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DEVELOPING KPI CRITERIA FOR EVALUATING THE INNOVATIVE ACTIVITIES OF EDUCATORS IN PRESCHOOL EDUCATIONAL ORGANIZATIONS

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Abstrac: This article examines the scientific and methodological foundations for evaluating the innovative activities of educators in preschool educational organizations in an objective, transparent, and result-oriented manner. In the modern preschool education system, an educator's role extends beyond merely utilizing existing educational technologies; it encompasses the development and implementation of new pedagogical ideas, digital tools, interactive methods, child-centered approaches, and innovative pedagogical solutions within the educational process. From this perspective, developing a system based on Key Performance Indicators (KPIs) to evaluate educators' innovative activities is of significant importance. The article outlines measurement indicators for each criterion, their respective weightings, an evaluation scale, and a mechanism for calculating the integral KPI score. Furthermore, proposals are presented for utilizing the KPI system not as a tool for punishment or administrative control, but rather as a mechanism to incentivize professional growth and innovative initiatives.
Keywords: preschool education, educator, innovative activity, KPI, effectiveness, pedagogical innovation, digital technology, professional competence, assessment criteria, pedagogical initiative, quality of education.

Introduction. Today, the continuous development of educators' professional competence and innovative activity is a crucial prerequisite for ensuring quality within the preschool education system. The preschool years constitute a vital stage in a child's physical, intellectual, socio-emotional, and speech development. Consequently, the professionalism of an educator organizing the educational process during this period is defined not only by their theoretical knowledge but also by their ability to select new pedagogical technologies, adapt them to practical settings, and evaluate the outcomes.

The Law of the Republic of Uzbekistan "On Preschool Education and Upbringing" mandates the enhancement of the professional skills and pedagogical expertise of educators in preschool educational organizations. Furthermore, educators are granted the right to demonstrate creative initiative, freely select educational and upbringing methods, teaching aids, and instructional tools, and participate in scientific and innovative activities [1].

This legislative approach necessitates evaluating an educator's innovative activities based on specific criteria rather than in a haphazard or subjective manner.

The traditional "task completed vs. not completed" approach is insufficient for evaluating innovative activities. This is because the value of an innovation is determined not by quantity, but

by its impact on the educational process, its contribution to children's developmental outcomes, the extent to which it improves pedagogical practice, and its potential for adoption by other educators.
In this regard, the KPI system enables the evaluation of an educator's innovative activities through precise indicators.
UNESCO's modern approach to evaluating preschool education systems also emphasizes the need to assess education quality, personnel, management, coverage, and effectiveness in an interconnected manner.

The aim of this article is to develop a scientifically grounded and practically applicable system of KPI criteria for evaluating the innovative activities of educators in preschool educational organizations.

Analysis and Results.

1. Theoretical and methodological foundations of an educator's innovative activity: When applied to the pedagogical process, the concept of "innovation" signifies the introduction of novel elements into educational goals, content, methods, tools, technologies, or management mechanisms.
A key characteristic of pedagogical innovation is that its significance lies not merely in being "new," but in its ability to resolve a specific problem within the educational process and yield positive results.
An educator's innovative activity can be divided into the following stages:
1. identifying a pedagogical problem;
2. formulating an innovative idea;
3.selecting a new method or technology;
4. planning the innovation;
5. implementing it in practice;
6. monitoring results;
7. analysis and adjustment;
8. disseminating effective practices.
Thus, innovative activity is not a one-time event but is carried out based on the cycle: "problem — idea — experiment — result — analysis — improvement."
UNESCO's modern approaches to preschool education also highlight the importance of contextualizing pedagogical innovations, measuring their outcomes, and scaling up effective solutions.
Therefore, when evaluating an educator's innovative activity, one must consider not only the existence of the innovation but also its viability and effectiveness.
2. The concept of KPIs and the necessity of applying them in preschool education. KPI stands for Key Performance Indicators—a system for measuring performance.
The primary goal of KPIs is not merely to quantify an employee's activities, but to align the organization's strategic objectives with the employee's day-to-day work.
In a preschool educational institution, a KPI system can fulfill the following functions:

- identifying an educator's innovative activities;
- encouraging innovative initiatives;

- monitoring the educator's professional growth;
- identifying advanced pedagogical practices;
- determining factors that influence the quality of education;
- creating an objective basis for the material and non-material incentivization of educators;
- developing individual development plans;
- facilitating management decision-making.

