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FORECAST INDICATORS FOR IMPROVING THE PEDAGOGICAL LEVEL OF ECONOMIC INCENTIVES IN HIGHER EDUCATION

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Abstract

This article examines forecast indicators for improving the pedagogical effectiveness of economic incentives in higher education. The study focuses on the relationship between financial incentives, professional motivation, teaching activity, educational quality, research activity, and innovation. A system of quantitative forecast indicators is proposed to evaluate the expected changes resulting from the improvement of economic incentive mechanisms. The model includes indicators of teaching activity, educational quality, research and innovation activity, professional development, individual work with students, the use of KPI-based assessment, and satisfaction with economic incentives. The proposed approach provides a basis for monitoring the dynamics of pedagogical effectiveness and forecasting the expected outcomes of economic incentive policies in higher education institutions.

Keywords: higher education, economic incentives, pedagogical effectiveness, forecast indicators, professional motivation, teaching quality, KPI, research activity, innovation, educational management.

INTRODUCTION

Economic incentives constitute an important component of human resource management in higher education. Their effectiveness should not be evaluated only in terms of financial payments. The pedagogical value of economic incentives is reflected in their ability to increase teachers' professional motivation, teaching activity, research engagement, innovation, professional development, and contribution to student learning outcomes.

In contemporary higher education, performance-based approaches increasingly connect institutional and individual incentives with measurable educational and research outcomes. OECD analyses indicate that performance-based funding may incorporate indicators such as student progression, graduation, research outputs, external research funding, and employment outcomes. At the same time, excessive dependence on easily measurable indicators may create risks for educational quality if quantitative targets are prioritized over broader educational objectives.

Therefore, forecasting the pedagogical effects of economic incentives requires a balanced system of quantitative and qualitative indicators.

PURPOSE AND METHODOLOGY

The purpose of the study is to develop forecast indicators for improving the pedagogical effectiveness of economic incentives in higher education and to determine the expected dynamics of key educational and professional indicators.

The study applies systematic, activity-based, motivational, and outcome-oriented approaches. The main research methods include theoretical analysis, comparative analysis, pedagogical observation, questionnaire surveys, expert assessment, and pedagogical diagnostics.

The forecast model includes the following indicators:

- teaching activity;
- educational quality;
- research activity;
- innovative pedagogical activity;
- participation in professional development;
- individual work with students;
- implementation of KPI-based assessment;

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- satisfaction with economic incentives.

The forecast demonstrates that the largest expected change concerns the use of KPI-based assessment, which is projected to increase by 32 percentage points, from 40% to 72%. Innovative activity is expected to increase by 23 percentage points, while research activity is projected to increase by 22 percentage points.

The projected increase in teaching activity from 58% to 78% represents a 20-percentage-point improvement. Similarly, the educational quality indicator is expected to increase from 62% to 80%, representing an 18-percentage-point increase.

These projections suggest that economic incentives can be linked not only to the volume of work performed but also to measurable pedagogical, research, and innovation outcomes.

According to the proposed forecast, the proportion of teachers demonstrating a high level of pedagogical effectiveness could increase from 30% to 52%, representing a 22-percentage-point increase.

At the same time, the proportion with a low level of pedagogical effectiveness is projected to decrease from 22% to 8%, a reduction of 14 percentage points.

The decrease in the medium-level group from 48% to 40% should not necessarily be interpreted as a negative outcome. Within the proposed model, part of this group is expected to move toward the high-effectiveness category as a result of improved motivation, professional development, and performance-based incentives.

The largest share, 35%, is assigned to teaching and educational outcomes. This emphasizes the pedagogical purpose of the incentive system. Research activity accounts for 25%, while innovation represents 15%. Professional development and individual work with students are also included to ensure that the incentive system reflects the multidimensional nature of academic work.

Such a structure should be adapted to the specific mission and conditions of each higher education institution. OECD research also emphasizes that performance-based funding mechanisms require carefully selected indicators because poorly designed indicators may encourage institutions or staff to prioritize measurable quantities at the expense of educational quality.

The model therefore treats economic incentives not as an independent final objective but as a management instrument for supporting professional and educational development.

The expected changes can be summarized as follows:

- teaching activity: +20 percentage points;
- educational quality: +18 percentage points;
- research activity: +22 percentage points;
- innovative activity: +23 percentage points;
- professional development: +20 percentage points;
- individual work with students: +19 percentage points;
- KPI implementation: +32 percentage points;
- satisfaction with economic incentives: +24 percentage points.

The forecast results indicate that the strongest projected effect is associated with KPI-based assessment. However, KPI indicators should be combined with qualitative assessment because not all important pedagogical outcomes can be adequately represented by numerical indicators.

DISCUSSION

The proposed forecast indicators demonstrate the importance of connecting economic incentives with educational and professional outcomes. A system based exclusively on financial rewards may not automatically improve teaching quality. The effectiveness of incentives depends on the transparency of evaluation criteria, the perceived fairness of the system, the relevance of performance indicators, and the relationship between incentives and actual professional achievements.

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Research on performance-based approaches also points to potential limitations. Individual performance incentives may create competition between staff members and may reduce attention to collaborative activities if the evaluation system does not recognize collective contributions. Therefore, the proposed model includes both individual and institutional/team-based indicators.

Forecasting should also be conducted periodically. For example, initial diagnostics may be carried out before implementation, intermediate diagnostics after six months, and final diagnostics after one academic year. This allows researchers to compare the actual dynamics with the forecast values.

CONCLUSION

The study proposes a quantitative framework for forecasting the pedagogical effects of economic incentives in higher education. The model integrates teaching activity, educational quality, research, innovation, professional development, individual student support, KPI implementation, and satisfaction with economic incentives.

According to the proposed forecast, teaching activity may increase by 20 percentage points, research activity by 22 percentage points, innovative activity by 23 percentage points, and satisfaction with economic incentives by 24 percentage points. The high level of pedagogical effectiveness is projected to increase from 30% to 52%, while the low level may decrease from 22% to 8%.

These figures represent forecast values rather than established empirical facts. Their validity should therefore be tested through longitudinal experimental research using actual data from higher education institutions.

The main methodological conclusion is that economic incentives should be designed as part of an integrated pedagogical management system in which financial motivation is connected with teaching quality, research productivity, innovation, professional development, and student outcomes. This approach creates a basis for evidence-based monitoring and forecasting of pedagogical effectiveness in higher education.

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