2025 European Quality Assurance Forum

QA in times of crises – Ensuring stability,

autonomy and international cooperation in higher education

Hosted by Corvinus University of Budapest, Hungary
12-14 November 2025

ISSN: 1375-3797

Authors

Name: Jacqueline Vanhear

Position: Senior Executive, Quality Support Unit

Organisation: University of Malta

Country: Malta

Short bio: Jacqueline Vanhear, PhD, is a seasoned expert in quality assurance and instructional design in higher education, currently serving at the University of Malta's Quality Support Unit. She supports institutional enhancement through internal quality systems and active stakeholder engagement and collaborates with international institutions and agencies to further expand her interest and experience in quality assurance. Formerly Director of the Quality Assurance Department within Malta's Ministry for Education, she played a key role in shaping national policies and regulatory frameworks for early childhood and compulsory education. Her research focus on learner variability and meaningful learning adds pedagogical insight to her role, informing a strategic approach that positions quality assurance as a key driver of academic excellence, innovation and continuous improvement.

Name: Joel Azzopardi

Position: Associate Professor, Artificial Intelligence, Faculty of Information & Communication Technology

Organisation: University of Malta

Country: Malta

Short bio: Joel Azzopardi, PhD, is an Associate Professor at the Department of AI, University of Malta, with additional affiliate positions in the Department of Geosciences, and the Institute of Sustainable Energy within the same university. Since 2013, Joel has actively contributed to AI education, research, and interdisciplinary applications. He has contributed to the implementation of over 20 national and EU-funded projects, and also developed university platforms like URECA and A4QA for research ethics and quality assurance. His recent research explores AI for meteo-marine data and LLMs for public sector document understanding. Joel also serves on the University's Research Ethics and Quality Assurance Committees.

Name: Chaker Mhamdi

Position: Quality Coordinator, Quality Support Unit

Organisation: University of Malta

Country: Malta

Short bio: Chaker Mhamdi, PhD, is Quality Coordinator at the University of Malta (UM) and serves as external reviewer with OAAAQA (Oman), CAA (UAE), AAC (Curacao), and QAA (Mauritius). Prior to joining UM, Dr Mhamdi was Deputy Dean for Planning and Institutional Effectiveness, Director of the Quality Assurance Department, Director of the Foundation Programme Unit and Assistant Professor at Buraimi University College (BUC) in Oman which is affiliated with California State University Northridge (USA). Dr Mhamdi was formerly Lecturer at the University of Jendouba, Tunisia. Dr Mhamdi was a member of the Oxford University Press CAMENA Advisory Board and Coordinator of the Oxford University Press ELT Division Pre-testing Research Partnership Programme at BUC.

Name: Jonathan Xuereb

Position: Administration Specialist, Quality Support Unit

Organisation: University of Malta

Country: Malta

Short bio: Jonathan Xuereb, LL.D., is an Administration Specialist at the Quality Support Unit of the University of Malta (UM), where he plays a key role in supporting the institution's quality assurance mechanisms. He is actively involved in coordinating annual and periodic programme reviews across academic entities, as well as UM's participation in international university ranking exercises. Jonathan also contributes to the University's involvement in external quality assurance audits and helps promote internal quality practices through campus-wide initiatives. He combines analytical rigour with practical experience to support the development of a robust and responsive quality culture within higher education.

Name: Zuzana Farrugia

Position: Administration Specialist, Quality Support Unit

Organisation: University of Malta

Country: Malta

Short bio: Zuzana Farrugia is an Administration Specialist within the Quality Support Unit at the University of Malta, where she supports internal quality assurance processes, including academic programme reviews and reporting. Previously, she was an Officer in Charge of the University's Centre for the Study and Practice of Conflict Resolution with administrative responsibility for a dual Master's programme offered jointly with George Mason University. This role involved managing the complexities of interinstitutional collaboration within an international academic context and marked her first direct involvement in quality assurance.

