

# A Comprehensive Review Of Key Performance Indicators (Kpis) For Evaluating Teachers' Performance

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## Abstract:

*Key performance indicators (KPIs) are the primary metrics for evaluating teacher effectiveness and guiding professional development at educational institutes. This systematic review analysed various KPIs used to evaluate teacher performance in multiple educational contexts. This review synthesized from extensive research focuses on key performance indicators such as teaching effectiveness, instructional planning, job satisfaction, motivation, student engagement, student outcomes, professional development, assessment and evaluation, institutional performance, and quality of teaching. The methodology includes an extensive literature search of databases, focusing on peer-reviewed journal articles between years 2000 to 2022. The selection of studies was based on criteria of relevance on teachers' performance. This review article highlighted that KPIs such as 'classroom management, adherence to curriculum standards and the integration of 21st century skills can improve teacher effectiveness. In addition, it emphasizes the importance of professional development as KPIs in performance management through trainings to ensure teachers' effectiveness.*

**Key words:** Professional development, Key Performance Indicators (KPIs), Teachers' Evaluation, Teacher's effectiveness, Job satisfaction, motivation, Instructional planning, Quality of education.

## Introduction

Teacher evaluation is a critical component of educational quality assurance. Effective teacher evaluation systems provide valuable feedback to teachers, inform professional development initiatives, and support decision-making regarding teacher retention and promotion. Key performance indicators (KPIs) are essential tools for measuring teacher performance and providing objective feedback. Key Performance Indicators (KPIs) are crucial for translating organizational goals into actionable outcomes, enabling organizations to assess their performance against strategic objectives. Specifically, KPIs offer reliable data that supports the formulation and execution of growth strategies, they provide a means to evaluate whether the current strategic plan is effective, acting as instruments to promote desired behaviours, and their application can significantly enhance operational efficiency, boost productivity, and increase profitability (Domínguez, Pérez, Rubio & Zapata, 2019). Selecting and implementing appropriate KPIs can be challenging, as different contexts and educational objectives may

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require varying sets of indicators. Teacher performance has a profound effect on educational outcomes, making it essential to evaluate teacher effectiveness to ensure improved teaching practices and student learning.

In the context of education, KPIs typically include measures of teaching quality, student engagement, and academic achievement. These indicators help guide professional development and contribute to overall educational quality. KPIs are used to evaluate the effectiveness of various processes or individuals in an organization, with a focus on improving outcomes. This systematic review aims to address the challenge of selecting appropriate KPIs by identifying and analysing key performance indicators that can be used to evaluate teachers' performance in educational institutions. By examining existing research and best practices, this review seeks to provide a comprehensive framework for developing effective teacher evaluation systems.

The findings of this review are valuable for policymakers, educational administrators, and teacher evaluation committees in designing and implementing fair and equitable teacher evaluation processes. The study of teacher effectiveness and performance is vital to advancing pedagogical practices, enhancing student outcomes, and ensuring educational success.

### **Literature Review**

According to Almatroosh, Singh, and Farouk (2016), KPIs help determine organizational performance factors that can be adapted to educational settings to evaluate teacher performance. Abbas (2020) emphasized the high service quality of educational institutions, which is reflected in effective teaching, directly affects student satisfaction and academic success. Afandi, Wahyuningsih, and Mayasari (2021) showed that the performance of elementary school teachers, including lesson planning and student interaction, is crucial in promoting student development.

Amzat (2017) emphasized that excellent teaching practices, including teaching methods and student engagement, are critical to achieving positive educational outcomes. According to Kunter et al. (2013) professional qualifications of teachers and the quality of teaching are the key factors in student development and academic success.

Indicators of school quality, such as classroom management and curriculum standards were studied by Arop, Owani, and Ibori (2019). Their findings showed that these indicators are strongly correlated with teacher performance and student success. Teachers who effectively combine critical thinking and problem-solving skills can significantly improve students' learning experiences and prepare for the future, (Pa-alisbo, 2017).

Elyousif and Abdelhamied (2013) had also cited students' critical thinking and problem-solving skills as lesson planning, knowledge development, and managing groups. Camilleri (2021) shortly described the performance management tools comprising balanced scorecard and KPI development in the context of the performance appraisal of a teacher.

