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ASSESSING STUDENTS' PROFESSIONAL COMPETENCIES: ANALYSIS OF PRACTICES AND DEVELOPMENT PROSPECTS[1]

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Abstract. This article studies current practices for assessing students' professional competencies within the transforming and globalizing landscape of higher education. The authors analyze key assessment models, including formative assessment, and methods such as case studies, exams with employer involvement, and the use of artificial intelligence for skills analysis. The study underscores the critical importance of feedback and the need for assessment procedures to adapt to modern labor market demands. Based on an analysis of international and domestic experience, the article proposes recommendations for enhancing assessment effectiveness, which include developing digital platforms and interdisciplinary assessment complexes. Furthermore, the study synthesizes experience in implementing effective tools for assessing student professional skills, ranging from traditional exams to real-world projects with employers. The article describes criteria for developing assessment tasks and specifics of applying grading rubrics. The materials presented will be of interest to educators and administrators in higher education institutions.

Keywords: professional competencies, assessment, students, universities, effective assessment practices, modern technologies in education

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ОЦЕНКА ПРОФЕССИОНАЛЬНЫХ КОМПЕТЕНЦИЙ СТУДЕНТОВ: АНАЛИЗ ПРАКТИК И ПЕРСПЕКТИВЫ РАЗВИТИЯ

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Аннотация. Статья посвящена исследованию современных практик оценки профессиональных компетенций студентов в условиях трансформации и глобализации высшего образования. Авторы рассматривают ключевые модели оценки (включая формирующее оценивание), а также такие методы, как case-study, экзамены с участием работодателей, использование искусственного интеллекта для анализа навыков. Подчеркивается важность обратной связи и адаптивности оценочных процедур к требованиям современного рынка труда. На основе анализа зарубежного и отечественного опыта предлагаются рекомендации по повышению эффективности оценки, включая развитие цифровых платформ и междисциплинарных оценочных комплексов. Кроме того, в статье обобщен опыт внедрения эффективных инструментов оценки профессиональных навыков студентов: от классических экзаменов до реальных проектов с работодателями. Описаны критерии разработки оценочных заданий и особенности использования критериальных матриц. Материалы статьи могут представлять интерес для педагогических работников и управленцев образовательных организаций высшего образования.

Ключевые слова: профессиональные компетенции, оценка, студенты, вузы, успешные практики оценки, современные технологии в образовании

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Introduction

The modern higher education system is undergoing significant transformations driven by globalization, digitalization, and dynamic changes in the labor market. The primary goal of universities today is not only to impart knowledge but also to develop students' professional competencies that enable them to successfully adapt, work effectively, and continuously develop in an environment of uncertainty and rapidly shifting technological paradigms. In this context, a system for assessing learning outcomes is a critical element of the educational process.

Traditional assessment methods, focused primarily on testing reproductive knowledge, are increasingly demonstrating their inadequacy in measuring complex constructs such as problem-solving skills, teamwork, creativity, and critical thinking. There is an urgent need to develop and implement assessment practices that are authentic — that is, as close as possible to real professional situations — valid, reliable, and capable of providing feedback for student development.

This article provides a comprehensive analysis of existing practices and promising areas in the field of student professional competency assessment. The aim of the study is to identify key trends and challenges, based on a theoretical analysis of domestic and international experience, and develop recommendations for improving assessment activities in higher education. The objectives of the study include:

1. Consider the evolution of approaches to assessment: from a knowledge-based paradigm to a competence-based one.
2. Analyze key assessment models and methods (formative and summative assessment, case studies , project methods, etc.).
3. To explore the role of modern technologies, including artificial intelligence and digital platforms, in transforming assessment procedures.
4. To summarize the criteria for the effectiveness of assessment tasks and the features of using criteria matrices (rubrics).
5. To formulate conclusions and promising directions for the development of a system for assessing professional competencies.

The materials of the article are of interest to the faculty, methodologists, heads of educational programs and all specialists dealing with issues of quality in higher education.

Theoretical analysis

1. Evolution of the evaluation paradigm: from control to development

Historically, the assessment system in higher education served primarily as a control and selection system. Final exams and tests (summative assessment)

were aimed at assessing the volume of knowledge acquired over a given period. However, with the transition to a competency-based approach, which has become dominant in the global educational space (including the Russian higher education system under the Federal State Educational Standard), the focus has shifted to learning outcomes, expressed in terms of the ability to apply knowledge, skills, and personal qualities for successful performance.