Name: Frank Bezzina

Position: Professor, Pro-Rector International Development & Quality Assurance

Organisation: University of Malta

Country: Malta

Short bio: Frank Bezzina, PhD, is a Professor of Management Science and Pro-Rector for International Development & Quality Assurance at the University of Malta. Formerly, he served as Dean, Deputy Dean, and Head of the Management Department in the Faculty of Economics, Management & Accountancy. He lectures in Management Science, Applied Business Statistics, and Evidence-Based Management. He has co-authored circa 100 articles in peer-reviewed journals and in 2012 one of his papers was awarded the Emerald Literati Highly Commended Paper Award for Excellence.

Paper

Title: From Compliance to Collaboration: Redefining QA in Challenging Times through Digital Innovation

Abstract

In the face of accelerating political, economic, and technological disruption, quality assurance (QA) in higher education must evolve to remain relevant, resilient, and responsive. This practice-based paper examines the University of Malta's (UM) digital peer-review platform as a proactive QA initiative that integrates digital technologies to enhance adaptability, foster continuous improvement, and support institutional resilience. Developed using sustainable, open-source technologies, the platform facilitates a flexible, inclusive, and transparent annual programme review process that empowers academics to engage in reflective evaluations, deliver structured feedback, and foster a culture of collaboration, co-learning, and quality enhancement. The platform supports a no-code environment for customisable rubrics and review forms, facilitating adaptability to emergent academic needs without requiring advanced technical expertise. Through collaboration, peer feedback, and real-time oversight, the system fosters a reflective academic culture rooted in shared ownership and continuous improvement. It acts as a QA tool and a catalyst for academic dialogue and innovation—critical qualities during times of disruption. Programme coordinators engage multidisciplinary teams, including students, ensuring holistic evaluation through collaborative submission processes. Peer reviewers, guided by standardised rubrics, evaluate an annual programme review process with clarity and consistency, while automated aggregation of feedback highlights areas of consensus and contention. This structured yet dynamic approach enhances transparency and expedites decision-making, even under pressure. In line with the EQAF 2025 theme, this case study demonstrates how digital QA systems can uphold academic values, promote institutional autonomy, and sustain public trust in higher education. By embedding QA into the everyday academic workflow, UM's model counteracts reductive, compliance-driven approaches and instead fosters participatory governance. Ultimately, UM's platform exemplifies how agile QA infrastructure supports both quality and innovation in higher education. It serves as a scalable model for institutions seeking to enhance resilience, maintain educational excellence, and contribute meaningfully to society amid ongoing transformation.

1. Introduction

QA in higher education has traditionally been framed around compliance and accountability (Harvey & Newton, 2007; Stensaker & Harvey, 2010; Huisman, 2018). While these mechanisms remain important, compliance-driven systems are increasingly perceived as inflexible and disconnected from the daily realities of academic practice (Newton, 2013). In a landscape shaped by global pressures, financial instability, and technological disruption, higher education institutions must move beyond static approaches to QA. Instead, QA should be reimagined as an enabling process that supports resilience, innovation, and participatory governance (Elken & Stensaker, 2018; Klemenčič, 2022; Giller, 2023).

UM's digital peer-review platform was developed in response to these evolving challenges, aiming to transform QA into a collaborative, reflective, and digitally-enabled process. This paper situates the UM case within the broader discourse on QA reform, exploring how digital infrastructures can serve as catalysts for academic dialogue, continuous enhancement, and institutional resilience. Specifically, the paper addresses three guiding questions. First, it explores how digital QA platforms can be designed to balance standardisation and flexibility, ensuring both institutional accountability and academic freedom. Second, it examines how participatory QA practices, such as peer review and collaborative evaluation, can be scaled to promote inclusive governance while resisting reductive,

compliance-driven models in higher education. Finally, the paper considers the potential role of artificial intelligence (AI) in enhancing or challenging these QA systems in the future.