In the realm of teaching strategies and classroom management, Enoc (2019) identified pedagogical approaches that provide insights on whether the teacher and student performance is adequate. Goldhaber and Anthony (2007) suggested board-certification that serves as an indicator. Quality of teaching is expected to be higher or more effective by a certified teacher. The work by Ishaq Bhatti, Namara, Rosiek (2014) and Kardianto, Lumbanraja, & Sembiring (2022) focuses on the selection and the impact of KPIs on organizational performance in reference to lesson delivery, student engagement, and assessment. In this sense, Kang, Zhao, Li & Horst (2016), Karngbeae (2022) highlighted that teachers are multidimensional role-players; through the plans for instruction, one is expected to be an expert in instruction and,

simultaneously, seek alignment with the content expected to be taught. Likewise, according to Effendi, Amri & Yeni (2019), the performance of a teacher significantly affects that of a student. Khan and Afridi (2017), Kiran, Arshad & Rizwan, (2022), and Rizwan (2021) debated in papers about role of professional development programs for the continuous training benefits for the improvement of teachers' performance. Kunter et al. (2013) and Lie, Dharma & Sudirman (2021) underline the positive influence of high professional competence with certification on the student development outcomes and job satisfaction. Krull and Leijen (2015) stated teaching skills assessment and formative feedback are the major elements of practice improvement. Further, Silva et al. (2017) taken into account the faculty qualifications, competencies, and research as key indicators while Srisakda et al. (2016) focused on the core curriculum and learners' competencies as teaching-effectiveness indicators. Lyublinskaya and KaplonSchilis (2022) utilized the TPACK framework to assess the interaction of technology in teaching. In proving that PCK, or knowledge about pedagogical competence, is an important indicator for the performance of a preschool teacher in the academe, taken into account by the study of Vecaldo et al. (2017).

The purpose of this systematic review is to assess teacher key performance indicators (KPIs) across various educational settings and to identify the most effective measures to guide instructional assessment practices.

### **Objective**

To Identify and analyse the key performance indicators (KPIs) used to evaluate the performance of teachers in various educational settings through systematic review literature.

### **Methodology**

A comprehensive literature search was conducted to find relevant studies on teacher performance evaluation. The search included electronic databases such as: Google Scholar, JSTOR and ScienceDirect. The search is limited to peer-reviewed journal articles published in English language. The keywords and phrases used in the search are: Key performance indicators (KPIs) of teacher performance, Teacher performance evaluation, teacher effectiveness, Learning quality indicators, KPIs in educational institutions. Studies were included based on the following criteria:

- Studies focusing on KPIs in teacher performance evaluation.
- Studies that provide theoretical frameworks for measuring teacher performance.
- Studies conducted in different educational contexts only (e.g school, college and university).

Articles were excluded on basis of following criteria:

- Articles that do not focus on teacher performance or KPIs.
- Non-peer-reviewed sources such as opinion, editorials or non-academic publications.
- Studies are not available in full text or behind a paywall with no options available.
- Studies in other than English language.

Data was collected from selected studies about article details i.e year of publication, geographic location, Level and type of institutions studied. Major focus for this study was to identify specific key performance indicators assessed, metrics used and measurement methods used in selected articles. Key findings related to effectiveness of KPIs, impact on teacher performance and impact on practice were included. The extracted data was analysed on basis of themes and patterns related to KPIs and their impact on teacher effectiveness in improving teacher performance at educational institutions.

### **Results and Findings**

The systematic review identified a number of key performance indicators (KPI) used to assess teacher effectiveness in different educational contexts. Analysis of the included studies revealed several common themes and insights into effective performance measures. The results are compiled according to the variables and performance indicators identified in the literature reviewed below:

**Table 1 Key Performance Indicators identified in various studies.**

<b>Study</b>	<b>Findings (Key Performance Indicators)</b>
Abbas, 2020	Seven Service Quality themes were identified: teachers' profile, curriculum, infrastructure and facilities, management and support staff, employment quality, safety and security, and students' skills development.
Aliyyah et al., 2020	KPIs for primary school teacher's achievement evaluation as follows: portfolios (20%), instructional videos (10%), written tests (20%), scientific papers (20%), presentations of scientific papers (20%), and exemplary conduct (10%).
Amzat, 2017	This study focused on the interrelationships between five thinking domains as KPIs i.e : teaching philosophy, teaching objectives, pedagogical content knowledge (PCK), teachers' expectations, and classroom management style.
Arop, Owan, & Ibor, 2019	Significant positive relationships (90.6%) were found between job performance and the quality of school facilities, leadership, and supervision, with leadership quality being the strongest predictor.
Afandi, Wahyuningsih & Mayasari , 2021	Planning, implementation, and evaluation of learning activities significantly influences the teacher's performance. However, no significant relationship between teacher performance with years of experience or gender was identified.
Almatrooshi, Singh & Farouk, 2016	This systematic review article revealed the role of cognitive, emotional, and social competencies on leadership competencies that in turn influence both employees' and organizational performance.
Camilleri, 2021	The Balanced Scorecard approach assesses financial aspects, student satisfaction, and institutional processes.
Chavan Rajendra, 2014	emphasized on specific performance indicators on curriculum aspects, teaching-learning processes, student support and extension activities, infrastructure, learning resources, and innovative practices
Cortez et al., 2021	High job satisfaction and professionalism correlate with better job performance and commitment.
Csomos, 2021	Indicators identified are crucial for academic promotions, qualifications, and scholarships, include publication counts, citation metrics, and minimum values set for these criteria.
Domínguez, Pérez, Rubio & Zapata 2019	Categorizing KPIs into strategic (Employee Engagement and Retention, revenue growth, return on investment ROI), operational (response time, resource utilization, or productivity metrics), and tactical levels (Team Performance Metrics, Project Completion Rate, Customer Complaint Resolution Rate) helps manage and evaluate performance.
Elyousif & Abdelhamied, 2013	Developing students' critical thinking and problem-solving skills is a key indicator of teacher effectiveness such as lesson planning,

