CZU: 37.091.26:004.9 + 37.018.43 https://doi.org/10.59295/drgl2026.43

IMPLEMENTING DIGITAL EVALUATION FOR EFFECTIVE SCHOOL ASSESSMENT

Lucia ȘCHIOPU
PhD, Associate Professor
State Pedagogical University ”Ion Creangă”, Republic of Moldova
ORCID: https://orcid.org/0000-0001-8342-1385

Abstract. This article, written within the project Digitalization of the initial teacher training process to ensure an effective teaching approach in line with labor market demands (code 040102), presents a comprehensive digital model for evaluating educational institutions, integrating the assessment of students, teaching staff, curriculum, school environment, extracurricular activities, and administrative support services. It emphasizes a standards-based systematic approach, enhanced through digital tools and platforms, and guided by valorization, measurement, assessment, effective instruction, school performance, examination, and competition. The model incorporates digital performance dashboards, online assessments, e-portfolios, and real-time data analytics to provide actionable insights. Within this context, clear performance criteria and descriptors for teachers and staff are outlined, aiming to enhance professional competences, foster reflective practices, and establish collaborative learning communities. Practical strategies for digital school evaluation implementation—including evaluation instruments, rating systems, mentoring, and consequences for ineffective performance—are described to ensure accountability and continuous improvement. This framework provides educational institutions with a structured, multidimensional digital evaluation system that supports high-quality education, professional development, and measurable student outcomes in real time.

Keywords: *digital school evaluation, teacher performance, student assessment, educational standards, online assessment, real-time analytics*

Key Criteria in Digital School Evaluation

According to Ridgway, Mccusker, Pead (2004) E-assessment is the use of digital tools and computer-based systems to design, deliver, record, and analyze learning outcomes[15]. Swart, Shuttleworth (2021) treats technology not just as a tool, but as an active participant that influences assessment design, delivery, and feedback [17]. Within the field of docimology there are several evaluative criteria that remain essential for a comprehensive assessment of schools and educational outcomes enhanced through digital tools and platforms. These include: valorization, measurement, assessment, effectiveness of instruction, school performance, examination, and competition. Each evaluative criterion plays a distinct role in gauging how educational institutions and learners monitor, perform, and improve their outcomes systematically within a digital learning environment [12].

Valorization refers to the process of controlling and verifying school progress through digital monitoring systems such as online dashboards, learning analytics, and e-portfolios. Online dashboards, learning analytics, and e-portfolios allow schools to examine whether the knowledge and skills outlined in the curriculum have been effectively acquired by students. Digital valorization helps identify deficiencies, confirm areas of achievement, and determine improvement measures in real time.

Measurement is the quantitative process of determining the extent of knowledge, skills, or competencies possessed by students using digital assessment tools. Online quizzes, automated scoring, and data dashboards provide numerical data reflecting the results achieved at a given point in time. Unlike assessment, digital measurement remains purely quantitative and does not evaluate the quality of learning outcomes.

Assessment, closely related to measurement, involves making judgments about the instructional and educational process based on digital data. According to Ridgway, Mccusker, Pead (2004) there are the following types of E-Assessment: online quizzes and tests; computer-based examinations; automated marking systems; interactive tasks and simulations; electronic portfolios (e-portfolios) [15]. Swart, Shuttleworth consider the following alternative assessment methods such as: project-based tasks, simulations, online assignments, and collaborative digital assessments that allow continuous monitoring of student progress and provide automated or semi-automated feedback improving learning outcomes [17]. Learning Management Systems (LMS), online quizzes, polling tools, interactive platforms and e-portfolios interpret measurement results often expressing outcomes through grades, competency scores, or qualitative analytics [16]. Digital assessment allows educators to provide timely feedback, personalize instruction, and improve the learning process [11], [16]. The **benefits of E-Assessment include the** immediate feedback, increased efficiency in marking, improved data collection and analysis, opportunities for adaptive testing and enhanced student engagement [15].