2. Accountability vs. Enhancement: From Compliance to Collaboration

The global discourse on QA in higher education remains shaped by a persistent tension between accountability and enhancement (Harvey & Newton, 2007; Stensaker & Harvey, 2010; Huisman, 2018). Compliance-oriented frameworks privilege external regulation, performance metrics, and standardisation, positioning QA as an instrument of control and public accountability. Conversely, enhancement-oriented approaches conceptualise QA as a developmental process fostering collegial reflection, institutional learning, and continuous improvement. Recent scholarship (Elken & Stensaker, 2018; Klemenčič, 2022; Giller, 2023) calls for more integrated models that treat these purposes as complementary or parallel dimensions rather than opposing, balancing public trust and transparency with institutional autonomy, academic engagement, and the intrinsic pursuit of educational quality.

Digital transformation has reshaped the core functions of higher education (namely, learning, teaching, research, and governance). Yet, QA systems have often evolved more slowly (Ehlers, 2020; Klemenčič, 2022). While learning analytics, digital dashboards, and data-driven feedback loops are now common in pedagogical and institutional management contexts, QA processes remain manual, document-heavy, and fragmented (Giller, 2023). Scholars argue that digitalisation can enhance QA by embedding continuous improvement cycles into everyday academic practice, enabling real-time feedback, transparency, and organisational agility (Elken & Stensaker, 2018; Banihashem et al., 2022; Antonopoulou et al., 2023). Digital QA platforms, particularly those leveraging open-source or interoperable technologies, can facilitate participatory and responsive review systems aligned with institutional cultures of reflection and collaboration (EUA, 2014; Berger et al., 2023; Newton, 2013).

Beyond digitalisation, Bezzina et al. (2021) highlight AI as a driver of QA reform. AI can process large volumes of qualitative and quantitative evidence to detect trends, generate predictive insights, and personalise feedback for programme teams and institutional leaders (Maqoqa, 2025; Ifenthaler & Yau, 2020). Such capabilities enhance evidence-informed decision-making, reducing administrative burden, and improving the timeliness of review processes (Popenici & Kerr, 2017). Yet concerns about bias, ethics and autonomy persist, with some warning that over-reliance on automated metrics may marginalise human judgement and obscure reflective evaluation (Williamson et al., 2020). Consensus is emerging that AI should *augment* rather than *replace* human judgement, critical reflection, and collegial dialogue (McConvey et al., 2023). Thus, the future of QA lies not merely in digital efficiency but in cultivating reflective and participatory quality cultures that are supported, rather than defined by technology.

3. The Context - UM's Ongoing Monitoring and Periodic Review of Programmes

In line with national Subsidiary Legislation 607.03 (Art. 36), UM holds primary responsibility for the quality and quality assurance of its academic provision. To fulfil this obligation, UM has developed an internal quality assurance framework to ensure that programmes remain fit for purpose and aligned with their intended objectives. Central to this framework is the Annual Programme Review (APR), which serves as a reflective mechanism for continuous monitoring and enhancement of academic programmes.

The APR reflects the principles of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG 2015) and corresponding national standards for higher education, which emphasise ongoing programme evaluation. At UM, the APR is not solely an accountability exercise, but a strategic process for continuous improvement and the maintenance of

high-quality academic standards. It is complemented by the Periodic Programme Review (PPR), conducted every five to six years as part of UM's ongoing monitoring cycle.

Building on the foundations of the PPR, the APR adopts a **peer-review approach** that promotes reflection, collaboration, and shared responsibility among academic staff. Widely supported by faculty members, this model fosters professional development and strengthens the sense of academic community. The APR is a light-touch evaluation process designed to enhance the student learning experience while assuring academic standards and quality. It encourages critical reflection, professional dialogue and the identification of good practice for dissemination across UM.

Each programme is evaluated annually by its Board of Studies, using both qualitative and quantitative data. Qualitative data includes feedback from internal stakeholders (students, academic staff) and external stakeholders (alumni, external examiners, industry representatives), while the quantitative data encompasses student metrics and other performance indicators. The Board of Studies submits the completed annual review to UM's Quality Assurance Committee (QAC) through a dedicated APR digital platform.

