

# Higher Education as a Pedagogical System

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## Abstract

The processes of globalization and integration in modern conditions have significantly intensified. They have a significant impact on the sphere of education, causing the intensification of the processes of reforming higher education as a single integrated pedagogical system. These trends lead to the need to reformat the purpose, content, methods, means, and forms of education in higher education based on innovation, interaction, and mutual coherence. The article aims to substantiate the theoretical foundations and applied aspects of the study of higher education as a pedagogical system. The methodological basis of the study consists of general scientific and special methods of scientific knowledge and fundamental research, namely: system analysis, synthesis, scientific abstraction, analogies, comparisons, comparative analysis, graphical, tabular, generalization, and systematization. The obtained results of the study helped to establish that the development and functioning of higher education as a pedagogical system in modern conditions of uncertainty and danger is subject to significant destabilizing factors and factors of the external and internal environment, among the most significant of which are the COVID-19 pandemic and the transition of higher education institutions to distance learning. The need for higher education to introduce innovative means of teaching and providing educational services, as well as the formation of conceptual foundations for the strategic development of higher education as a pedagogical system has been revealed. The structural and logical scheme of functioning of higher education as a pedagogical system is proposed, which provides for close interaction of the subjects of the educational process in higher education within the structural and functional components of the pedagogical system. The proposal to strengthen the strategic management of higher education as a pedagogical system has been presented and its main stages have been defined.

**Keywords:** pedagogy, higher education, higher education system, educational process, pedagogical system, a form of education

JEL Classification: I 20; I 29; O15.

## 1. Introduction

The issues of improving the efficiency of higher education have long been actualized under the influence of the challenges of globalization and integration into the European educational system. Solving the problems of modern higher education is impossible without improving the content of the educational process and increasing the efficiency of various forms of education and modernization of the educational process. Given these conditions, higher education as a pedagogical system is designed to ensure the effective interaction of various structural elements to achieve high standards of personal development and meet the needs of participants in the educational process. Therefore, the search for effective methods of managing higher education as a pedagogical system is of paramount importance. It is equally essential to promote its diverse development in the direction of constant updating of innovation and information support. Higher education contributes to the development of a highly skilled and knowledgeable workforce, promotes social mobility, fosters research and innovation, and promotes social cohesion

and cultural diversity. Therefore, understanding the pedagogical practices that underlie higher education is crucial for ensuring that it remains relevant and effective in addressing the needs of individuals and society as a whole. Given the outlined trends, the subject of the study is extremely relevant. The peculiarities of the functioning of higher education as a pedagogical system require in-depth study. The article is aimed at substantiating the theoretical foundations and applied aspects of the study of higher education as a pedagogical system.

## 2. Literature Review

Scientific approaches to the study of the problems of higher education as a pedagogical system are diverse and ambiguous. However, according to Major et al., 2020, they are positioned by such a common feature as the achievement of high-quality teaching in higher education and the application of pedagogical innovations. In addition, scientists argue that the current stage of development of higher education as a pedagogical system is focused on the need of acquiring practical skills and empower students. At the same time, Major et al., 2020 emphasize the need to involve innovative technologies in the process of teaching disciplines in higher education, and the pedagogical system is considered an innovative pedagogy.

To conduct research in the field of education, scientists use different approaches to investigating: a cross-sectional analysis, comparative as well as comprehensive analysis (Popovych, et al., 2021; Shytyk & Akimova, 2020; Tsaras et al., 2018). Muskhanova et al. (2022), studying the problems of higher education as a pedagogical system in the context of globalization, concluded that in modern higher education, a personality-oriented approach is of particular importance because the paradigm of a modernized pedagogical system provides for the comprehensive development of the individual in the learning process and the ability to develop in the face of rapid change and the emergence of destabilizing factors. Meanwhile, Patfield et al. (2022) do not deny the dominant influence of the need to improve the efficiency of learning in higher education and ensure high-quality educational services. Therefore, scientists offer their model of quality teaching in higher education, the advantages of which are defined as: (1) analysis of practical aspects of teaching in higher education; (2) planning of courses taking into account the principles of pedagogy; (3) effective interaction of all participants in the educational process; (4) gaining practical experience by applicants for education. In this context, Pavlova, 2022 proposes to formulate the Concept of Higher Education Development as a strategic document that provides coverage of the basic principles of higher education and the interaction of the subjects of the educational process in it.

