aim, content, technological and diagnostic-result blocks. Fourth, the effectiveness of the process is assessed through motivational, cognitive, activity-based and reflective criteria and three levels (low, medium, high). In the perspective of the study, it is envisaged to verify this model in practice through a pedagogical experiment and to substantiate its effectiveness statistically.

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