This has led to a reconsideration of the role and place of assessment in the educational process. Formative assessment, which is understood as a continuous process integrated into learning activities and aimed at tracking student progress, identifying difficulties, and providing timely feedback to correct learning. While summative assessment answers the question**,** "What has the student learned?", formative assessment answers the question, "How does the student learn and how can we help them improve?"

Thus, a modern, effective assessment system is a balanced combination of formative and summative approaches, where the former serves as a development tool, and the latter as a tool for certification and confirmation of the achieved level.

2. Key models and methods for assessing professional competencies

Professional competencies, as complex personal qualities, require authentic and multidimensional methods for their assessment. Among the variety of approaches, several are particularly relevant and widespread.

2.1 Traditional and modernized methods:

- **Classic written and oral exams.** Despite criticism, they retain their role in testing systematized knowledge. Their modernization involves the inclusion of problematic questions that require analysis, synthesis, and argumentation, rather than simple recitation of information.
- **Tests.** Standardized tests are useful for assessing specific knowledge and skills on a large scale. However, they are limited in assessing creativity, communication, or complex problem-solving.

2.2. Authentic assessment methods:

- **Case study (analysis of specific situations).** This method assesses a student's ability to analyze complex, unstructured professional problems, identify key issues, and propose and justify solutions. Assessment is based on the depth of analysis, logical reasoning, and the appropriateness and feasibility of proposed measures.

• **Project activities (including real projects with employers).** This is one of the most powerful assessment tools. Students work individually or in groups to solve a real-world problem provided by a partner company. This allows them to assess not only their subject knowledge but also their project thinking, time management, teamwork, communication skills, and ability to present results. Presenting the project to a committee including employer representatives makes the assessment process as authentic as possible.

• **Portfolio.** A collection of a student's work demonstrating their progress and achievements over a specific period. A portfolio may include reports, essays, case studies, drawings, code samples, practical feedback, and reflective notes. It allows for an assessment of the student's developmental trajectory and the development of competencies over time.

• **Examinations with the participation of employers (professional examinations).** Involving practitioners in the final assessment process significantly increases the validity of the assessment. Employers can assess the extent to which a student's solutions and knowledge align with the real-world requirements of the profession. Such examinations often take the form of a project presentation, a work-related problem, or a case-based interview.

• **Business games and simulations.** Simulating a professional environment allows for the assessment of behavioral skills in conditions close to real ones: decision-making under time constraints, negotiations, conflict resolution, and team management.

3. Criteria matrices (Rubrics) as a tool for standardization and objectification of assessment

The transition to assessing complex competencies required the development of tools to ensure consistency, transparency, and objectivity in judgments. Rubrics became such a tool.

A rubric is a structured assessment sheet that:

• **Describes the evaluation criteria** — key aspects of the activity or characteristics of the result that are subject to assessment (for example, "Depth of analysis", "Structure and logic", "Argumentation", "Design").

• **Defines levels of achievement** for each criterion (e.g. High, Medium, Low or a point scale).

• **Contains descriptors** — detailed descriptions of what work looks like at each level for each criterion.

Using headings allows you to:

• **For students:** clearly understand the teacher's expectations and the criteria by which their work will be assessed, which promotes self-regulation of learning.

- **For teachers:** minimize subjectivity, ensure consistency in assessments across students and teachers, and provide targeted and structured feedback.
- **Administrations:** standardize assessment procedures within the educational program.

The criteria for developing effective assessment tasks are directly related to the use of rubrics. The task should be formulated so that its completion demonstrates the competencies stated in the learning objectives, and the rubric should adequately measure them.

4. The role of modern technologies in assessing competencies

The digital transformation of education has had a profound impact impact on assessment practices.

- **Learning Management Systems (LMS):** Platforms such as Moodle, Canvas, and Blackboard provide built-in tools for creating tests, accepting assignments, maintaining an electronic portfolio, and using rubrics for assessment, which simplifies the process of formative assessment and data collection.
- **Digital badges and micro-credit:** Digital badge technology allows for the visualization and verification of specific skills (microcompetencies) outside of traditional grading systems. It is a flexible tool for developing individual educational trajectories.
- **Artificial Intelligence (AI):** The use of AI opens new horizons:
  - **Automatic task checking:** AI algorithms can grade tests and, in some cases, more complex written work (essays), freeing up teachers' time for creative and mentoring work.
  - **Skill analysis based on video:** Computer vision and natural language processing technologies make it possible to analyze video recordings of student presentations (for example, project defenses), assessing nonverbal communication, speech structure, and confidence.
  - **Adaptive testing:** AI generates personalized test trajectories, adjusting the difficulty of questions to the knowledge level of a specific student, which increases the accuracy of measurement.
  - **Big Data Analysis of Learning Analytics:** AI helps identify patterns in students' learning activities, predict their academic performance, and proactively identify those who need additional support.