Effectiveness of instruction refers to the institution's capacity to achieve expected outcomes using digital tools for learning and tracking progress. Data from LMS, adaptive learning platforms, and analytics systems demonstrate whether knowledge, skills, and attitudes are effectively developed in the context of academic programs, reflecting both micro-level instructional efforts and macro-level educational strategies [9].

School performance gauges the progress and learning outcomes quality achieved by students, classes, or the institution as a whole, monitored through digital performance dashboards, and reporting systems. Digital evaluation highlights improvements, attainment of educational goals, and overall instructional and learning productivity. Performance is measured not only in terms of grades but also through meaningful engagement, skill development, motivation and competency acquisition.

Davis (1989) explained in the Technology Acceptance Model (TAM) the role of motivation while working in digitalized environment. The students are motivated to work with digital tools when they perceive two factors [7, p. 44]:

- Perceived Usefulness (PU) – the extent to which students believe that using a particular digital tool will help them complete school tasks more effectively and improve their academic performance.
- Perceived Ease of Use (PEOU) – the extent to which students believe that a digital tool will be easy to use because it requires minimal effort.

When students develop both Perceived Usefulness (a digital tool is useful) and Perceived Ease of Use (a digital tool is easy to use), they develop Attitude Toward Use (a positive attitude toward it) and Behavioral Intention to Use that leads to the Actual Use. In the school context, this means that students and the teaching staff are more likely to use digital learning tools, online platforms, and educational applications when they find them helpful for learning and teaching [14].

Examination serves as a formal mechanism of control, now increasingly administered digitally. Online assessments, adaptive tests and digital competency evaluations provide a structured way to balance, orient, and predict learning outcomes. Digital examinations help

identify students' acquired competencies and emphasize areas requiring further development. An important role in examination plays the immediate feedback, which allows students to see mistakes in real time and receive hints or step-by-step guidance to correct them. This helps students focus on areas they struggle with, track their progress, and stay engaged in learning calculus (the set of skills students are expected to acquire) [18]. Another aspect to take into account is the mechanism of elaboration of the multiple-choice questions for online examination. Xu, Kauer, Tupy (2016) recommend for effective multiple-choice questions for digital examination to write clear and concise stems aligned with learning objectives, use 3–4 plausible distractors, avoid ambiguity, provide immediate feedback explaining correct and incorrect answers, randomize answer order, and use accessible language appropriate for students [19].

Competition is the organized comparison of individual or group performance using digital platforms, gamified assessments and online contests. It encourages learners to demonstrate talents, skills, and knowledge while fostering self-assessment, identifying strengths, and providing guidance for future educational or professional choices [12].

Together, these digital criteria form the foundation for a rigorous, multidimensional evaluation process that informs decision-making, supports teacher development, and promotes student achievement. By integrating valorization, measurement, assessment, school performance, examinations, and competition through digital tools, schools can ensure continuous improvement, transparency, and accountability across all levels of the educational process.

A Comprehensive Model for Digital School Evaluation

Digital evaluation is a complex and mandatory process in every educational institution designed to assess, measure, and improve performance across all levels using modern technology. Its purpose is to provide a structured, data-driven framework for understanding and enhancing the outcomes of students, teachers, and the institution as a whole. By leveraging digital platforms and analytics, evaluation ensures that the school functions efficiently, equitably, and effectively. Evaluation Domains are: Student Performance, Teacher Effectiveness, Curriculum and Programs, School Environment, Extracurricular Activities, Administrative and Support Services [6].

Student Performance is a core area of digital evaluation [9]. It includes: assessing academic achievements through online tests, e-assignments, interactive projects, and learning analytics; monitoring virtual class participation and engagement; observing behavioral and social development using digital observation tools. These digital assessments provide real-time feedback, track individual progress, and help identify areas requiring support [3].