	knowledge building, group management, assessment, and extracurricular activities.
Enoc, 2019	Metrics assessing class presentation and teaching techniques provide insight into teacher and student performance. Major indicators were classroom management, teaching strategy, lesson planning, professional behaviour, accuracy and fluency of communication, and voice modulation.
Effendi, Amri & Yeni, 2019	students' perceptions of teacher performance and their academic achievement in English. The study explores the correlation between these perceptions and student outcomes.
Goldhaber & Anthony, 2007	National Board Certification as a key performance indicator to assess teacher quality and its correlation with effective teaching practices.
Ishaq Bhatti, Namara, Rosiek, 2014	KPIs help measure and enhance organizational effectiveness included Financial Performance (Profitability and revenue growth), Customer Satisfaction (Customer feedback and retention rates), Internal Processes (Efficiency and quality of operations), Employee Performance (Productivity and engagement) Innovation and Learning (Organizational adaptability and investment in development)
Kardianto, Lumbanraja, & Sembiring, 2022	KPIs targeting lesson delivery, student engagement, and assessment are effective in improving teaching quality.
Kang, Zhao, Li & Horst, 2016	KPIs for operation management include operational efficiency, quality management, cost management, delivery performance, safety and compliance, and continuous improvement. These KPIs are structured hierarchically to enhance production systems.
Karngebea, 2022	instructional planning as lesson clarity, alignment with standards, student engagement, assessment methods, and adaptability. These indicators gauge the effectiveness of instructional planning and execution.
Khan & Afridi, 2017	improvements in teaching competency, participation in growth opportunities, enhanced teaching effectiveness, feedback and evaluation, and career advancement.
Kiran, Arshad & Rizwan, 2022	Professional development programs positively impact teacher performance and emphasize ongoing training.
Krull & Leijen, 2015	competency in teaching skills, student engagement, effective use of feedback, and learning outcomes. These indicators were used to provide formative feedback through learning analytics.
Kunter et al., 2013	professional competence, instructional quality, and student development. These indicators measure the impact of teachers' skills on teaching effectiveness and student progress.
Lie, Dharma & Sudirman, 2021	Teacher certification, motivation, and job satisfaction. These factors are assessed to measure teacher performance in Pematangsiantar City middle schools.
Lyublinskaya & KaplonSchilis, 2022	In the TPACK levels rubric KPIs identified as technological knowledge (proficiency in using software, hardware, or online tools), pedagogical knowledge (lesson planning, instructional strategies, student engagement techniques), content knowledge (depth of knowledge in the subject area, ability to convey content

