

MODERN METHODS AND CRITERIA FOR ASSESSING TEACHERS' PROFESSIONAL COMPETENCIES IN VOCATIONAL EDUCATION INSTITUTIONS

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Abstract

This article analyzes contemporary approaches and criteria for assessing the professional competencies of teaching staff. The concept of professional competence and the necessity of its assessment are explained, and, based on recent scholarly sources, studies on methods for assessing teachers' professional competence are reviewed. The article presents the results of a survey conducted among 100 teachers, including a table of average scores for various areas of professional competence. Statistical analysis revealed differences across age groups (for example, teachers over 55 scored higher in digital and innovation competencies). The findings are compared with the scholarly literature, and the importance of modern assessment criteria — including predefined competency standards, authentic assessment (tasks in real contexts), portfolios, and multisource (360-degree) feedback — is discussed. It is emphasized that assessment processes must be organized using impartial, reliable, and up-to-date methods to ensure teachers' professional development.

Keywords: Pedagogical competence, competency-based assessment, 360-degree assessment, portfolio assessment, authentic assessment, digital competence, innovation competence, leadership and research competencies, competency standards, professional competencies, assessment criteria.

Introduction

Today, the quality of education is largely dependent on teachers' professional competence. The term professional competence broadly denotes the set of knowledge, skills, and experiences required for a teacher to perform their duties effectively [1]. In modern education, not only instructional methods but also assessment methods carry great importance — because an effective assessment system serves to form the necessary skills in learners [2].

Assessing teachers' professional competence is a complex process that enables quality educational management, supports teachers' professional growth, and makes it possible to identify potential weaknesses early [3]. Proper assessment can prevent a decline in teacher qualifications and encourage continuous professional development [3]. For this reason, many studies have focused on developing criteria for identifying and measuring teachers' competencies. In particular, aspects such as teachers' communicative ability, lesson planning, competence in using information technologies, and openness to innovative ideas are currently regarded as important competencies [4]. Emotional and social skills are also important, because



a teacher's ability to manage their emotions and communicate effectively with others directly affects the classroom environment [5].

By assessment criteria for professional competence we generally mean the defined requirements for what knowledge and skills a teacher should possess and the standards used to measure the level at which those skills are demonstrated. Many countries have developed competency standards for teachers that reflect a range of criteria — such as subject knowledge, pedagogical mastery, educational (mentoring) skills, ability to use ICT, and capacity to collaborate with colleagues and parents. Such standards form the normative basis of the assessment process and provide clear guidance to assessors.

A competency-based approach is increasingly relevant today, and assessment practices now go beyond traditional tests and examinations [6]. Special attention is paid to assessing 21st-century skills — such as problem solving in real-life contexts, critical thinking, and teamwork — for both students and teachers [6]. To identify these skills, a mix of methods beyond written exams is used: project work, presentations, practical exercises, and observations — an integrative approach that helps comprehensively evaluate each teacher's performance [6].

Methodology

A quantitative approach was used in this study to assess teachers' professional competencies. The research design employed a questionnaire survey — a specially designed instrument collected teachers' self-assessments across several competency areas and information about their professional activities. The questionnaire included items on nine main competencies: planning, communication, assessment (of students), methodology, use of digital technologies, educational/tutoring leadership, leadership, research activity, and innovative approach. Self-assessments for each competency were recorded using a Likert scale (1 = very low, 5 = very high).

Sample selection:

The survey covered a total of 100 teachers from six vocational education institutions located in the Namangan, Kashkadarya, and Tashkent regions of Uzbekistan. The participants included young teachers aged 24–30 (20%), mid-career teachers aged 31–50 (50%), and experienced teachers aged 51 and above (30%). This grouping was used to analyze the influence of age as a factor in assessing competencies.

Data analysis:

Collected quantitative data were analyzed using descriptive statistics (means, variance, percentage distributions) and between-group comparative analysis (ANOVA). Statistical results were presented in tables and graphs. Tables show mean scores by competency and differences across age groups.

This study's methodology relies solely on a quantitative approach (a mixed-methods design was not used).



