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Paper

Title: Remote assessment in higher education: A framework for quality and integrity

Abstract

Higher education is undergoing a profound transformation, fuelled by technological innovation and a growing demand for flexible, inclusive learning. The REMOTE project, supported by the Erasmus+ programme, responds by enhancing the quality of remote learning and assessment—particularly in STEM disciplines, though its relevance extends broadly across academic fields.

The rapid digitalization of education, accelerated by recent global events, has highlighted the urgent need for scalable, user-friendly platforms and robust assessment frameworks that uphold academic standards while addressing the needs of diverse learners. In this evolving context, blended learning

models that combine online and in-person components are emerging as key to delivering both theoretical and practical competencies.

To support institutions and Quality Assurance (QA) Agencies in navigating these changes, a consortium of universities and external QA Agencies from Italy, Spain, and Portugal has developed a set of Guidelines for remote assessment, closely aligned with the European Standards and Guidelines (ESG). The Guidelines want to equip HEIs with practical tools for implementing remote assessments and offer QQAs a framework to evaluate the quality and integrity of such practices. So far, the rationale behind is to foster quality, integrity, and inclusivity in digital education enhancing institutions and QQAs digital assessment practices.

At the core of the Guidelines are twelve standards that provide a structured framework for developing, implementing, and evaluating remote assessment practices. They address key areas such as institutional policies, digital infrastructure, assessment design, academic integrity, and learner support.

Ultimately, the Guidelines are a timely response to the changing educational landscape, some of them triggered by recent emergency events, that highlighted the need for new approaches and answers to emerging challenges, offering a shared and robust quality framework while supporting innovation, accountability, and student success in the digital age.

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INTRODUCTION. NAVIGATING THE EVOLVING LANDSCAPE OF REMOTE ASSESSMENT

The realm of higher education is undergoing a significant transformation, propelled by technological advances and evolving pedagogical models. At the forefront of this shift is the REMOTE project, an Erasmus+ initiative focused on improving the quality of remote learning and assessment, especially in STEM disciplines, while recognizing its broader relevance. The project highlights the integration of emerging technologies—AI, Big Data, Blockchain, AR/VR, and IoT—into educational practices, requiring a solid framework to maintain high standards in online learning environments.

The rapid shift to digital education, especially in response to global events, has underscored the urgent need for scalable, intuitive platforms and assessment tools that support diverse, equitable formats. At the same time, hybrid models combining online, and in-person assessments have proven promising in leveraging the strengths of both. In this context, the *Guidelines for Remote Assessment in STEM (and other fields)* were developed by a consortium of Higher Education Institutions and External Quality Assurance Agencies (EQAAs) from Italy, Spain, and Portugal, led by ANVUR (Italy's EQAA).

These Guidelines serve a dual function: equipping HEIs with practical tools for implementing remote assessments and offering QQAs a framework to evaluate the quality and integrity of such practices. Drawing from earlier initiatives like SMART-QUAL and TESLA, the Guidelines are grounded in proven quality management systems and advanced e-assessment technologies. The collaborative development process brings together national and international best practices, ensuring broad applicability and alignment with the European Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), Parts 1 and 2.

This paper provides an overview of the Guidelines' principles, standards, and recommendations, aimed at navigating the complexities of remote assessment and maintaining high-quality digital education. It covers the evolution of online learning, essential assessment concepts, the 12 QA standards for remote assessment, and practical recommendations for QA agencies. Ultimately, the Guidelines outline a path toward inclusive, transparent, and effective digital assessment methods that uphold academic integrity and measure learning achievements accurately.

THE EVOLVING LANDSCAPE OF ONLINE TEACHING AND LEARNING: OPPORTUNITIES AND CHALLENGES

The trajectory of online education has been shaped by continuous innovation, redefining higher education. From early correspondence courses to computer-based systems and online conferencing in the 20th century, digital technologies have steadily expanded their role. The 1990s saw the birth of fully online universities, followed by hybrid programs supported by high-speed internet and digital platforms. Massive Open Online Courses (MOOCs) broadened educational access, while the COVID-19 pandemic accelerated digital teaching and learning worldwide.