	effectively), and the integration of these elements to enhance learning outcomes. These indicators assess different levels of TPACK proficiency.
Maulana & Arli, 2022	For online teaching KPIs identified as teaching effectiveness, student engagement, technical proficiency, and course content delivery. These indicators are identified for evaluating lecturer performance during and beyond the COVID-19 pandemic.
Pa-alisbo, 2017	Integrating 21st-century skills (Critical thinking, problem solving & adaptability) is crucial for preparing students; these skills positively impact teacher effectiveness.
Rizwan, 2021	For in-service teacher development KPIs identified as professional growth, teaching effectiveness, student outcomes, and participation in development activities. These indicators assess the impact and engagement in performance-based professional development.
Rostini, Syam, & Achmad, 2022	principal management effectiveness, teacher performance, quality of learning, and school environment. These KPIs assess how principal leadership impacts teaching and student outcomes.
Safonov et al., 2022	KPIs metrics were identified for managing staff performance at a medical university which were: 1. Academic KPIs i.e Teaching Effectiveness (Student evaluations of teaching quality, Number of courses taught, Pass rates and student performance metrics) Research Output (Number of published papers in peer-reviewed journals, Citation impact (e.g. citation counts, Participation in research projects or grants) Professional Development (Participation in conferences, workshops, and training programs, Acquisition of new qualifications or certifications, Contribution to curriculum development), 2. Operational KPIs (Administrative Efficiency, Timely completion of administrative tasks (e.g., grading, reporting), Response time to student and colleague inquiries, Contribution to department or university operations), Student Support and Mentorship (Number of students mentored, Student satisfaction with mentoring or advising, Success rates of students under mentorship (e.g., research projects, employment). 3. And Strategic KPIs for medical college competencies are Collaboration with external institutions, hospitals, or organizations, Contribution to improving the university's global ranking or reputation and Engagement in public health or community outreach initiatives.
Sencan & Karabulut, 2015	In higher education KPIs as educational quality, student satisfaction, academic achievement, and faculty performance. These indicators help compare perceptions of educational performance.
Silva, CostaLobo, Pereira & Durão, 2017	For university teachers KPIs identified as faculty qualifications and competencies in research, teaching, university management, and knowledge transfer and valorisation. These indicators assess effectiveness from both student feedback and teaching practices.
Srisakda, Sujiva & Pasiphol, 2016	For learner competencies KPIs identified as critical thinking, problem-solving skills, communication skills, and collaboration. These indicators are based on the basic education core curriculum.
Sun, Cai, Pan, Bao & Liu, 2021	For university teachers KPIs identified as teaching effectiveness, student feedback, curriculum delivery, and professional

	development. These indicators are evaluated using Type-II fuzzy sets for enhanced precision.
Tambrin, Wasliman, Hanafiah, & Mudrikah, 2021	For teachers' performance supervision KPIs identified as supervision quality, teacher improvement, feedback utilization, and student outcomes. These indicators assess the effectiveness and impact of performance supervision in Islamic Senior High Schools.
Vecaldo, Andres, Carag & Caranguian, 2017	For preservice elementary teachers KPIs identified as pedagogical competence, academic performance, classroom management, and student engagement. These indicators measure teaching effectiveness and academic success.
Yates et al., 2020	For working with paraeducators KPIs identified as planning effectiveness, performance feedback, evaluation criteria, and collaboration with teachers. These indicators assess the quality of support and integration provided by paraeducators.

### Discussion:

This literature review focusing on KPIs in education used to evaluate various aspects of teaching and educational management from various studies identified some of the common indicators. These indicators are used in teachers' evaluation and contribute in improvement of teaching and learning environments. This discussion section summarizes the main findings and their implications for educational practice and research with common key indicators.

**Teaching effectiveness:** Most of the researches identified teaching effectiveness as one of the key indicators. For instance, Abbas (2020) highlighted seven service quality themes, including teachers' profiles and students' skills development, as essential for evaluating service quality. Similarly, Rizwan (2021) focuses on professional growth, teaching effectiveness, and student outcomes as critical for in-service teacher development.

**Impact of Certification and Motivation:** The role of teacher certification, motivation, and job satisfaction is underscored by multiple studies. Lie, Dharma & Sudirman (2021) and Goldhaber & Anthony (2007) indicate that teacher certification and motivation significantly influence performance. Moreover, the correlation between teacher motivation and job satisfaction with performance highlighted the importance of addressing these factors to improve educational outcomes. Job satisfaction and motivation influence teacher's performance and commitment. Cortez et al. (2021) defined indicators of job satisfaction, while Lie, Dharma & Sudirman (2021) do so for motivation; these were identified important in framing the broader context of teachers' working conditions in literature. These studies seem to mean that with emphasis on supportive working conditions and recognition of effort, a rise in job satisfaction and motivation can lead to better performance and retention.

**Integration of Modern Skills and Technology:** The integration of 21st-century skills and technology in teaching is a frequently used indicator. Pa-alisbo, 2017 underscored the significance of critical thinking, problem-solving, and adaptability in teaching effectiveness. Similarly, Maulana & Arli (2022) focused on teaching effectiveness, student engagement, technical proficiency, and course content delivery for online teaching, reflecting the need to adapt performance indicators to modern educational demands.