The fundamental principle of the KPI system is to strike a balance between "measurable results" and "development."

If only the quantity of innovative products created by an educator is taken into account, quality may be relegated to a secondary priority. For instance, an educator might develop ten methodologies, none of which prove effective in practice. Conversely, another educator might implement a single innovative method and achieve significant results in children's speech or social skills. Therefore, it is advisable to use both quantitative and qualitative indicators within the KPI system.

3. Criteria for evaluating the innovative activities of preschool educators. Based on the research findings, it is proposed to identify seven key KPI areas for evaluating the innovative activities of a preschool educator:

1. innovative initiative;
2. use of innovative pedagogical technologies;
3. digital competence;
4. research activity;
5. impact on child development;
6. professional collaboration and dissemination of experience;
7. sustainability and effectiveness of the innovation.

The proposed weighting for these criteria is presented in the table below.

Table 1. KPI model for evaluating an educator's innovative activity.

No.	KPI Criterion	Weigh
1	Innovative initiative	15%
2	Application of innovative pedagogical technologies	20%
3	Digital innovation competence	15%
4	Research and experimental activity	10%
5	Impact of innovation on child development	20%
6	Professional collaboration and dissemination of experience	10%
7	Sustainability and effectiveness of innovation	10%
Total		100%

In this model, the greatest weight is assigned to the application of innovative pedagogical technologies and indicators regarding their impact on child development. The reason for this is that the ultimate goal of innovation is not the new technology itself, but rather the child's development and the improvement of the quality of education and upbringing.

4. Innovative initiative KPI criterion. Innovative initiative reflects an educator's ability to identify existing problems and propose new ideas to solve them.

The following indicators can be used within this criterion:

- number of new pedagogical ideas;
- participation in innovative projects;
- development of new lesson models;
- creation of original methodological materials;
- conducting pedagogical experiments;
- implementation of new game-based technologies in the educational process;
- development of innovative approaches tailored to children's individual needs.

For example, if an educator develops at least two new methodological solutions over the course of a year, tests them in practice, and documents the results, this indicator may receive a high rating. Here, it is not only the quantity of innovative initiatives that is evaluated, but also their relevance and practical value.

5. KPI for the use of innovative pedagogical technologies: In preschool education, innovative technologies must align with the child's age, psychophysiological characteristics, and interests.

The following indicators can be used to evaluate an educator's performance:

- use of game-based technologies;
- introduction of STEAM elements;
- project-based learning;
- problem-based learning;
- inquiry-based learning;
- storytelling;
- interactive technologies;
- inclusive pedagogical methods;
- individual learning trajectories;
- child-centered pedagogical approach.

A distinction is made here between "using technology" and "applying technology effectively."

Therefore, the evaluation criterion can be structured in three stages:

Stage 1 — applies;

Stage 2 — adapts;

Stage 3 — improves and creates an original solution.

The highest score is awarded for the third level.

6. KPI for digital innovation competence: Digital technologies are becoming a vital tool supporting an educator's professional activities in preschool education. Within the scope of digital competence, the educator:

- uses electronic educational resources;
- uses multimedia materials;
- uses interactive presentations;
- uses electronic portfolios;

- uses digital monitoring tools;
- uses educational platforms; • digital communication tools;
- and, where necessary, AI-based educational tools.

However, in preschool education, digital tools must not replace a child's live interaction, active play, and social activities.

Therefore, the primary criterion for the KPI should not be the "frequency of using digital tools," but rather the quality of their use in alignment with pedagogical objectives.

7. Research and experimental activity: an innovative educator must also be a researcher.

Research activity is evaluated based on the following indicators:

- identifying a pedagogical issue;
- conducting observations;
- carrying out a small-scale pedagogical experiment;
- comparing results;
- analyzing the dynamics of children's development;
- formulating methodological conclusions;
- preparing articles and abstracts;
- participating in seminars and conferences;
- conducting pilot studies.

This does not require the educator to undertake extensive scientific research. In preschool education, "action research"—that is, small-scale, practice-oriented studies—can be an effective tool.

For example, an educator might conduct a one- or two-month observation and comparison based on the question: "How does the use of storytelling technology affect children's vocabulary?"

Such an approach elevates the educator from a mere implementer to a practitioner-researcher.

8. The most critical component of the KPI system regarding the impact on children's development is evaluating how innovative activities influence that development. As UNESCO has emphasized, it is important to consider children's school readiness, development, and learning outcomes when assessing the quality of preschool education.