In the meantime, Seraj et al. (2022) argue that the COVID-19 pandemic and the factors caused by it have a significant impact on higher education. As a result, there is a need to switch to distance learning. From this point of view, Lytvynov et al. (2022) emphasize the need for e-learning, which is especially relevant for higher education. To do this, as noted by Kimmons & Rosenberg, 2022, it is necessary to ensure the introduction of innovative educational technologies and to make changes in the understanding of the essence of the pedagogical system under the requirements of modernity.

Al-havamdeh & Alam (2022) inevitably determine the changes in higher education and the gradual transformation from the traditional pedagogical system to the innovative one with the use of forms and methods of e-learning. However, the emphasis should be placed on meeting the educational needs of higher education seekers and creating appropriate conditions for them to realize their abilities, capabilities, and potential.

A similar opinion is held by Huang et al. (2022), who believe that the new paradigm of modern education in higher education is an intelligent learning system. It is considered an educational tool built based on the traditional model of higher education functioning with adaptation to modern ICTs.

The COVID-19 pandemic has significantly destabilized the development of higher education. As a result, inequality of access to educational services has deepened and the quality of educational activities has deteriorated. In the current conditions, traditional forms of education, which are still used in higher education, are not effective. As noted by Srinivasan, 2021, they need to be transformed in the direction of activating individual forms of learning. Under such circumstances, the teacher is the coordinator of educational activities, and higher education seekers are guided by the maximum efficiency of their abilities and capabilities. Pandya et al. (2021) note that there are significant changes in the pedagogical principles of teaching in higher education. In particular, reformatting occurs in terms of teaching methods, content, assessment strategies, and technical support for such changes. Scientists have found that a significant obstacle to the modern development of higher education is the psychological unwillingness of the participants of the pedagogical process to accept the requirements of modernity and tolerate the existing transformational changes.

Moreover, Pakhomova (2019) has proven that the use of the latest ICT in the educational process of higher education is insufficient. The scientist attaches great importance to the introduction of pedagogical technologies as a tool of applied pedagogical science. With their help, the educational activities of higher education can quickly adapt to changing environmental conditions, leveling the challenges and problems of restrictive measures through distance learning.

Evans et al. (2021) consider higher education as a pedagogical system through the prism of ensuring high-quality educational services, meeting the needs of education seekers, and ensuring academic integrity and inclusiveness. Moreover, scientists argue that strengthening the impact of pedagogy on higher education requires a revision of approaches to learning and teaching. According to Rapp & Corral-Granados (2021), inclusion implies equity and democratic access to educational services for all higher education students, taking into account their individual needs and capabilities.

Thus, the study of scientific approaches to understanding the essence of higher education as a pedagogical system and identifying the main problematic aspects of its functioning allows us to highlight the urgency of revising, improving, and modernizing the content of education in higher education and the main forms of educational activities.