**Student outcomes:** There was a recurring theme of student achievements and student's outcome across the studies reviewed. Impact on the students was often used with metrics such as learning success, learning outcome, and overall student development. Such indicators bring

out the idea that teaching practices are aligned to some desirable goals or outcomes of education. Several studies emphasized the importance of student-related metrics in assessing educational quality. Effendi, Amri & Yeni (2019) and Enoc (2019) explored how students' perceptions of teacher performance and academic achievement are interrelated. This highlighted the role of student feedback and learning outcomes as critical indicators of teaching effectiveness and overall educational quality

**Organizational and Management Factors:** The influence of organizational and management factors on educational performance is evident. Arop, Owan, & Ibor (2019) identified that leadership quality and school facilities are significant predictors of job performance, while Sencan & Karabulut (2015) and Silva et al. (2017) highlighted the importance of educational quality, faculty performance, and institutional processes. These studies suggested that effective management and supportive infrastructure are crucial for optimizing educational outcomes.

**Institutional performance:** Another of the key focuses is how organizational and institutional performance at all levels interacts with the quality of teaching. Indicators on overall institutional performance and human resources management underlined the role of institutional factors in shaping outcomes in education. According to these indicators, institutional support and resource management become very important in maintaining high-quality conditions of teaching and learning.

**Comprehensive Evaluation Approaches:** The variety of indicators used across studies, such as teaching effectiveness, professional competence, and institutional quality, reflects the need for a multifaceted approach to evaluation. Camilleri (2021) and Srisakda et al. (2016) illustrated the use of diverse performance metrics to assess various aspects of educational effectiveness, from financial aspects to critical competencies.

**Professional development:** Professional development was one of the key factors which have been reported to impact teaching efficiency. By continuous professional growth and education, studies by Aliyyah et al. (2020) and Rizwan, (2021) have cited an enhanced capacity of teachers, hence effective teaching. In other words, effective professional development programs directly speak to the needs of teachers and cater to the evolution of educational standards.

**Instructional planning:** Apart from this, the role of instructional planning and its implementation has been highlighted in the studies that were reviewed. Indicators related to curriculum planning, Karngbeae, 2022 online teaching effectiveness, Maulana and Arli, 2022; instruction, Tambrin et al., 2022 assume major significance to ensure that teaching activities remain focused toward educational goals. Effective planning and implementation are needed to establish a well-organized and supportive learning environment that contributes to student success.

**Assessment and Evaluation:** Research into KPI management evaluation models and fuzzy applications (Sun, Cai, Pan, Bao & Liu, 2021) has provided ways that have been taken toward measurement and management. Appropriate assessment tools and methods are called for to provide practical knowledge in improving teaching and learning processes.

**Instructional quality:** Finally, the quality of instruction is highlighted as a key KPI. Teaching quality indicators, as observed in Goldhaber and Anthony, 2007, and improvement measures as presented in Kardianto, Lumbanraja, & Sembiring ((2022), raised the need for maintenance and improvement in teaching.



### Conclusion

It is concluded from above discussion that quality of teaching and educational effectiveness can be improved through key performance indicators. These indicators are vital to promote a quality educational environment. From research studies multiple indicators, including teacher qualifications, student outcomes, organizational management, and modern skill integration were identified. In addition to teaching effectiveness and student outcomes, key performance indicators include job satisfaction, lesson planning, subject performance and overall teaching quality also showed prominent impact on quality of education. Future research should aim to integrate these different indicators to develop comprehensive strategies to improve education, thus ensuring continuous improvement in teaching and learning processes.

### Recommendation

It is recommended from above findings that there is need to develop a comprehensive framework KPIs that incorporates a wider range of indicators, including teacher qualifications, student outcomes, organizational management, modern skill integration, job satisfaction, lesson planning, subject performance, and overall teaching quality. This will provide a more holistic assessment of teacher effectiveness among various educational settings.

Multiple indicators should be incorporated in framework to gain a more nuanced understanding of teacher performance. For example, consider using a mix of quantitative and qualitative data, such as standardized test scores, classroom observations, portfolios and student surveys. This may meet the unique needs of different educational institutions and help recognize the relevance of different KPIs that may vary depending on the specific context, such as the level of education, subject area, or school setting.

It is recommended that teachers have access to the necessary resources and support to effectively implement and meet the KPIs in this modern era. This may include technological and professional development opportunities and administrative support. Provision of digital tools can analyse data related to KPIs, ensuring consistent and accurate evaluations across different regions and school types. This will establish a centralized system where schools can report and review teacher performance data to promote transparency and accountability. The other positive aspect of integrating technological tools may encourage a culture of continuous improvement among teachers by providing regular feedback, recognizing achievements, and promoting a growth mindset to motivate teachers and strive for excellence and continuously develop their skills.

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