One of online education's core strengths is flexibility—broadening access to diverse learners, including underrepresented groups. Personalized learning is facilitated through adaptive content, hybrid assessments, and continuous feedback. Virtual campuses foster interaction and resource accessibility, while administrative and teaching processes become more efficient. Increasingly, universities are leveraging technology for customized learning pathways, using tools like flipped classrooms, gamification, and flexible formats to boost student satisfaction and educational quality.

In the REMOTE project countries—Italy, Spain, and Portugal—online learning has grown significantly in response to rising demand for flexible study options:

- Italy: Distance learning universities now serve a sizable student population, with a marked increase in graduates. Online programs are concentrated in economics, law, and social sciences, followed by STEM. Yet, challenges remain: high student-teacher ratios and dependence on temporary faculty have led ANVUR to revise QA protocols, requiring in-person exams and setting minimum ratios for full-time staff.

- Portugal: A 2019 legal framework for distance education has led to a boom in offerings, mainly through private institutions focused on business and social sciences.

- Spain: Non-presential public and private universities have grown rapidly, attracting diverse students, especially in humanities and social sciences. ANECA (Spain's national QA agency) has introduced a specialized seal for evaluating non-presential and hybrid teaching, focusing on program design, technology use, and student experience. AQU Catalunya (the Catalan QAagency), has published a document* that aims to provide guidance to universities andassessment committees on how they should approach the design, implementation andassessment of online degree programmes.

Looking forward, online education continues to evolve, addressing challenges while embracing innovation. Persistent issues such as academic integrity, student engagement, and digital infrastructure—particularly in STEM areas—remain vital. However, new technologies present solutions: AI enables personalized learning and automated feedback; VR/AR supports immersive simulations; micro-credentials and modular learning align education with workforce demands and promote lifelong learning.

Equity, accessibility, and sustainability are central to the future of digital education. Adaptive, multilingual platforms can expand access, and universities are adopting greener practices. However, QA frameworks must evolve to assess AI-driven tools effectively, and the digital divide—especially in underserved regions—must be addressed to avoid deepening educational inequalities.

KEY PRINCIPLES OF ASSESSMENT IN ONLINE ENVIRONMENTS: ENSURING VALIDITY, RELIABILITY, FLEXIBILITY, AND FAIRNESS

Assessment—the systematic collection and analysis of evidence to evaluate student learning, instructional effectiveness, and educational quality—is a cornerstone of the educational process. It serves multiple purposes: measuring achievement, identifying learning gaps, guiding instruction, providing feedback, and ensuring institutional accountability.

Assessment methods can be broadly categorized by purpose and timing. *Formative assessment* is ongoing and closely tied to the learning process, offering continuous feedback to improve teaching and learning. Tools like quizzes, drafts, peer reviews, and interactive activities help students develop skills such as self-regulation, reflection, and metacognition—key assets in today's job market. *Summative* *assessment*, in contrast, evaluates achievement at the end of a learning cycle. Final exams, term papers, and capstone projects fall into this category, playing a key role in determining grades and requiring alignment with learning objectives to accurately measure outcomes.

Assessments also differ by their temporal structure. *Synchronous assessments* occur in real-time—via live lectures, webinars, or virtual classrooms—allowing for immediate interaction and feedback. *Asynchronous assessments*, like recorded lectures, readings, and assignments with flexible deadlines, offer adaptability to various learning styles and schedules.

Transitioning assessments to online and distance education introduces unique challenges, especially in STEM disciplines, which often depend on hands-on, problem-solving experiences. However, digital assessment formats offer flexibility and scalability, while striving to uphold academic integrity and engage learners meaningfully.

Online assessments can be grouped by focus:

- *Knowledge verification*: Assesses foundational understanding and structured reasoning using tools like online presentations, written assignments, open-ended and multiple-choice questions, or concept maps.

- *Practical skills and competencies*: Measures application of knowledge in real-world settings through simulations, model creation, technical reports, role-playing, group projects, and collaborative knowledge-building.

- *Creativity and innovation*: Evaluates students' ability to apply knowledge creatively, using tasks like portfolios, AR/VR experiences, game-based evaluations, and complex scenario simulations.

Regardless of format, a robust assessment system should target several learning dimensions:

- *Understanding and interpretation*: Demonstrating grasp of core concepts and the ability to summarize and connect them meaningfully.