Literature Review

Recent years have seen numerous scholarly studies on assessing professional competencies. A review of the literature indicates that traditional approaches alone are insufficient for fully and objectively measuring a teacher's professional mastery. The previously used assessment methods include:

- **Test trials (objective tests):** Tests are used to determine teachers' knowledge levels. However, literature criticizes such items for not reflecting real-life situations and therefore lacking in validity [7]. Epstein and Hundert note that relying solely on multiple-choice tests to assess pedagogical competence provides limited information [8].
- **Direct observation:** Observing classroom instruction or pedagogical activity is a widely used method. Its advantage is the opportunity to directly see teachers' practical skills; its drawback is potentially low reliability, since assessments can be subject to assessor bias or the observation may not be continuous and comprehensive [7].
- **Overall rating and certification:** It is common for school principals or designated officials to give annual evaluations of teacher performance. While expert judgment is applied, subjectivity may be high and there may be substantial variability between different assessors [8]. Therefore, multisource assessment is recognized as more effective than a single person's overall rating [9].
- **Simulations and practical tasks:** Some studies evaluate pedagogical situations through simulations (e.g., teaching in a virtual classroom) or case studies (analyzing real situations) [7]. Although such methods provide valuable information, organizing them is complex and resource-intensive.

Each of these methods, when considered alone, is insufficient to comprehensively cover pedagogical competence, because the concept of competence is complex and multifaceted. Researchers argue that assessment requires a combination of methods — only then will results be reliable and objective [6, 9]. For example, van der Vleuten and colleagues (2005) promoted the idea in medical education of viewing assessment not as isolated methods but as a program of methods ("methods to programmes"), arguing that combining several smaller assessments yields a more holistic and effective evaluation.

In recent years, the 360-degree assessment or multisource feedback method has been introduced for assessing pedagogical competence [9]. In this method, various sources — students, colleagues, administrators, and the teacher themselves — give feedback on the teacher. J. Lockyer's study (2003) showed that multisource feedback produced effective results in assessing doctors' competencies in medicine, suggesting that a similar approach is applicable to education [9]. This method reduces the subjective error of individual assessors and enables a more objective evaluation by incorporating diverse viewpoints.

Another contemporary trend is portfolio-based assessment. In a portfolio, a teacher compiles lesson plans, students' achievements, professional development certificates, scholarly and methodological works, and other materials. Studies show that portfolios provide a fuller picture of a teacher's growth and accomplishments over time [10]. Of course, evaluating portfolios requires specific criteria (for example, quality of work, student outcomes, presence of innovative approaches, etc.).



Authentic assessment is given special emphasis today in measuring competencies. Authentic assessment refers to tasks that check a teacher's ability to apply their skills in real situations [10]. For instance, a teacher may be assigned a project to solve a classroom problem, which they must plan, implement, and analyze. Alternatively, classroom lessons may be video-recorded and later reviewed by the teacher and experts. Such approaches reveal not only a teacher's knowledge but also their ability to apply it in practice ("knows" and "can do"). For example, in some U.S. teacher preparation programs, teacher candidates' classroom teaching during practicum is video-evaluated, and assessors use specific rubrics to rate pedagogical competencies according to established criteria.

The literature review also shows that using digital technologies in assessing teachers' professional competence is a modern trend. Electronic assessment systems, online tests, electronic portfolios, and large-scale educational data analytics are being used to monitor pedagogical activity [10]. For example, in LMS (Learning Management System) platforms, indicators such as teachers' posting of course materials, interaction with learners, and assessment activities are monitored. Digital analytics dashboards can identify metrics like a teacher's contribution to students' outcomes, which serve as criteria for evaluating their professional effectiveness [10].

In summary, the scholarly literature highlights the following main modern trends in assessing teachers' professional competence: multi-faceted assessment (using multiple methods), assessment based on real tasks (authentic assignments), integration of digital technologies (electronic tests and monitoring systems), clearly defined assessment criteria (standardized competency domains and indicators), and using assessment results as feedback and developmental stimuli (not merely for control).

These approaches formed the basis for the present study.

Results

According to the survey, participants generally rated their professional competencies highly (average score around 4.2 on a 5-point Likert scale). The table below presents mean self-assessment scores by competency area.