4. UM's Digital Peer-Review Platform

4.1 Conceptual origin

The development of the platform emerged from a period of institutional self-reflection led by UM's QAC. This process arose from growing recognition that QA mechanisms, while essential for accountability, risked devolving into bureaucratic exercises that generated workload rather than meaningful enhancement. University leaders and academic staff shared concerns that QA processes were often perceived as externally imposed and compliance-driven, detached from the academic values of collegiality, dialogue, and continuous improvement. In response, the QAC initiated a participatory design process re-envisioning QA as an enabler of reflection and shared responsibility.

The dialogue produced a collective commitment to develop a digital peer-review platform aligned with the University's strategic priorities for sustainability, inclusivity, and innovation. Its conception was shaped by four design principles. The platform was to be *sustainable*, built on open-source technologies to reduce dependence on costly proprietary systems and ensure long-term maintainability. It was to be *adaptable*, allowing customisation of processes and feedback templates that evolve with regulatory, pedagogical and policy requirements. Furthermore, it was to be *inclusive*, engaging academics across disciplines and fostering collaboration among multidisciplinary teams. Finally, it was to be *transparent*, providing real-time visibility of progress, structured peer feedback oversight and aggregated insights to support evidence-based decision-making.

In essence, the platform represented a strategic attempt to reclaim QA as a collegial, developmental, and data-informed practice that strengthens institutional learning while preserving academic autonomy.

4.2 UM's peer-review guiding principle - the *Academics for Quality Assurance* (A4QA) initiative

The development of the digital peer-review platform formed part of the broader *Academics for Quality Assurance* (A4QA) initiative at UM, which seeks to foster a culture of evidence-informed enhancement through active academic engagement. UM has long embraced peer review as a means to promote continuous improvement, co-design, co-learning, and professional development, thereby enhancing learning and teaching. Building on this tradition, the QAC launched the A4QA initiative to strengthen the academic involvement in the ongoing programme reviews and shift the focus of the APRs from compliance to constructive support and enhancement.

A4QA was launched through a call for expressions of interest among full-time resident academics, attracting 80 volunteers to the peer-review pool. This is an encouraging demonstration of collective commitment to meaningful QA engagement. A key step was the collaborative development of a rubric, fostering a shared understanding of expectations for APR reviews. The subsequent co-designing of a digital peer-review platform, refined through iterative workshops, pilot testing, and focus groups, enabled continuous refinement guided by stakeholder feedback.

Through this participatory process, the A4QA initiative transformed QA development into a collaborative learning exercise in which technology facilitated engagement, reflection, and shared ownership of quality processes. The resulting platform embodies not only a digital infrastructure for QA, but also UM's commitment to co-creation, inclusivity, and continuous enhancement.

4.3 Design and functionality of the digital platform

The platform is built on open-source technologies, eliminating licensing costs and ensuring long-term sustainability. Its modular, web-based architecture provides seamless access to all university staff through their corporate accounts, integrating with the institution's authentication services via Single Sign-On (SSO). A key innovation is its no-code environment, enabling administrators to define and manage bespoke review forms and rubrics without presupposing advanced technical skills.

Collaboration is central to the platform's design. Programme coordinators can invite colleagues to contribute to submissions, promoting multi-stakeholder input and holistic evaluation. The ability to save and revise drafts supports thorough preparation. Typically, APRs integrate feedback from students, academic staff, external examiners and external stakeholders which the programme's Board of Studies analyses to identify strengths, emerging issues, and enhancement opportunities. Resulting action feeds into institutional QA reporting cycles. This positions the APR as an evidence-informed process supporting reflective practice, pedagogical innovation, and continuous improvement. Once submitted, system administrators assign two reviewers from the A4QA pool.

Peer review is guided by agreed-upon rubrics ensuring consistency and transparency. Reviewers apply predefined evaluation scales (e.g., "Target Exceeded", "Target Met", "Target Not Met") for each indicator and may add comments. Automated features enhance efficiency and accuracy. For example, once individual reviews are submitted, the system generates a draft aggregated feedback report highlighting consensus and divergence, which informs the lead reviewer's reflective discussion, and final feedback for the Board of Studies. Additionally, automated alerts and email reminders keep users on schedule while the audit trail records all actions, ensuring transparency and a permanent record of the review process.