- *Application of knowledge*: Applying what's learned to solve problems and make informed decisions.

- *Critical analysis and evaluation*: Independently assessing information, constructing reasoned arguments, and handling complexity with insight.

- *Synthesis and creativity*: Integrating interdisciplinary knowledge, exploring novel solutions, and forming meaningful connections across topics.

The most effective distance STEM assessments often employ a blend of methods to achieve a balance between student engagement, the maintenance of academic integrity, and the scalability required for diverse learning environments.

While e-assessments offer many advantages, their applicability has limitations. Some scenarios—especially those requiring hands-on skills, specialized equipment, or real-world conditions—are not easily adaptable to fully online formats. This includes clinical training in healthcare, lab-based sciences, and high-stakes professional certifications requiring secure, proctored environments. In such cases, hybrid models that combine digital tools with in-person practical components often provide the most effective solution.

Integrating e-assessment into higher education also presents ongoing challenges. Reliable technological infrastructure—stable internet and technical support—is essential. Safeguarding academic integrity and reducing risks like plagiarism and identity fraud requires secure platforms, advanced authentication, and assessments that emphasize critical thinking. Moreover, both students and educators need adequate digital literacy, supported by training and continuous assistance. Lastly, equity and accessibility must be prioritized, ensuring students with disabilities or limited tech access receive the accommodations and support needed, guided by universal design principles.

THE QUALITY ASSURANCE FRAMEWORK FOR REMOTE ASSESSMENT: ENSURING EXCELLENCE IN THE DIGITAL REALM

Ensuring the quality of online teaching and learning is essential to maintaining academic standards and delivering effective, meaningful educational experiences in digital environments. The European Association for Quality Assurance in Higher Education (ENQA) provides key recommendations to support institutions in integrating quality assurance (QA) for e-learning within broader institutional strategies, in line with the *European Standards and Guidelines* (ESG).

Institutions should embed e-learning within existing QA frameworks, ensuring alignment with national qualifications, clearly defined learning outcomes, and pedagogical methods suited to digital delivery. A student-centered approach—offering flexibility, diverse learning methods, and targeted support—is crucial for meeting the needs of online learners.

Staff development is central to high-quality online education. Teaching staff must be trained in digital pedagogy and equipped with the necessary tools to engage effectively online. Likewise, administrative staff require appropriate training to support virtual learning environments.

External QA plays a critical role in validating internal efforts, assessing factors like the effectiveness of Virtual Learning Environments (VLEs), program alignment with institutional goals, and impact on student outcomes. QA mechanisms must evolve alongside technological and educational advances to ensure that online learning remains accessible, inclusive, and effective.

In distance education—absent the traditional classroom—assessment tools must capture not only theoretical knowledge but also skills like independent work, time management, and digital literacy. Modern assessment strategies should blend traditional exams with interactive elements such as online discussions, peer review, collaborative tasks, and real-world problem-solving. Problem-based learning, in particular, helps assess analytical, synthetic, and creative skills through complex, applied challenges.

An effective assessment system should be built upon at least the following four fundamental pillars:

- *Validity*: The chosen assessment method must accurately measure what it intends to assess, without introducing distortions. For instance, evaluating teamwork skills effectively requires collaborative projects rather than individual multiple-choice quizzes.

- *Reliability*: Assessment results should be consistent and reproducible. Achieving reliability necessitates the establishment of clear evaluation criteria, detailed rubrics, and comprehensive guidelines to minimize subjectivity in grading.

- *Flexibility*: Assessment methods should be adaptable to accommodate diverse learning styles and individual student needs, allowing for a variety of formats such as written tests, oral presentations, or practical projects.

- *Fairness and inclusivity*: All students should have equal opportunities to demonstrate their learning, which includes providing suitable accommodations for those with disabilities, learning difficulties, or technical barriers in online assessments.

To ensure quality, integrity, and inclusivity in online assessments, the *Guidelines* outline twelve key standards, informed by prior research—especially the TESLA Project—and the REMOTE project findings. Aligned with the ESG, these standards cover essential areas such as institutional policies, assessment methods, technology infrastructure, and learner support. They aim to guide higher education institutions in strengthening digital assessment practices and provide QA agencies with a solid framework for evaluation. Each standard includes specific indicators and minimum evidence requirements to support implementation and review.