Table 1. Mean scores of teachers by competency area (Likert 1–5 scale)

Competency area (direction)	Mean score (1–5)
Planning (Lesson planning)	4.5
Communication (communicative skill)	4.4
Assessment (assessing students)	4.3
Methodological mastery (teaching method)	4.3
Digital competence (ICT literacy)	4.2
Tutoring and educational leadership	4.1
Innovative approach	4.0
Leadership (team management)	3.9
Research competence	3.8



The data in Table 1 indicate that teachers rated their lesson planning, communication, and assessment skills highest. This suggests that teachers consider planning the learning process and effective communication to be strengths in their professional practice. Methodology and digital competence were also rated relatively high, whereas leadership and research activity received the lowest self-assessments. This trend aligns with findings from other studies — for instance, González-Fernández et al. (2024) noted that teachers rated leadership and research competencies lower compared to other competencies [4]. The innovation activity score of 4.0 indicates room for further development in that area.

The analysis also showed that there are significant differences in certain competencies among different age groups. In particular, older teachers rated themselves higher in the competencies of applying digital technologies and implementing innovative practices. The table below compares the average scores for these two competencies between younger teachers aged 24–30 and experienced teachers over 51 years old (an intermediate age group is also included for comparison):

Table 2. Mean scores for digital and innovation competencies — distribution by age group

Competency \ Age group	24–30 years	31–50 years	51+ years
Digital technologies literacy	4.0	4.2	4.5
Innovative approach	3.8	4.0	4.3

Table 2 shows that teachers aged 51 and older rated their digital competence at an average of 4.5, while younger teachers (24–30) rated this indicator at 4.0. Similarly, older teachers rated their innovation competence at 4.3, while younger teachers rated themselves at 3.8. These differences were found to be statistically significant.

One possible explanation for this pattern is that experienced teachers may have developed a deeper appreciation for the necessity of using modern technologies and adopting new ideas, and in recent years they may have focused more on improving digital literacy. Conversely, although younger teachers may be more familiar with digital technologies, they might rate themselves more critically regarding the innovative application of these technologies in teaching due to less practical experience. These conclusions are consistent with other studies, which have also found that experienced teachers emphasize the importance of digital and innovation competencies more strongly [4].

Overall analysis of results: Survey data indicate that teachers generally have high confidence in their competencies. However, relatively low self-assessments in specific areas (such as research activity and leadership) suggest the need for targeted support and professional development. Differences across age groups indicate the necessity of developing tailored development strategies for each generation of teachers — for example, training young teachers in innovative methods and regularly updating the digital literacy of experienced staff.



Discussion

Based on the results presented above, several important issues can be discussed. First, the necessity of employing modern assessment methods is reaffirmed. In this study, respondents rated themselves highly in self-assessments, but such results are relatively subjective and may not fully reflect actual competency levels. Therefore, it is important to implement assessment systems that draw on multiple sources and methods in practice. For example, when assessing a teacher, combining the following can allow one method's limitation to be compensated by others:

- direct observation of teaching skills;
- gathering students' opinions (via survey or interviews);
- analyzing the teacher's portfolio;
- testing theoretical knowledge with objective tests.

Using such a combination, the subjectivity of any single method is mitigated, and more objective conclusions can be drawn [4]. For example, relying solely on a principal's observation may introduce subjectivity, but if students' evaluations and test results are added, the assessment becomes fairer.

Comparison with other research shows similar patterns. In particular, the international study by González-Fernández et al. (2024) found that most competencies were rated highly by teachers, while leadership and research were relatively weaker [4]. This problem is also relevant to our national education system: teachers in schools and vocational institutions are less often engaged in research activities because their primary focus is on lessons and classroom work. Yet modern teachers are expected to engage in methodological inquiry and innovation — to carry out research and implement new methods in the educational process. Therefore, professional development courses should pay special attention to developing research competencies. Our study's results confirm this need.

We also consider the issue of fostering innovation competencies among younger teachers. Our data show that young teachers rated themselves lower in innovative approaches (Table 2). This may be linked to limited work experience and a lack of confidence in independently introducing innovations. To address this, mentoring programs and strengthening collaboration between experienced and young teachers would be beneficial. For example, within an educational institution, an “apprentice-master” system could be introduced, where experienced teachers assist younger staff in implementing innovative ideas. In such a supportive environment, young teachers are likely to feel freer and more inclined to apply new methods.

