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DIGITAL EDUCATIONAL ENVIRONMENT: PEDAGOGICAL SKILLS AND INNOVATIVE ACTIVITY OF THE TEACHER

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ABSTRACT

The article elucidates the theoretical and methodological foundations for interpreting a teacher’s pedagogical skills and innovative activity in a digital educational environment as a system of professional competencies. In the context of digital transformation, the concept of “mastery” is not limited to the effective organization of lessons; it encompasses components such as didactic design, data-driven management, digital ethics and academic integrity, inclusive education, and the support of student subjectivity and motivation. Innovative activity is considered as a continuous professional cycle that extends from the “application” of new methods to the stages of “creation, testing, validation, and dissemination.” In addition, criteria for assessing teachers’ mastery in a digital environment and practical mechanisms for managing pedagogical innovation are proposed.

Keywords: digital education, pedagogical mastery, innovative activity, didactic design, distance learning, blended learning, learning analytics, digital competence, academic integrity.

INTRODUCTION

The rapid development of the digital educational environment requires not only the introduction of organizational and technological innovations into the learning process but also a reconsideration of the very essence of the pedagogical system. While in a traditional classroom setting the teacher primarily acted as a source of knowledge and a subject of control and management, in a digital environment the teacher performs multiple roles—as an engineer of the educational process, a facilitator, a mentor, and a scientific-methodological leader.

In this regard, digital transformation necessitates a reinterpretation of pedagogical mastery based on new criteria and the institutionalization of innovative activity not as an episodic initiative but as an integral part of professional culture.

In classical interpretations, pedagogical mastery includes methodological preparedness, speech culture, pedagogical tact, lesson organization, and subtle mechanisms of educational influence. The digital environment does not negate these components; rather, it enriches them with new “operators” such as didactic design, multimodal communication, management of learning experiences, and, most importantly, support for students’ independent learning trajectories. Therefore, in digital conditions, pedagogical mastery centers on the constructive organization of students’ activities and the facilitation of reflection.

MAIN PART

The abundance of digital tools may reduce a teacher’s innovative activity to the mere selection of platforms. In such an approach, innovation is limited to external forms—a new application, service, or format. From a scientific and pedagogical perspective, however, innovation implies the renewal of content, methods, and assessment mechanisms that lead to learning outcomes.

Thus, in a digital environment, innovative activity should be viewed through the following sequence: **diagnostics – design – pilot implementation – validation – dissemination**. This approach strengthens innovation as an evidence-based practice rather than a trend.

The digital dimension of pedagogical mastery is primarily reflected in the quality of didactic decisions. In distance or blended learning, the teacher must carefully balance workload, the ratio of synchronous and asynchronous activities, task complexity, and feedback speed and format. In

asynchronous segments, the phenomenon of the "invisible lesson" becomes prominent: the teacher is not physically present, yet their methodological influence is evident in every step of the learner. Therefore, one of the key indicators of mastery in a digital environment is the quality of instructional materials linked to clear and measurable learning outcomes.

Assessment in digital education is one of the most sensitive aspects of pedagogical mastery. Online tests, automated grading, proctoring, and portfolios are widely used, yet their appropriate and fair integration requires high methodological literacy. Ensuring academic integrity depends not only on technical control but also on assessment design: authentic tasks, process-oriented evaluation, development of source-use culture, and explanation of new ethical issues related to plagiarism and AI-generated texts. In this context, the teacher acts not as a controller but as a builder of academic culture.

A crucial condition for innovative activity is adopting a reflective and research-oriented stance in digital pedagogy. When designing a digital course, a teacher essentially conducts small-scale pedagogical research: formulating hypotheses, developing interventions, measuring results, and improving the course based on conclusions. When enriched with elements of learning analytics, intuitive decisions become evidence-based, and personal experience transforms into methodological products.

Managing innovative activity in digital education is also essential. If innovation relies solely on individual enthusiasm, it lacks sustainability. Therefore, institutional mechanisms such as methodological services, mentoring, professional development programs, experience-sharing seminars, open lessons, and digital course banks must be established. Without motivational support (recognition, workload consideration, encouragement of methodological outcomes), digital transformation may be perceived as an additional burden, leading to quality decline.

Digital education also intensifies issues of inclusion and equity. Differences in platform access, internet quality, device availability, and digital literacy require teachers to make specific pedagogical decisions: providing low-traffic materials, alternative assignments, flexible deadlines, universal design principles, subtitles and transcripts for videos, and diverse communication channels. These decisions reflect the humanistic dimension of pedagogical mastery in a digital environment.

ANALYSIS AND RESULTS

The digital educational environment represents not merely the enhancement of traditional lessons with technology but a reorganization of the entire cycle of pedagogical work. In this context, pedagogical mastery integrates didactic design, resource creation, remote management of learning activities, transparent assessment, and information security competencies.

Pedagogical mastery in digital conditions may be interpreted as **"digital-didactic mastery."** It involves not only knowing technical tools but transforming technological opportunities into didactic outcomes.

Innovative activity in the digital environment is characterized by the cycle of developing, testing, evaluating, and disseminating pedagogical innovations. Its key features include:

1. Scientific-methodological diagnosis of problems;
2. Prototyping solutions in a digital environment;
3. Evidence-based validation of results.

Analysis shows that digital pedagogical mastery should be assessed through a three-level model of maturity:

- **Instrumental maturity:** ability to use platforms, upload content, create simple tests, conduct video lessons.

- **Didactic maturity:** linking digital tools to pedagogical methods, differentiating tasks, implementing formative assessment, improving feedback quality.
- **Transformative maturity:** redesigning courses based on analytics, fostering metacognitive skills (self-regulation, academic integrity, media literacy), and disseminating innovations institutionally.

Empirical observations highlight several stable tendencies:

- Innovative competence increasingly includes effective ICT use, innovation development, and digital culture.
- Differences remain in teachers' methodological readiness despite widespread platform usage.
- Organizational and methodological support significantly influences innovation sustainability.
- Classical components of pedagogical mastery remain relevant and even more visible in online communication.

A practical model for developing teachers' pedagogical mastery and innovative activity in digital education may function effectively within three interconnected contours:

1. Content-didactic contour;
2. Communication-management contour;
3. Assessment-reflection contour.

When integrated, these contours transform innovation from isolated actions into a strategic scientific-methodological development process.

CONCLUSION

In conclusion, in a digital educational environment, pedagogical mastery is not merely knowledge of technology but the ability to scientifically redesign educational goals, content, methods, and assessment through technology. Innovative activity manifests as a professional strategy based on identifying pedagogical problems, designing solutions, testing, validating, and disseminating them. Only such an approach can transform digital transformation into a sustainable process that enhances educational quality, academic culture, and human capital development.

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