Teacher Effectiveness is another crucial domain. Digital evaluation examines the psycho-sociological potential of teachers, their professional and didactic behavior, and their motivation and commitment to professional growth. Online surveys, self-assessment tools, digital portfolios, and analytics from learning management systems allow institutions to recognize strengths and identify areas for professional development fostering a highly competent and cohesive teaching staff [3].

The Curriculum and Programs are assessed for their inclusiveness, adaptability, relevance, and effectiveness in achieving the school's educational goals. Digital curriculum mapping tools and online program tracking ensure that learning opportunities are equitable, meaningful and aligned with both student needs, and institutional objectives [4].

School Environment evaluation focuses on safety and well-being, the adequacy of facilities and digital resources, and the organizational culture that supports learning. Online

monitoring systems, virtual collaboration platforms and digital feedback mechanisms help ensure a positive, and well-equipped resource-rich environment that supports both student development and teacher effectiveness [2].

Extracurricular Activities are evaluated to understand student involvement, program quality and the ways digital or blended activities contribute to learning, personal growth, and skill development. These activities supported by virtual clubs, online competitions and digital skill-building platforms, extend the formal curriculum, and foster holistic development [6].

Administrative and Support Services are assessed through the performance of school leadership, digital counseling services, special needs education platforms and collaboration with parents, and the wider community via communication apps, and portals. Effective digital administration ensures that both students and teachers receive the appropriate support needed to achieve institutional goals.

Digital Evaluation of Teaching Staff: Goals, Standards, and Performance Criteria

The digital evaluation of teaching staff is a central component of school assessment leveraging technology to enhance professional competence, promote reflective practice and foster a collaborative learning community. The use of digital tools provides timely, accurate, and data-driven feedback for professional development. The primary goals of digital staff evaluation include [10, p. 17]:

- ✓ Enhancing professional competencies through online training platforms, webinars and shared digital best practices.
- ✓ Strengthening motivation for personalized, technology-supported professional development plans.
- ✓ Developing capacity for digital reflection and self-evaluation using e-portfolios, online surveys, and analytics dashboards.
- ✓ Encouraging evaluation practices within the institution to support continuous improvement through data-driven decision-making.
- ✓ Establishing a learning community that fosters collaboration via digital forums, virtual meetings, and cloud-based knowledge sharing.

In digital evaluation, performance refers to measurable outcomes achieved by students, teachers, classes, departments within the institution tracked and analyzed through digital platforms. Performance standards (how well goals have been met and tasks executed) define expected levels of achievement for staff and managers highlighting. These standards guide evaluation and are grounded in research, institutional policies, and digital evidence [10, p. 38].

Digital Performance Evaluation Process consists of:

- ✓ Establishing performance criteria and evaluation methods aligned with institutional goals and supported by digital monitoring tools.
- ✓ Communicating expectations through online dashboards, institutional portals, or digital handbooks.
- ✓ Measuring current performance using qualitative and quantitative data collected via digital platforms, such as online teaching analytics, student feedback surveys, and e-portfolios.
- ✓ Discussing evaluation results through video conferences or learning management system reports, implementing corrective actions where needed.
- ✓ Comparing performance with established standards using digital metrics and benchmarking tools to ensure consistency and accountability.

The Seven Key Digital Performance Criteria for Teaching Staff serve as a framework for evaluating the educators and include the following [4, p. 12-21]:

- Professional Knowledge- understanding curriculum, learning objectives, student developmental needs and delivering relevant instruction supported by digital resources.
- Instructional Design- planning lessons that integrate curriculum standards, digital competencies, online resources and effective teaching strategies for all learners.
- Content Delivery- engaging students using blended learning, online tools, interactive platforms, and adaptive learning technologies.
- Assessment and Evaluation- gathering, analyzing and using digital data to monitor student progress, guide instruction, and provide feedback to students and parents in real time.
- Learning Environment- creating a safe, respectful and technology-enriched learning environment that supports collaboration, and engagement.
- Professionalism- upholding ethical standards engaging in online professional development and maintaining digital communication with students, families, colleagues, and the community.
- Student Achievement- facilitating measurable student progress through the combined use of digital tools, online assessments and interactive learning platforms.