This digital platform enables academic staff and system administrators to adapt review forms, workflows and evaluation criteria without requiring advanced technical skills, enabling the system to evolve in line with academic and regulatory needs. A key feature is collaborative submission, whereby Boards of Studies and programme coordinators complete APRs within a shared digital workspace involving multiple stakeholders, including students. Guided peer reviews use agreed-upon rubrics to ensure structured, transparent and consistent feedback, while automated aggregation visualises consensus, divergences and emerging themes that stimulate professional dialogue and further reflection. Finally, dashboard oversight allows institutional leaders and QA staff to access dynamic reports that support decision-making and strategic planning.

5. Methodological Approach and the Implementation Journey

Implementation followed a participatory design approach (Wacnik et al., 2024) in which iterative consultations with academics and administrators shaped the platform's functionality. This collaborative process ensured usability and fostered a sense of ownership, which are essential for embedding QA into everyday academic practice (Stensaker & Harvey, 2010; Newton, 2013; Giller,

2023). The methodological framework combined participatory design with iterative evaluation, aligning functional development with pedagogical purpose. Drawing on action research principles (Bradbury, 2015), it incorporated feedback loops that integrated data on user experience and qualitative reflections into continuous refinement cycles.

Feedback was collected through workshops and group debrief sessions following pilot phases to identify issues related to usability, transparency, and integration with existing QA workflows. Complementary usability testing further guided incremental improvements. This approach established a robust mechanism for evidence-informed enhancement and positioned stakeholders as co-creators of quality, fully consistent with the ESG (2015) emphasis on active stakeholder engagement in internal QA. Through sustained dialogue between staff, processes, and technology, A4QA evolved as a living system reflecting UM's culture of collaboration, inclusivity, and reflective institutional learning.

6. Challenges and Opportunities in Implementing Digital Peer Review – Lessons Learnt

Despite its many advantages, implementing a digital peer-review platform posed challenges. Among these were securing academic engagement and institutional buy-in. Transitioning from externally-driven evaluations to an internal, collaborative review model requires cultural adaptation and trust-building. Ensuring transparency, consistency, and academic integrity, addressing technical literacy gaps, and promoting a shared understanding of the platform's benefits were also essential.

To overcome these challenges, UM adopted a strategic approach that combined targeted training, clear evaluation guidelines, participatory design, and continuous communication. These build confidence and cultivate a culture of reflective practice grounded in prior peer-review experience. These foundations helped academics to view the new digital platform not as an administrative burden, but as an opportunity for shared learning and enhancement; one that improved process efficiency, accelerated reporting cycles, and facilitated meaningful collaboration across departments and disciplines.

The digital peer-review model has since yielded significant benefits. Its strength lies in democratising programme review by fostering equitable participation across disciplines. Through a standardised yet flexible framework for evaluation, diverse perspectives are represented and programme improvements are informed by collective input. Structured rubrics and transparent feedback loops ensured fairness and consistency, while iterative peer engagement fostered pedagogical reflection and professional growth. This participatory model enhanced inclusivity, institutional learning, and UM's commitment to continuous improvement through shared academic ownership.

Several lessons from UM's experience are transferable to other higher education institutions. Early stakeholders' engagement through co-design fosters usability and ownership. Prioritising adaptability via no-code, flexible and customisable tools enhance resilience. Embedding reflection through rubrics that stimulate dialogue, and integrating students in programme reviews, strengthens evaluation. Finally, safeguarding autonomy ensured that digital QA reinforces, rather than diminishes, institutional autonomy.

6.1 Anticipating the role of AI

AI has the potential to both enhance and complicate digital QA in higher education. It can automate data analysis, detect feedback patterns, and generate predictive insights that inform decision-making (Alcock, 2025; QAA, 2024). Machine learning and natural language processing tools offer opportunities for inclusivity, translation, and personalised feedback (Al-Zahrani & Alasmari, 2024). Yet, challenges persist around bias, transparency, and academic autonomy as overreliance on automation erodes human judgement (Pikhart & Al-Obaydi, 2025).