1. Institutional policies on online teaching, learning and assessment: Emphasizes the need for clear institutional policies that embed ethical standards, align with pedagogical models and regulations, and address academic fraud, accessibility, technical support, and the responsible use of new technologies.

2. Assessment objectives and methods ('fitness for purpose'): Focuses on the alignment of clearly defined assessment objectives with educational goals and pedagogical models, promoting varied and innovative e-assessment methods that are flexible, inclusive, and reliably measure learning outcomes56 ....
3. Transparency and integrity: Underscores the importance of transparent communication of assessment criteria and procedures, secure e-assessment systems, robust learner authentication, and effective anti-plagiarism technologies to ensure academic integrity.
4. System requirements, technical responsiveness, tools and resources: Highlights the necessity of appropriate, user-friendly, and accessible technologies for effective e-assessment, aligned with the chosen methods, and supported by adequate resources and prompt technical support.
5. Scientific disciplines tailored and adaptable tools: Emphasizes the provision of discipline-specific and adaptable digital tools for scientific disciplines that align with pedagogical objectives, technological advancements, and academic integrity, fostering an inclusive and effective learning environment.
6. Learners information and support: Focuses on ensuring that learners receive clear, accessible, and comprehensive information and support regarding digital learning environments and assessment tools, enhancing their engagement and promoting academic success.
7. Teaching staff training and technical support: Highlights the need for comprehensive training and ongoing technical support for teaching staff to effectively engage with digital learning environments, integrate online assessment methods, and enhance the quality of remote education83 ....
8. Methods to support peer interaction and networking opportunities: Emphasizes the implementation of strategies and digital tools that facilitate peer interaction and networking, fostering a collaborative and engaging learning environment.
9. Accessibility and equitable access to technologies and resources: Underscores the importance of ensuring equitable access to digital learning environments, technologies, and resources for all students, regardless of their background or individual needs.
10. Information management and storage: Focuses on the secure management and storage of digital learning and assessment data in compliance with legal and ethical standards, maintaining data integrity and confidentiality.
11. Student-lecturer interaction and students' evaluation feedback adequacy: Emphasizes the need for structured and meaningful student-lecturer interaction supported by digital tools, along with timely, constructive, and comprehensive feedback on student performance.
12. Public information: Highlights the importance of making accurate, transparent, and accessible information about academic offerings, digital learning environments, and assessment procedures publicly available.

RECOMMENDATIONS FOR QUALITY ASSURANCE AGENCIES: FOSTERING RIGOR AND TRANSPARENCY

Quality Assurance (QA) agencies are essential in ensuring that e-learning and e-assessment practices meet institutional and educational standards. Due to the distinct nature of remote assessment—especially in STEM—QA agencies should adopt tailored approaches that emphasize practical skills, problem-solving, and knowledge application. The Guidelines provide key recommendations to help agencies effectively integrate the evaluation of e-learning and e-assessment into their existing frameworks:
1. *Integration of QA for e-learning and e-assessment into existing QA processes*: QA agencies should develop specific assessment criteria for e-learning and digital assessment tools, ensuring alignment with institutional QA policies. This includes integrating e-assessment guidelines into reviews, setting clear benchmarks for evaluating digital methods and learning outcomes, and requiring evidence of academic integrity measures like AI proctoring, plagiarism detection, and secure authentication.
2. *Acknowledgment of the specific needs of e-learning in review processes*: Different academic disciplines have distinct teaching and assessment needs, requiring tailored QA approaches. In STEM, this means evaluating the effectiveness of virtual labs, simulations, and technical tasks in replicating