### 3. Materials and Methods

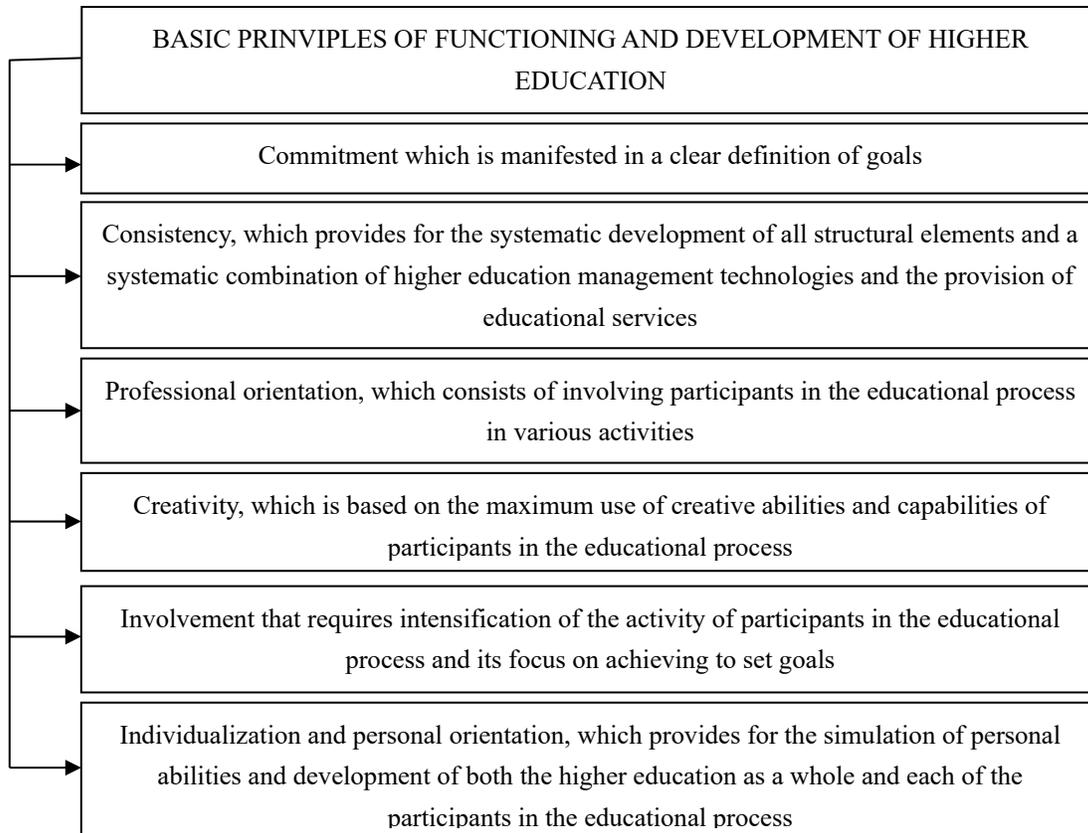
The methodological basis of the study consists of general scientific and special methods of scientific knowledge and fundamental research. The method of system analysis, synthesis, scientific abstraction, and analogy has been applied to determine the essence of higher education as a pedagogical system, its features, and problems of functioning in modern conditions of uncertainty. The method of comparison and comparative analysis has been used to analyze the current state and trends in the development of higher education as a pedagogical system. Furthermore, these methods have served to identify the main problematic aspects and identify promising areas of strategic development. The results of the study have been presented using graphical and tabular methods. The formation of the research results and the formulation of conclusions have been carried out using the methods of generalization and systematization.

The information base of the study is built on the scientific works of leading domestic and foreign scientists, reporting data from international organizations operating in the outlined area.

### 4. Results

The functioning of higher education as a pedagogical system has certain peculiarities and is based on the requirements of modernity as well as on the effective interaction of the main structural elements. At the present stage of the development of higher education, there is no single comprehensive and unified definition of the pedagogical system. Therefore, as established, most scientists are inclined to believe that higher education as a pedagogical system is considered in the context of the interaction of clearly defined and ordered elements, the interaction between which is based on certain principles. Moreover, a prerequisite for such a pedagogical system is not only the interrelation of structural and functional elements but also the achievement of certain goals of pedagogical education, in particular: training, education, and acquisition of practical skills by education seekers.

In conditions of uncertainty and instability, there are problems of higher education functioning that require immediate solutions and the development of a set of measures for effective management. The study of existing approaches to this problem allows us to identify the basic principles of functioning and development of higher education, which are systematized in Fig. 1. Undoubtedly, the development and functioning of higher education as a pedagogical system requires strict adherence to and implementation of these principles: (1) commitment; (2) consistency; (3) professional orientation; (4) creativity; (5) involvement; (6) individualization and personal orientation.