UM's peer-review platform is well-positioned to integrate such tools responsibly, leveraging AI to enhance, rather than replace, human judgement, thereby sustaining the reflective, dialogic, and

value-driven ethos of quality enhancement. The plan would involve deploying open-weight large language models (LLMs) locally or within secure institutional environments, ensuring data privacy while enabling advanced language understanding and reasoning capabilities.

From a data entry perspective, AI can assist programme coordinators by automatically processing supporting documentation (e.g., annual reports, course outlines, and student feedback) and generating first review drafts for refinement, reducing administrative burden.

For reviewers, LLMs can analyse free-text comments to identify areas of agreement or disagreement, providing structured maps of perspectives. This would help reviewers and coordinators focus discussions on key divergences, and would support the generation of draft aggregate reports that highlight consensus and contested issues, verified and finalised by human reviewers. An optional AI evaluator could offer a machine-generated perspective to prompt critical reflection, complementing rather than replacing human review.

From an aggregate analysis perspective, AI can enable longitudinal insights. Business intelligence tools can analyse APRs over time to reveal systemic strengths, recurring challenges, or emerging trends. Clustering techniques can group programmes facing similar issues for targeted institutional interventions, while anomaly detection techniques can flag outliers for deeper analysis.

Such layered integration of AI strengthens the platform's collaborative and adaptive ethos, using automation to enhance clarity, consistency, and strategic insight while preserving the central role of human academic judgement.

7. Shifts in QA Culture – A Way Forward

UM's digital peer-review platform challenges the dominant paradigm of QA as a compliance exercise by embedding collaboration and co-learning into its core. It demonstrates how digital QA platforms can transform quality from a bureaucratic process into a shared, developmental behaviour. The UM case contributes to wider debates on QA reform by showing how digital infrastructures can act as both tools and catalysts for cultural change. The platform balances accountability with enhancement by integrating QA into daily academic practice while aligning technological innovation with values such as sustainability, autonomy, and inclusivity. It also offers a transferable model for institutions seeking to reconcile external accountability with internal improvement.

Key shifts in UM's approach include a stronger emphasis on shared ownership, distributed QA responsibilities across multiple stakeholders and breaking down hierarchical silos. Reflective practice is central, with rubrics designed to prompt critical reflection rather than checklist-style compliance. In addition, dialogue and co-learning are promoted through cross-disciplinary review processes that reinforce trust and collegiality.

Although the digital platform is still in its early stages, UM will be evaluating its effectiveness across three dimensions: *process efficiency* (reducing administrative burden, improving timeliness and flexibility); *cultural impact* (strengthening engagement, transparency and collaboration); and *educational outcomes* (enhancing programme quality, amplifying student voice, and fostering institutional resilience).

To measure these impacts, a multi-method evaluation framework will guide this assessment. Questionnaires and workshops with programme coordinators, reviewers, students, and QA staff will assess usability, transparency, and perceived value, while identifying areas for improvement. These will be complemented by analytics from the A4QA system itself, such as the proportion of programmes completing reviews, the timeliness of submissions, the number of collaborators (including students), and the rate of review completions by deadline. Educational outcomes will be tracked through indicators such as the number of implemented recommendations and student

suggestions, as well as revisions to rubrics and templates. System logs will capture reviewer engagement, invitation acceptance rates, and distribution of feedback activity. Comparative analysis across review cycles will then quantify improvements in efficiency, collaboration, and responsiveness—providing a longitudinal evidence base for assessing institutional learning, participatory culture, and sustained quality enhancement.

Looking ahead, UM may integrate AI-driven impact assessment tools to detect patterns of improvement across cohorts, generate predictive indicators of at-risk programmes, and strengthen evidence-based policy adjustments.

8. Conclusion

UM's digital peer-review platform illustrates how QA can be reimagined as a dynamic, human-centred practice amid uncertainty and change. By embedding reflection, collaboration, and digital innovation into academic workflows, the initiative transforms QA from a procedural obligation into a shared enterprise of learning and enhancement. Evaluations demonstrate not only measurable gains in efficiency and transparency but also deeper cultural shifts toward collegiality, trust, and collective ownership of quality.