Within the context of digital evaluation digital, Performance Descriptors for Teachers represent specific, observable indicators used to evaluate how effectively teachers integrate digital tools and technology into their professional practice. These are [5, p. 100-115]:

- ✓ Creates a dynamic, inclusive and technology-integrated learning environment.
- ✓ Supports learners' knowledge, digital skills, and attitudes.
- ✓ Individualizes instruction using adaptive learning technologies and online interventions.
- ✓ Sets goals and consistently tracks progress through digital monitoring systems.
- ✓ Utilizes ICT tools and online pedagogical strategies effectively.
- ✓ Develops students' critical thinking, problem-solving, metacognition, and digital literacy skills.

By integrating digital tools, learning analytics and e-assessment platforms, digital evaluation ensures that teaching staff development is targeted, teaching quality is continuously improved, and the institution maintains a culture of excellence, accountability, and innovation.

The Digital School Evaluation Model

The Digital School Evaluation Model is designed to support continuous professional development for teachers through digital feedback and analytics promoting a cohesive school community. This model is based on research, professional standards, transparent and objective assessment of learning, and institutional outcomes, and it ensures that decisions are fair, data-driven, and focused on continuous improvement. The model consists of the following key elements:

1. Digital evaluation is a systematic, technology-supported process that addresses multiple domains: Students, Teachers, Curriculum and Programs, School Environment, Extracurricular Activities, Administrative Support Services. The digital school evaluation process is guided by digital standards, online indicators and performance descriptors aiming to build a high-performing professional team, and a digitally supported learning environment.

2. Key Evaluation Criteria in Digital Evaluation are Valorization, Measurement, Assessment, Effective Instruction, School Performance, Examination, Competition.
3. Goals of Digital Teaching Staff Evaluation are to:

- Enhance professional knowledge and teaching competence using digital learning platforms.
- Promote self-reflection and continuous improvement through e-portfolios and analytics.
- Encourage a culture of digital evaluation across the institution.
- Foster collaboration and a professional online learning community.

4. Digital Performance Standards are structured around seven main criteria:
Professional Knowledge, Instructional Design, Content Delivery, Assessment and Evaluation, Learning Environment, Professionalism, Student Achievement.
5. Digital Evaluation System applies to all teaching and support staff; it is mandatory and primarily conducted internally. Evaluation is applied every 1–2 years while probationary staff are monitored annually using digital tools. The system employs multiple instruments such as annual reports, digital classroom observation, interviews via video conferencing, portfolios, and online evidence.
6. The Digital Rating System classifies performance into Highly Effective, Effective, Minimally Effective, Ineffective. The Initial Appraisal categorizes staff as either Outstanding, Exemplary, Satisfactory, Requiring Development Support. The evaluations are conducted by the school principal, mentors supported by digital observation and reporting tools.

Conclusions

The proposed Digital School Evaluation Model provides a comprehensive and systematic approach to assessing educational institutions using technology-enabled tools. By considering multiple domains—including students, teachers, curriculum, school environment, extracurricular activities, and administrative support—the Digital School Evaluation Model ensures that all aspects of the school ecosystem are monitored and analyzed efficiently. The integration of digital platforms, analytics dashboards, online assessments, and e-portfolios allows for real-time tracking, data-driven insights, and more accurate measurement of outcomes. The model's structured use of performance standards, digital indicators and descriptors fosters a culture of reflection, collaboration, and continuous professional growth among teaching staff. Technology facilitates personalized feedback, adaptive learning and targeted professional development making evaluation more actionable and transparent.