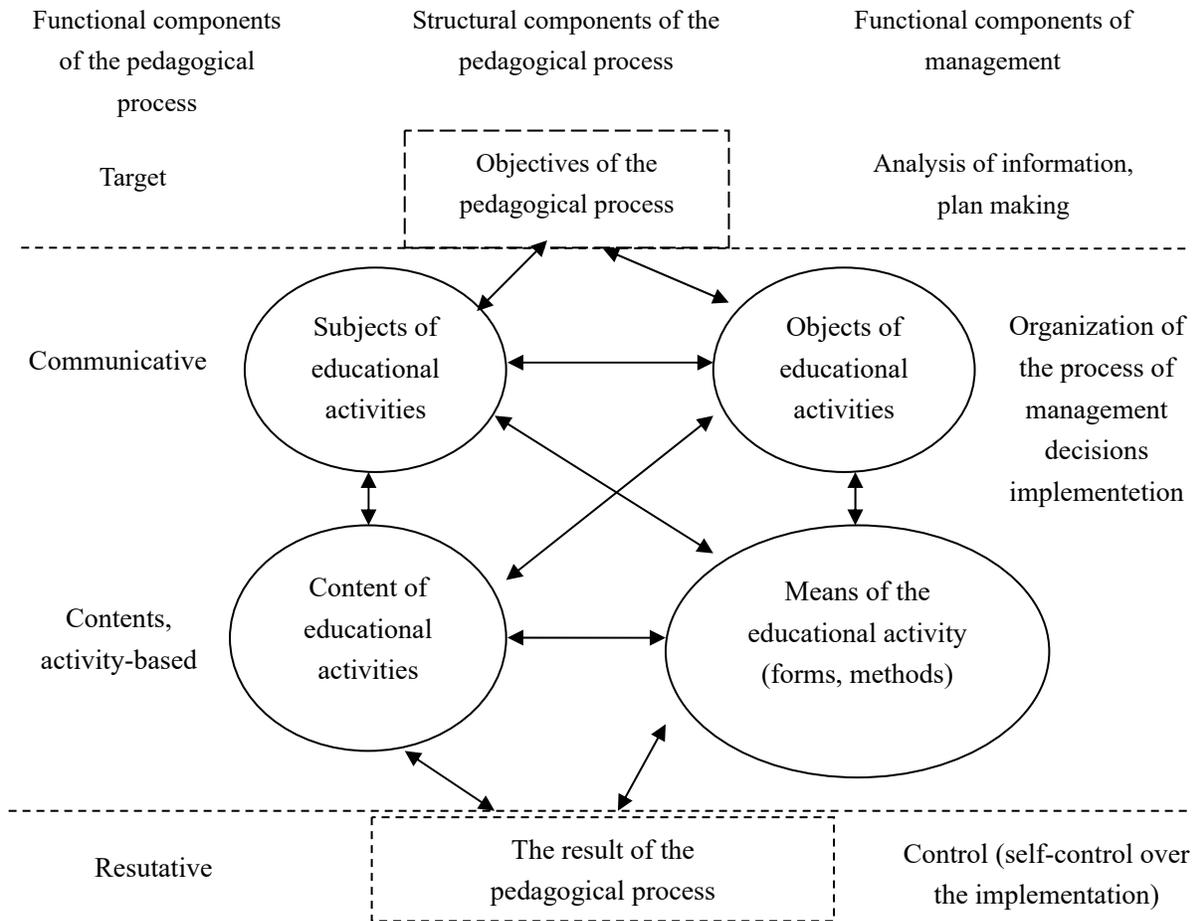


**Figure 1.** Basic Principles of Functioning and Development of Higher Education  
Author's development

Equally important is the need to coordinate the development of higher education, which is the responsibility of the relevant structural unit, which performs the following functions:

- 1) conducting theoretical and applied research and experiments in the field of higher education to identify reserves for its development from the strategic perspective;
- 2) participation in the process of formation and implementation of state policy in the field of higher education;
- 3) rethinking the content of higher education and taking into account modern ICTs, innovative teaching forms, and methods;
- 4) adaptation of positive foreign practices of higher education functioning.

Effective work towards achieving high indicators of higher education development will increase its competitiveness and meet the basic needs of participants in the educational process. In Fig. 2 we propose to reflect the structural and logical scheme of functioning of higher education as a pedagogical system, where the structural components are in harmonious interaction. Violation of one of the elements causes significant changes in the results of the pedagogical process and requires additional control measures.