As higher education faces rapid technological and societal transformation, UM's experience shows that digital systems can strengthen rather than supplant academic values. While AI and automation offer new insight and responsiveness, their use must remain ethically grounded, ensuring that human judgement, critical reflection and dialogue continue to guide institutional practice.

In moving from compliance to collaboration, QA evolves into an enabler of institutional autonomy, innovation, and societal contribution. UM's model offers a scalable vision for universities across Europe and beyond, where technology amplifies participation, transparency, and continuous improvement. Ultimately, QA is not merely about assuring quality but about enhancing it, nurturing collaboration, innovation, resilience, and reaffirming higher education's transformative purpose in a rapidly changing world.

References

Alcock, E. (2025). Assuring higher education's quality in the age of AI is no easy task. *European University Association*. Accessible online: https://www.eua.eu/our-work/expert-voices/assuring-higher-educations-quality-in-the-age-of-ai-is-no-easy-task.html

Al-Zahrani & A.M., Alasmari, T.M. (2024). Exploring the impact of artificial intelligence on higher education: The dynamics of ethical, social, and educational implications. *Humanit Soc Sci Commun* 11, 912. https://doi.org/10.1057/s41599-024-03432-4

Antonopoulou, K., Begkos, C., & Zhu, Z. (2023). Staying afloat amidst extreme uncertainty: A case study of digital transformation in higher education. *Technological Forecasting and Social Change, 192,* 122603. https://doi.org/10.1016/j.techfore.2023.122603

Banihashem, S. K., Noroozi, O., van Ginkel, S., Macfadyen, L. P., & Biemans, H. J. A. (2022). A systematic review of the role of learning analytics in enhancing feedback practices in higher education. *Educational Research Review, 37,* 100489. https://doi.org/10.1016/j.edurev.2022.100489

Berger, F., Galati, N., & Witteler, S. (2023). *Making interoperability work: Challenges and solutions for an interoperable higher education system* (*Report No. 72)* (Hochschulforum Digitalisierung).

Bezzina, F., Camilleri, E., Marmarà, V. (2021). Public service reforms in a small island state: The case of Malta. Springer. https://doi.org/10.1007/978-3-030-74357-4

Bradbury, H. (Ed.). (2015). *The SAGE handbook of action research: Participative inquiry and practice* (3rd ed.). SAGE Publications. https://doi.org/10.4135/9781473921290

Ehlers, U.-D. (2020). *Future skills: The future of learning and higher education.* Springer Nature. Accessible online: https://www.researchgate.net/publication/344537368_Future_Skills_-_The_Future_of_Learning_and_Higher_Education

Elken, M., & Stensaker, B. (2018). Conceptualising 'quality work' in higher education. *Quality in Higher Education*, *24*(3), 189–202. https://doi.org/10.1080/13538322.2018.1554782

EUA Digital Transformation Monitor. (2024). *Interoperability.* European University Association. https://eua-dtm.eu/digital-architecture/interoperability/

Giller, P. (2023). *Quality assurance in higher education – where do we go from here?* Quality and Qualifications Ireland. https://www.qqi.ie/sites/default/files/2023-12/quality-assurance-in-higher-education-where-do-we-go-from-here-2023.pdf

Groen, J. F. (2017). Engaging in enhancement: Implications of participatory approaches in higher education quality assurance. *Collected Essays on Learning and Teaching, 10,* 89–99. https://doi.org/10.22329/celt.v10i0.4728

Harvey, L., & Newton, J. (2007). *Transforming quality evaluation: Moving on.* In D. F. Westerheijden, B. Stensaker, & M. J. Rosa (Eds.), *Quality assurance in higher education: Trends in regulation, translation and transformation* (pp. 225–245). Springer. https://doi.org/10.1007/978-1-4020-6012-0_9

