DEVELOPMENT OF THE EDUCATION SYSTEM USING EMPIRICAL MODELING

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Abstract. The issue of empirical modeling of the development of the preschool and school education system is becoming increasingly important in improving the education sector today. Empirical models allow for a systematic study of the strengths and weaknesses of an education system, which can help improve the effectiveness of reforms. Modeling helps make decisions in education policy based on statistical and empirical data.

Keywords: empirical, model, modeling, knowledge economy.

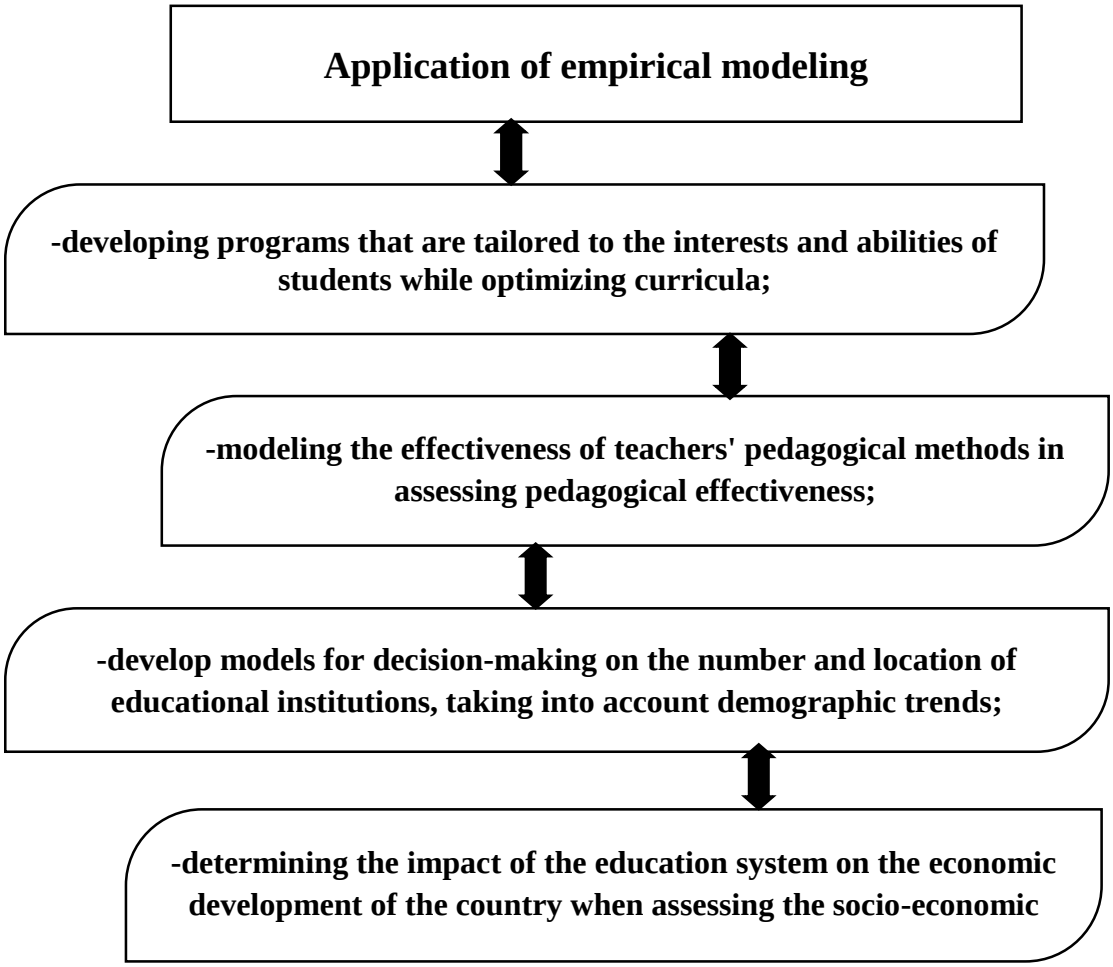
The quality of education is one of the important factors determining the international competitiveness of countries. Empirical modeling creates an analytical framework for adapting the education system to global requirements. To rationally use existing resources in preschool and school education, it is important to analyze the material and technical base and human resources through empirical models. Curriculums, pedagogical methods, and educational infrastructure are improved through a data-driven approach. It is important to use empirical modeling to identify and develop the specific needs of the education system in each region.

Empirical models are also effective in assessing the effectiveness of reforms or projects introduced by the state into the education system. This principle allows us to accurately measure the results of reforms and determine how successfully they have been implemented.

Empirical and econometric methods explain the existence of different doctrines and views on the essence of the knowledge economy. One of these views is scientific knowledge based on the achievements of science and technology, which is fundamentally different from ordinary everyday knowledge, absentee knowledge, and others.

Figure 1.

The application of empirical modeling in the preschool and school education system includes the following:



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The empirical methods of knowledge economics, the joint study of all aspects of the economy in their interrelations and connections, protect it from errors and one-sided views. Certain systems of knowledge created as a result of empirical knowledge create economic processes. Therefore, economics has scientific systems of nature, society and human thought.

We believe that empirical modeling allows us to make decisions based on real data in the education system. For example, by analyzing the activities of students and teachers, the effectiveness of lessons, or the mastery indicators across classes, specific decisions are developed to improve the effectiveness of the educational process.

Neural network algorithms are suitable for complex analysis and predictions in the education system. For example, for in-depth analysis of students' knowledge acquisition levels.

-connect the network with variables between students and outcomes;

-distribution of the branch and calculation of errors;

-to update network parameters and minimize errors.

These algorithms play an important role in implementing the principles of empirical modeling in the preschool and school education system. Each algorithm has its own special characteristics and serves to analyze various processes in the education system and increase efficiency.

The principles of empirical modeling of the preschool and school education system can be expressed using several key variables and equations.

The model for assessing student learning outcomes assumes that student learning outcomes depend on variables such as average learning rate (O), educational resources (R), teacher quality (S), class size (N), and student motivation (M).

O=f(R,S,N,M)

In conclusion, the principles of empirical modeling of preschool and school education systems play an important role in improving the quality of education, effectively allocating resources, and making learning processes more effective. Therefore, today the need to apply the principles of empirical modeling in preschool and school education is becoming increasingly urgent.

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