Results of theoretical analysis

The conducted theoretical analysis allowed us to identify several key results characterizing the current state and trends in the field of assessing students' professional competencies.

1. **A shift in the philosophy of evaluation.** The necessity and effectiveness of the transition from the dominance of summative assessment to a balanced system, where formative assessment takes center stage as a tool for supporting the learning process and student development, has been proven. Feedback has ceased to be optional and has become a mandatory, integrated element of assessment.

2. **Dominance of authentic methods.** It has been established that the most accurate and valid assessment of professional competencies is provided by methods that simulate or directly represent real professional activity: projects (especially with employer participation), case studies, and simulations. These methods allow for the assessment of competencies, rather than by individual components.

3. **Standardization and objectification through headings.** Rubrics have become established as a key tool for ensuring transparency, consistency, and objectivity in the assessment of complex, multi-component learning outcomes. Their development and use have become an integral part of instructional design.

4. **Technologization as a driver of development.** Modern technologies, particularly digital platforms and artificial intelligence, are transforming assessment procedures, making them more:

Effective: automation of routine operations (test checking).

Personalized: adaptive testing, learning analytics.

Flexible: digital badges, online portfolio.

Deep: Soft skills analysis using AI.

5. **Integration of labor market requirements.** The analysis confirmed the growing role of employers as full participants in the assessment process. Their participation in developing assignments, criteria, and directly conducting assessments (through projects and exams) is critical to ensuring that graduates' training meets current economic demands.

6. **Identifying problem areas.** Despite the positive trends, the analysis also revealed persistent challenges:

High labor intensity: The development of high-quality, authentic assignments and rubrics, as well as their verification, require significant time investment from teaching staff.

Insufficient teacher preparedness: Many teachers need additional training in modern assessment methods and working with new technologies.

Risks of technologization: Excessive automation can lead to dehumanization of assessment, ignoring context and the creative aspects of work. Ethical and data protection issues surrounding the use of AI are also pressing.

- **Resistance to change:** inertia of educational systems, conservatism of part of the academic community.

Conclusion

The study showed that assessing students' professional competencies is a complex, multifaceted, and dynamically developing component of higher education. The shift from a purely knowledge-based paradigm to a competency-based one required a fundamental revision of the goals, content, methods, and tools of assessment activities.

A modern, effective assessment system must be comprehensive, integrated into the educational process, and developmentally oriented. Its core lies in a balance between formative assessment, which provides support and feedback, and summative assessment, which confirms the achievement of a given level of competence. The most relevant methods are authentic forms, such as projects, cases, and simulations, which allow for the assessment of the ability to apply knowledge and skills in conditions as close as possible to professional reality.

Rubrics have become a crucial tool for ensuring the quality and objectivity of assessments. Their use makes expectations and criteria transparent for all participants in the process and helps reduce subjectivity.

Digital technologies and artificial intelligence are opening new, previously unattainable opportunities for personalization, automation, and enhanced assessment. However, their implementation must be carefully considered, accompanied by ethical considerations and increased digital literacy among teachers.

A key condition for success is a close partnership with employers, which ensures that the assessed competencies are relevant and in demand in the labor market.

Thus, the further development of the system of assessing professional competencies lies in the plane of integration: the integration of formative and summative approaches, traditional and innovative methods, human expert judgment and technological capabilities, academic standards and the requirements of the professional community.

A modern system for assessing professional competencies should be based on a competency-based approach, where the focus is shifted from knowledge control to the development of abilities to apply them in professional activities.

An effective assessment system is balanced and combines formative assessment (for development and feedback) and summative assessment (for certification and verification of results).

The most valid and reliable methods for assessing complex professional competencies are authentic methods: project activities (including real projects with employers), case studies, business games and simulations.

Criteria matrices (rubrics) are a necessary tool for standardization, objectification and ensuring transparency of evaluation procedures, especially when using complex, non-standard methods.

Digital platforms and AI-powered technologies are fundamentally transforming the assessment landscape, offering solutions for automation, personalization,

and advanced data analysis, but their implementation requires careful consideration of pedagogical and ethical aspects.

Active involvement of employers in the development of assessment tools and the actual implementation of assessment is critical to ensuring that graduate training meets the needs of the economy.

Successful implementation of modern assessment approaches requires systematic efforts to improve teacher qualifications, reduce administrative barriers, and overcome resistance to change within educational organizations.

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