Huisman, J. (2018). Accountability in higher education: Different forms, functions and forums. In E. Hazelkorn, H. Coates, & A. C. McCormick (Eds.), *Research handbook on quality, performance and accountability in higher education* (pp. 125–135). Edward Elgar. https://doi.org/10.4337/9781785369759.00018

Ifenthaler, D., & Yau, J. Y. K. (2020). Utilising learning analytics to support study success in higher education: A systematic review. *Educational Technology Research and Development, 68*(4), 1961–1990. https://doi.org/10.1007/s11423-020-09788-z

Klemenčič, M. (Ed.). (2022). *From actors to reforms in European higher education: A Festschrift for Pavel Zgaga* (Higher Education Dynamics, Vol. 58). Springer. https://doi.org/10.1007/978-3-031-09400-2

Maqoqa, T. (2025). The intersection of AI and learning analytics: Enhancing institutional performance. *Interdisciplinary Journal of Education Research, 7*(S1), a09. https://doi.org/10.38140/ijer-2025.vol7.s1.09

McConvey, K., Guha, S., & Kuzminykh, A. (2023, April). A human-centered review of algorithms in decision-making in higher education. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (pp. 1–15). Association for Computing Machinery (ACM). https://doi.org/10.1145/3544548.3580658

Newton, J. (2013). Is quality assurance leading to enhancement? In F. Crozier, M. Kelo, T. Loukkola, B. Michalk, A. Päll, F. M. G. Palomares, N. Ryan, B. Stensaker, & L. Van de Velde (Eds.), *How does quality assurance make a difference? A selection of papers from the 7th European Quality Assurance Forum* (pp. 8-14). European University Association.

Pikhart, M., & Al-Obaydi, L. H. (2025). Reporting the potential risk of using AI in higher education: Subjective perspectives of educators. *Computers in Human Behavior Reports, 18,* Article 100693. https://doi.org/10.1016/j.chbr.2025.100693

Popenici, S. A. D., & Kerr, S. (2017). Exploring the impact of artificial intelligence on teaching and learning in higher education. *Research and Practice in Technology Enhanced Learning, 12,* 22. https://doi.org/10.1186/s41039-017-0062-8

Quality Assurance Agency for Higher Education. (2024, February). *Quality Compass: Navigating the complexities of the artificial intelligence era in higher education* (Report No. 72). QAA. Accessible online: https://www.qaa.ac.uk/docs/qaa/news/quality-compass-navigating-the-complexities-of-the-artificial-intelligence-era-in-higher-education.pdf

Stensaker, B., & Harvey, L. (Eds.). (2010). *Accountability in higher education: Global perspectives on trust and power* (1st ed.). Routledge. https://doi.org/10.4324/9780203846162

Uvalić-Trumbić, S. (2022). Reforms in quality assurance: A response to recent challenges in a transforming higher education sector. In M. Klemenčič (Ed.), *From actors to reforms in European higher education* (pp.169-183) [Higher Education Dynamics (Vol. 58)]. Springer. https://doi.org/10.1007/978-3-031-09400-2_12

Wacnik, P., Daly, S., & Verma, A. (2024). *Participatory design: A systematic review and insights for future practice*. https://doi.org/10.48550/arXiv.2409.1795

Williamson, B., Bayne, S., & Shay, S. (2020). The datafication of teaching in higher education: Critical issues and perspectives. *Teaching in Higher Education, 25*(4), 351–365. https://doi.org/10.1080/13562517.2020.1748811

Williams, J., & Harvey, L. (2015). Quality assurance in higher education. In: J. Huisman, H. de Boer, D. D. Dill, & M. Souto-Otero, (Eds), The Palgrave international handbook of higher education policy and governance. Palgrave Macmillan. https://doi.org/10.1007/978-1-137-45617-5_27

Acknowledgements

The authors acknowledge the use of Artificial Intelligence (AI) language models, including the Gemini family of Large Language Models (developed by Google) and OpenAI's ChatGPT (version GPT-5, October 2025) to support summarisation and language refinement. All AI-assisted content was thoroughly reviewed, edited, and validated by the authors to ensure accuracy, originality, and compliance with academic standards.