The digital evaluation process is guided by standards, indicators and performance descriptors, which provide clarity, and consistency. It is designed not only to measure outcomes but also to promote professional development, enhance collaboration among staff through digital platforms, and create a unified, high-performing teaching community. The five areas of competence priority (teaching-learning-evaluation processes, learning environment, personal and professional development, and family-community partnerships) form the foundation of the Digital School Evaluation Model ensuring that all aspects of the educational experience are systematically considered and supported by technology.

Bibliography:

1. ANDRIŢCHI, Viorica, (2012) – *Teoria şi metodologia resurselor umane în învăţământ*, Chişinău: Print-Caro, 288 p.
2. BACIU, Sergiu, (2007) – *Managementul instituţiei şcolare*, Chişinău: Ştiinţa, 54 p.
3. BROWN, Sally, RACE, Phil, (2013) – *Using Effective Assessment to Promote Learning*, London: Routledge, 28 p.
4. CAPRINI, V., MITROI, E., BĂLAN, M., GRIGORESCU, E., PETRE, C., (2005) – *Ghid practic al evaluatorului de competenţe profesionale*, Bucureşti: CNEPA, 43 p.
5. COJOCARU, Vasile, COJOCARU, Valentina, POSTICA, Angela, (2011) – *Diagnosticarea pedagogică din perspectiva calităţii educaţiei*, Chişinău, 191 p.
6. CRISTEA, Sorin, (2003) – *Managementul organizaţiei şcolare*, Bucureşti: Editura Didactică şi Pedagogică. 223 p.
7. DAVIS, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340.
8. DEACONU, Alexandrina, PODGOREANU, Simona, RAŞCĂ, Lavinia, (2004) – *Factorul uman şi performanţele organizaţiei*, Bucureşti: ASE.
9. IOSIFESCU, Şerban, (2005) – *Asigurarea calităţii: Ghid pentru unităţile şcolare*, Bucureşti: Institutul de Ştiinţe ale Educaţiei. 140 p.
10. JISC, (2010) – *Effective Assessment in a Digital Age: A Guide to Technology-Enhanced Assessment and Feedback*, Bristol: Joint Information Systems Committee, 56 p.
11. JURĀNE-BRĒMANE, Anžela, (2023) – *Digital Assessment in Technology-Enriched Education: Thematic Review*, Educ. Sci., 13(5), 522.
12. LISIEVICI, Petru, (2002) – *Evaluarea în învăţământ. Teorie, practică, instrumente*, Bucureşti: Aramis Print, 304 p.
13. NICOLAESCU- ONOFREI, Liliana, (2001) – *Evaluarea cadrelor didactice şi dezvoltarea profesională*, Revista Didactica Pro. p.22-25.
14. PODSIAD, Maria, HAVARD, Byron, (2020) – *Faculty acceptance of the peer assessment collaboration evaluation tool: A quantitative study*, Educational Technology Research and Development, 68, 1381–1407.
15. **RIDGWAY, John; MCCUSKER, Stephen; PEAD, Darrell. (2004)** – *Literature Review of E-Assessment.* Project Report. Bristol, UK: Futurelab.
16. ROBERTSON, S.N.; HUMPHREY, S.M.; STEELE, J.P. (2019) – *Using technology tools for formative assessments*, Journal of Educators Online, 16, 1–10.
17. SWART, Olga; SHUTTLEWORTH, Cheryl C., (2021) – *The new face of alternative assessment in accounting sciences—Technology as an anthropomorphic stakeholder*, South African Journal of Higher Education, 35, 200–219.
18. WONG, Siew F.; MAHMUD, Mohd M.; WONG, Shu S., (2020) – *Effectiveness of formative e-assessment procedure: Learning calculus in blended learning environment*, In *Proceedings of the 2020 8th International Conference on Communications and Broadband Networking*, Auckland, New Zealand, 15–18 April 2020.
19. XU, Xia; KAUER, Steven; TUPY, Scott, (2016) – *Multiple-choice questions: Tips for optimizing assessment in-seat and online*, Scholarship of Teaching and Learning in Psychology, 2(2), 147–158.