In this context, the impact of pedagogical innovation can be evaluated in the following areas:

Developmental Area	Indicator
Speech development	Vocabulary, communication engagement
Cognitive development	Problem-solving, asking questions
Social development	Cooperation, teamwork
Emotional development	Managing emotions
Creativity	Art, music, construction activities
Independence	Independent decision-making
Motor skills	Fine and gross motor skills

When evaluating these indicators, the aim should be to identify individual progress rather than to pit children against one another in competition.

For instance, if children's independent engagement rises from 60% to 80% after an educator introduces an innovative method, the impact of that innovation can be rated as high.

9. KPI for professional collaboration and the dissemination of experience: an innovation should not remain merely the personal experience of a single educator.

Effective innovative practice can spread from the educator to the group, the organization, the district or city, and finally the region.

Therefore, the KPI system should take into account indicators such as:

- open lessons;
- methodological seminars;
- masterclasses;
- presentations at pedagogical council meetings;
- methodological guides;
- experience sharing;
- mentoring colleagues;
- team participation in innovative projects.

Uzbekistan's legislation also outlines the pedagogical council's responsibilities regarding the development of educators' creative initiative, the implementation of advanced pedagogical practices, and the provision of moral and material incentives for staff[1].

10. Sustainability and effectiveness of the innovation. The effectiveness of an innovation is also determined by the fact that it is not merely a one-off event.

For example, while an educator's single use of a new game-based technique might constitute an innovative initiative... However, if this technology is refined over the course of a year and adopted by other educators as well, its innovative value will be significant.

Therefore, it is proposed to evaluate innovation effectiveness based on the principle: Effectiveness = Result × Sustainability × Scalability.

11. Calculating the integral KPI for an educator's innovative activity. The following formula is proposed to calculate the educator's overall KPI result:

KPI = Σ (Ki × Wi), where:

- Ki — the educator's result for each criterion;
- Wi — the weight of the given criterion;
- Σ — the sum of all criteria.

For example, suppose the educator has achieved the following results:

Criterion	Result	Weight	Final Contribution
Innovative initiative	85	0.15	12.75
Pedagogical technology	90	0.20	18.00
Digital competence	80	0.15	12.00

Criterion	Result	Weight	Final Contribution
Research capability	75	0.10	7.50
Impact on child development	88	0.20	17.60
Collaboration	80	0.10	8.00
Sustainability	85	0.10	8.50
Total		1.00	84.35

Thus, the educator's integrated innovative KPI score is 84.35 points.

12. Proposed KPI assessment scale

Table 2. Scale for assessing innovative activity

Score	Level	Description
90–100	Very high	Innovative leader
80–89	High	Active innovative educator
70–79	Good	Developing innovative educator
60–69	Satisfactory	Need to increase innovative activity
0–59	Low	Individual development plan required

Based on this scale, it is possible to develop an individual professional development trajectory for educators.

13. Sources for KPI assessment. The reliability of the KPI depends on the data used to calculate it. Therefore, it is advisable to use a comprehensive range of assessment sources:

1. educator portfolio;
2. observation of sessions/classes;
3. methodological materials;
4. innovative projects;
5. monitoring of child development;
6. parental feedback;
7. pedagogical council conclusions;
8. expert assessment by colleagues;
9. educator self-assessment;
10. analysis of innovation outcomes.

In this way, elements of a 360-degree assessment can be implemented.

14. Minimizing subjectivity in the KPI system. Subjective assessment is one of the major risks when evaluating an educator's innovative activities.

For instance, a supervisor's personal attitude should not influence the educator's KPI results.

To address this, the following mechanisms are proposed:

- defining clear indicators for each KPI;
- requiring evidence for assessments;
- utilizing multiple experts;
- implementing self-assessment;
- analyzing changes in children's outcomes over time;
- publishing assessment criteria in advance;
- introducing an appeals mechanism at the end of the year.

The KPI system should serve as a roadmap for development rather than a tool for "policing" the educator.

15. KPI and educator incentive mechanisms. To ensure the KPI system operates effectively, it can be linked to an incentive system.

Table 3. Incentive model based on KPI results.

KPI Result	Proposed Incentive
90–100	High-level award, recognition as an "Innovative Educator"
80–89	Financial/non-financial incentive, dissemination of best practices
70–79	Opportunities for advanced training and professional development
60–69	Individual development plan
0–59	Mentoring and methodological support

However, it is not advisable to use KPIs directly as a tool for reducing wages or imposing penalties.