hands-on experiences. QA agencies should also assess the use of adaptive tools for computational learning and ensure platforms support collaborative problem-solving and interdisciplinary work.
3. *Motivations for blended assessment approaches*: Blended assessment strategies are essential in STEM to balance theory and practical skills. QA agencies should require institutions to justify their blended methods, explaining the pedagogical rationale and expected outcomes. They should also set clear criteria to ensure online components enhance rather than replace hands-on training. Ensuring secure, equitable access to both in-person and digital assessments—especially for students in remote or low-tech settings—is equally important.
4. *Inclusion of reviewers with e-learning expertise in peer review teams*: The quality of QA reviews depends heavily on the expertise of review teams. QA agencies should include specialists in e-learning and digital assessment, and provide regular training on digital pedagogy, learning analytics, and AI tools. Collaborating with technical experts to evaluate the scalability, security, and usability of e-assessment platforms further enhances the review process.
5. *Clear criteria for assessing learning outcomes*: To ensure consistency across digital and traditional assessments, QA agencies should set clear, measurable criteria for evaluating learning outcomes. This includes assessing higher-order skills like critical thinking and problem-solving, not just memorization. Using learning analytics to track engagement, performance, and skill mastery is recommended. Agencies should also verify that institutions offer diverse assessment formats to support equity and accommodate different learning styles.
6. *Transparency in reporting*: QA agencies should strengthen accountability by ensuring evaluation reports on e-assessment are clear, comprehensive, and publicly available. Reports should detail assessment methods, quality indicators, and compliance with standards, while offering actionable recommendations—especially for STEM courses. Institutions should also publish accessible summaries of findings to help stakeholders track progress and improvements over time.
7. *Appeals procedures*: Institutions should have clear mechanisms to contest QA evaluations related to e-learning and e-assessment. QA agencies must establish a structured appeals process, reviewed by experts in digital pedagogy, to ensure fairness. Institutions should be encouraged to submit additional evidence—such as updated frameworks or pilot results—to support their case.

CONCLUSION: CHARTING A COURSE TOWARDS QUALITY AND INTEGRITY IN REMOTE ASSESSMENT

The *Guidelines for remote assessment in STEM (and other fields)* offer a comprehensive and timely framework to navigate the ongoing digital transformation of higher education. By providing clear principles, actionable standards for HEIs, and targeted recommendations for QA agencies, these Guidelines aim to foster a culture of quality and integrity in remote assessment practices. The emphasis on inclusivity, transparency, and the effective integration of technology underscores the commitment to ensuring that digital learning environments provide equitable and meaningful educational experiences for all students.

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References

ANECA Report 2019, https://www.aneca.es/documents/20123/81326/ANECA-follow+up+report_2019.pdfDíez-Gutiérrez, E.-J., Gajardo Espinoza, K. (2020) Valuations by Spanish university students on online assessment in times of pandemic. Media Education 11(2): 85-92. doi:10.36253/me-9619Duart, J.M. & Basart, A. (2023) Focus 3: Fully online or blended degree programmes. AQU CatalunyaGonçalves, Sónia P., Maria José Sousa, and Fernanda Santos Pereira. 2020. "Distance Learning Perceptions from Higher Education Students—The Case of Portugal" Education Sciences 10, no. 12: 374. https://doi.org/10.3390/educsci10120374

Gupta, T., Shree, A., Chanda, P., & Banerjee, A. (2023). Online assessment techniques adopted by the university teachers amidst COVID-19 pandemic: A case study. Social Sciences & Humanities Open, 8(1), 100579. https://doi.org/10.1016/j.ssaho.2023.100579

Huertas, E., et al. (2018). Considerations for Quality Assurance of E-Learning Provision. ENQA.

La Universidad Española en Cifras https://www.crue.org/

Maisano, D.A., Carrera, G., Mastrogiacomo, L., & Franceschini, F. (2024). Remote STEM education in the post-pandemic period: challenges from the perspective of students and faculty. International Journal of Educational Technology in Higher Education, 21, 64, https://doi.org/10.1186/s41239-024-00497-8

REMOTE Project Report A7 (2024). Benchmark and Guidelines for Monitoring and Evaluating Remote Learning Activities in STEM.

REMOTE Project Report v5 (2024). Assessing and Evaluating Remote Learning Practices in STEM.

SkillsFuture Singapore (SSG). (2020). Guidelines for the Conduct of E-assessments for SSG Funded Certifiable Courses. SkillsFuture Singapore. Retrieved from https://www.tpgateway.gov.sg.

Stiggins, R. J. (2005). From Formative Assessment to Assessment FOR Learning (International Journal of Educational Assessment, 12(1), 7-8)