**Figure 2.** Structural and Logical Scheme of Higher Education Functioning as a Pedagogical System  
 Author’s development

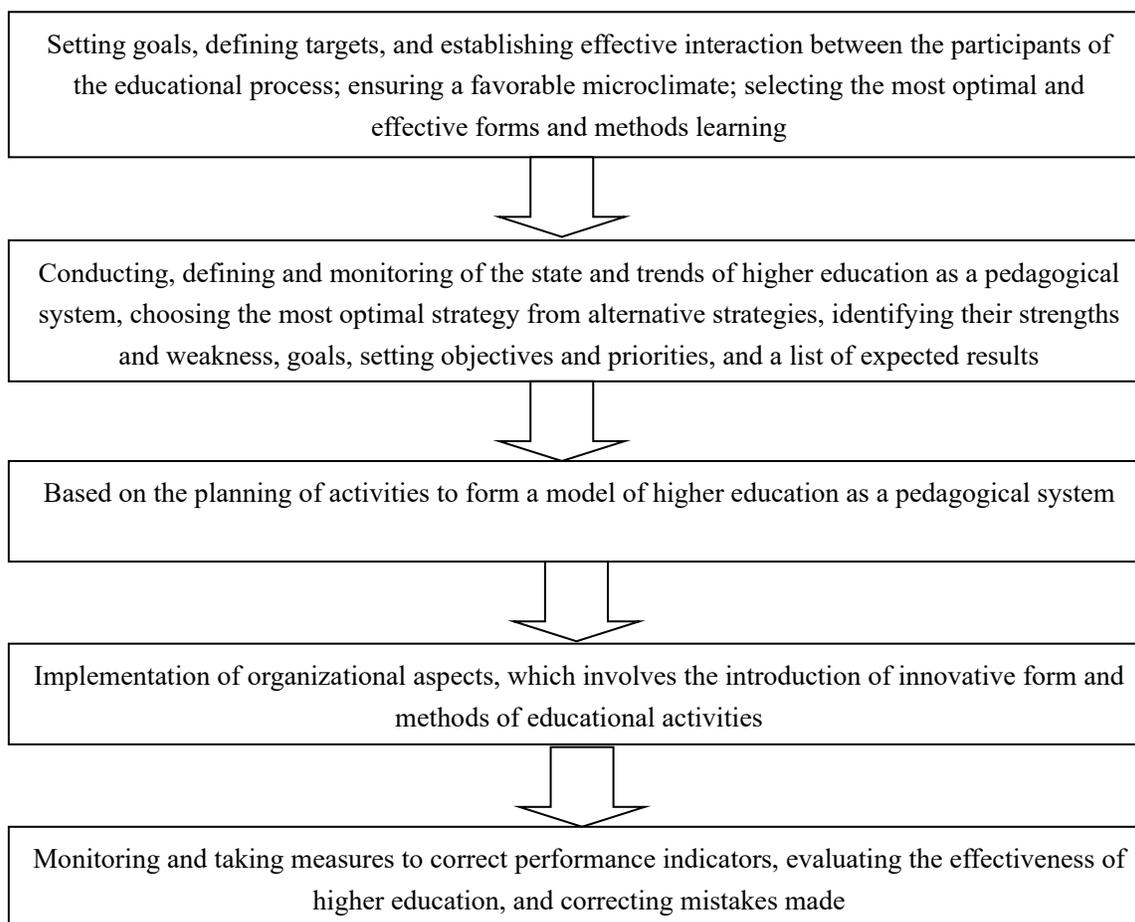
It should be noted that not only the structural components of the pedagogical system require significant attention, but also the functional ones. They are represented by analysis, planning, organization, and control. At the same time, the characteristic of higher education as a pedagogical system requires attention to its types, namely, it is worth highlighting:

- 1) small pedagogical systems, which are used by scientific and pedagogical workers individually and change in the process of changing the target guidelines of educational activities and educational process in higher education;
- 2) medium pedagogical systems that develop within a particular higher education institution and are coordinated with small pedagogical systems;
- 3) large pedagogical systems that take place within a certain regional association;
- 4) mega-large pedagogical systems that operate on a large geographical scale and consider the ethnocultural traditions of a particular region.