Regarding assessment criteria, our study underscored how important it is to define precise competency indicators. Our questionnaire included nine directions and collected ratings for each. In practice, more specific criteria need to be developed for each competency. For instance, what exactly is meant by “digital competence”? Is it the ability to use an interactive whiteboard, to create a course on an online learning platform, to teach remotely, or to adhere to information security practices? All of these should be defined as measurable criteria. Then an assessor (for example, the head of the pedagogical council) would evaluate a teacher's digital competence against the same standard. The European Commission's 2013 report also emphasized the need



for a standardized approach to developing and assessing teachers' competences, recommending the identification of a common set of skills and the development of evaluation indicators [8]. Another important aspect is the purpose of assessment and the use of its results. Contemporary views hold that professional assessment should not serve solely for certification or control, but also to support the teacher's next development plan [8]. That is, assessment should be formative — helping a teacher recognize strengths and weaknesses and identify directions for professional improvement. It is known that if the assessment process functions merely as a control mechanism, it can cause stress and resentment among teachers. Conversely, if it is organized as developmental, teachers will not fear assessment and will perceive it as an opportunity for growth. In our study, teachers' self-assessments are in themselves a form of formative assessment, and given that many rated themselves highly, we observe high professional confidence. To substantively enrich that confidence with real knowledge and skills, teachers should be given clear feedback on where to improve.

Conclusion

In conclusion, introducing modern assessment approaches for teachers' competencies widely is one of the key factors in improving the quality of education. The results of this study and the literature review indicate the following:

1. Assessment criteria must be precise and understandable;
2. Using a set of modern methods (tests, observations, surveys, portfolios, 360-degree assessment, etc.) ensures the objectivity of assessment;
3. Based on obtained scores, individualized development recommendations for each teacher should be prepared.

After all, assessing competencies is not an ultimate goal but a means to elevate the teacher.

References:

1. Nasmah N., Nadhirah S. The Urgency of Teachers' Professional Competence to Improve the Quality of Education // *Journal of Education in Islamic Review*. – 2024. – Vol. 1, No. 2. – P. 65–76.
2. Hurskaya V., Mykhaylenko S., Kartashova Z., Kushevskaya N., Zaverukha Y. Assessment and Evaluation Methods for 21st Century Education: Measuring What Matters // *Futurity Education*. – 2024. – Vol. 4, No. 4. – P. 4–17.
3. Drovnikov A., Nikolaev E., Afanasev A., Ivanov V., Petrova T., Tenyukova G., Maksimova N., Povshednaya F. Teachers Professional Competence Assessment Technology in Qualification Improvement Process // *International Review of Management and Marketing*. – 2016. – Vol. 6, No. 1. – P. 111–115.
4. González-Fernández R., Ruiz-Cabezas A., Medina Domínguez M. C., Subía-Álava A. B., Delgado Salazar J. L. Teachers' Teaching and Professional Competences Assessment // *Evaluation and Program Planning*. – 2024. – Vol. 103. – Art. No. 102396. – DOI: 10.1016/j.evalprogplan.2023.102396.



5. Molina-Moreno P., Molero-Jurado M. del M., Pérez-Fuentes M. del C., Gázquez-Linares J. J. Analysis of Personal Competences in Teachers: A Systematic Review // *Frontiers in Education*. – 2024. – Vol. 9. – Art. No. 1433908. – DOI: 10.3389/educ.2024.1433908.
6. Cambridge Assessment. Assessing “Competence” and “21st Century Skills”: Challenges and Ways Forward // *Cambridge Assessment Network and Research*. – Blog post. – Available at: <https://www.cambridgeassessment.org.uk/blogs/assessing-competence-21c-skills/>.
7. Kane M. T. The Assessment of Professional Competence // *Evaluation & Health Professions*. – 1992. – Vol. 15, No. 2. – P. 163–182. – DOI: 10.1177/016327879201500203.
8. Epstein R. M., Hundert E. M. Defining and Assessing Professional Competence // *JAMA*. – 2002. – Vol. 287, No. 2. – P. 226–235. – DOI: 10.1001/jama.287.2.226.
9. Van der Vleuten C. P. M., Schuwirth L. W. T. Assessing Professional Competence: From Methods to Programmes // *Medical Education*. – 2005. – Vol. 39, No. 3. – P. 309–317. – DOI: 10.1111/j.1365-2929.2005.02094.x.
(Note: your original input included an erroneous page range “pp. 309–888” — the correct pages are 309–317.)
10. El Hakim Y. Competency Based Learning & Assessment: A Complete Guide for 2025 // *VerifyEd Blog*. – 23.03.2025. – Available at: <https://www.verifyed.io/blog/competency-learning-assessment-guide/>.