This is because, in innovative activities, educators must retain the right to experiment, the opportunity to learn from mistakes, and creative freedom.

16. Algorithm for implementing the KPI system: The implementation of an innovative KPI system for educators in a preschool educational organization can be carried out in 7 stages:

Stage 1. Diagnostics

Educators' existing innovative competencies are identified.

Stage 2. Approval of KPI criteria; indicators tailored to the organization's specific characteristics are established.

Stage 3. Setting baseline indicators; the educator's initial status is determined.

Stage 4. Innovation plan; annual innovative goals are set for each educator.

Stage 5. Monitoring; interim results are analyzed on a quarterly basis.

Stage 6. Final assessment; an integrated KPI is calculated at the end of the year.

Stage 7. Development; an individual development plan for the following year is formulated based on the results.

17. Sample KPI card for an educator's innovative activity

Table 4. Individual KPI card

KPI	Indicator	Target
Innovative initiative	New pedagogical ideas	≥3
Methodological innovation	Implementation of new technologies	≥4
Digital competence	Purposeful use of digital resources	≥80%
Research activity	Applied pedagogical research	≥1
Children's outcomes	Developmental progress	≥10%
Dissemination of experience	Seminar/masterclass	≥2
Innovation sustainability	Continued application	≥6 months

This KPI card can be adapted to the individual characteristics of each educator.

18. Pedagogical effectiveness of the innovative KPI: The implementation of the KPI system enables the following positive changes:

first, it fosters innovative thinking among educators;

second, it expands opportunities to identify pedagogical initiatives;

third, it systematizes advanced pedagogical practices;

fourth, it individualizes the educator's professional development;

fifth, it measures the impact of innovative activities on children's development;

sixth, it establishes objective criteria for incentivizing educators;

seventh, it creates an innovative environment within the organization.

UNESCO's STEPP initiative also demonstrates that the systematic study of data regarding preschool educators—covering their pedagogical practices, professional development, working conditions, and capacity-building activities—helps inform the development of policies to improve the quality of education.

19. Author's model: The "7I" innovative KPI system. Based on the research findings, the "7I" innovative KPI model for preschool educators is proposed:

1. Idea — generating an innovative idea;
2. Creativity — developing a new pedagogical solution;
3. Innovation — implementing a new technology;
4. Integration — integrating the innovation into the educational process;
5. Inquiry — conducting pedagogical research;
6. Socialization — sharing experience with colleagues;
7. A positive outcome — influencing children's development.

This model makes it possible to view innovative activity not merely as the "application of a new method," but as a process extending from the initial idea to the final result.

Conclusion. The quality of education in preschool educational organizations depends largely on the educator's professional competence, creative initiative, and innovative activity. Therefore, developing modern mechanisms to objectively evaluate and incentivize educators' innovative activities is a pressing task.

As a result of the research, seven key KPI criteria were proposed to evaluate the innovative activities of preschool educators: innovative initiative, use of innovative pedagogical technologies, digital competence, research activity, impact on child development, professional collaboration, and the sustainability of the innovation.

In the model proposed in the article, the highest KPI weightings were assigned to the indicators for the use of pedagogical technologies and the impact on child development. This approach reflects the principle that the goal of innovation is not the technology itself, but the improvement of educational outcomes.

The Law of the Republic of Uzbekistan "On Preschool Education and Upbringing" stipulates that educators should enhance their professional skills and pedagogical mastery, demonstrate creative initiative, participate in scientific-innovative activities, and receive incentives for pedagogical achievements [1].

From this perspective, the KPI system can be viewed as a management mechanism that puts these legal norms into practice. Furthermore, the KPI assessment system should serve not as a mechanism for punishing educators, but as a tool to support their professional development. It is advisable to develop individual professional development plans for each educator based on KPI results, to disseminate the best practices of leading educators, and to provide both material and non-material incentives for innovative initiatives.

UNESCO’s ECCE-PATT approach also highlights the necessity of assessing interconnected areas—such as "quality and relevance," "personnel," "management," and "coverage and participation"—when comprehensively evaluating the quality of preschool education.

Thus, the KPI model for the innovative activities of preschool educators should be structured around the following chain: activity assessment — outcome determination — professional development — incentivization — dissemination of best practices.

This approach fosters an innovative environment within preschool educational organizations, enhances the professional capacity of educators, and, most importantly, creates a high-quality educational environment for the holistic development of children.

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