The functioning of each type of pedagogical system is impossible without certain conditions that have a significant impact on their formation and development. General conditions include sociocultural, economic, national, and geographical conditions, and specific conditions include the location of the higher education institution, and its ability to provide a high level of educational services and meet the needs of all participants in the educational process.

The achievement of the desired performance indicators becomes possible due to the establishment of effective interaction of the main participants of the educational process and the clarity of the definition of targets and strategic vectors of development. We suggest considering the main stages of such interaction in higher education in the

context of strategic management of higher education as a pedagogical system, which are demonstrated in Fig. 3.



**Figure 3.** The Main Stages of Strategic Management in Higher Education as a Pedagogical System  
Author's Development

The development of higher education as a pedagogical system is subject to significant destabilizing factors of the external and internal environment, which cause significant destructive changes and require the formation of a set of measures for effective counteraction. The latest challenges and dangers caused by the spread of the COVID-19 pandemic, which resulted in the introduction of distance learning in higher education at the global level, have further destabilized the current situation, as a significant number of students have limited access to educational services.

## 5. Discussion

We agree with Evans et al., 2021 that the trends in the identified problems of development and functioning of higher education as a pedagogical system require immediate solutions. However in our opinion among the most significant problems of the development and functioning of modern higher education as a pedagogical system are the following:

- 1) the absence of a reasonable methodology for calculating the state's needs for highly qualified workers trained in higher education institutions;
- 2) a lack of methodological tools for modeling and forecasting the development of higher education as a pedagogical system from the strategic perspective;
- 3) the inability of a significant part of higher education students to access educational services provided by higher education institutions in a distance format;
- 4) an unreasonable optimization of the network of higher education institutions.

The identified problems require immediate solutions, as they are significant obstacles to the sustainable development

of higher education as a pedagogical system (Patfield, et. al., 2022). Of course, achieving the desired result requires targeted action not only by higher education institutions but also by public authorities, which are called to coordinate the activities of higher education and determine the priority vectors of its development. Effective management of higher education as a pedagogical system allows one to meet social requirements and achieve strategic goals (Huang et. al., 2022). Therefore, it is important to strictly observe the phases of its implementation, namely: goal setting, forecasting, planning, organization, regulation, analysis, and proper control.

Achieving the desired effect will contribute to the targeted changes in the paradigm of higher education as a pedagogical system and improve the quality of educational services for higher education students (Seraj et. al., 2002). These changes will involve a shift towards more student-centered and outcomes-based approaches, as well as the incorporation of new technologies and teaching methodologies.

The desired effect of improving the efficiency and quality of higher education as a pedagogical system is crucial for targeted changes in the paradigm of higher education and the provision of high-quality educational services for higher education students. This will contribute to broader societal benefits and ensure that higher education continues to play a vital role in meeting the needs of individuals and society as a whole.

## 6. Conclusions

Thus, the study of the theoretical foundations and applied aspects of the functioning and development of higher education as a pedagogical system suggests that modern higher education functions and develops under the influence of significant destabilizing factors, challenges, dangers, and risks. They arise in times of increasing global uncertainty, the spread of the COVID-19 pandemic, and due to the emergence of innovative methods and means of providing educational services and carrying out educational activities in higher education at a distance mode. As a result of the research, it has been found that the management system for the strategic development of higher education as a pedagogical system needs to be reformatted and improved. It has been suggested to implement the above through the gradual formation of a model of development of higher education as a pedagogical system, taking into account the latest challenges. This, in turn, will make it possible to make positive changes in the paradigm of higher education as a pedagogical system and satisfy the needs of higher education students and realize their right to receive quality educational services. The identified problems of development and functioning of higher education as a pedagogical system require an immediate solution. It can be achieved through effective interaction of higher education institutions with public authorities. It has been proven that the improvement of conceptual foundations and their implementation through the adoption of the Concept of Higher Education as a Pedagogical System will significantly enhance the efficiency of the development and functioning of higher education as a pedagogical system.

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