

Lecture Notes in Educational Technology

Gabriela Grosseck
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Laura Malita *Editors*

Digital Assessment in Higher Education

Navigating and Researching Challenges
and Opportunities

 Springer

Lecture Notes in Educational Technology

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Foreword

Many educationalists, experts, and practitioners specialised in higher education didactics and pedagogy have extensively discussed the impact brought by the “global trend” in our personal, academic, and professional lives, reaching intense transformations of teaching and learning practices and philosophies. As Gary Hepburn (2020) from Ryerson University of Toronto signals via a highly quoted idea, “*Higher education is no exception. I fully anticipate that this period will be remembered as the single greatest disruption that instruction in higher education has ever seen. Learning will be forever changed*”. Generally, a greater emphasis was placed on learning and its transformation, being regarded as a deep, authentic, and, more or less, relevant facet of a university pedagogy.

Several such researchers and experts consider that learning may lose its visibility through a digital transformation process, as this attribute was gained, in a way, through the contributions of works such as the ones launched by John Hattie, for example, aiming to reflect how learning is transformed and brings transformation in higher education and all other levels of education when analysed transparently and under rigorous methodological approaches. Even more, this topic benefited from several forums, scientific papers, and editorial products, enjoying the appreciation of a large variety of audience of all kinds. But, we notice that several of them highlight a predominantly behaviourist perspective (in a non-epistemological sense), being rather reactive towards an extended adoption of digital tools as a response to the academic system’s sudden shift to virtual environments, strongly driven by pandemic and post-pandemic constraints and by massive digitisation.

In this context, learning fragmentation and technologization without a gradual, organic, and experiential growth support were not observed as a significant risk. The trend of “*one-size-fits-all*” *teaching approach* (detached from the subjectivity of experiencing learning and teaching through the technological transformation) took the shape of models or platforms adjusting the delivery of learning outcomes according to the student’s progress, assessed through a new paradigm of integrative learning, teaching, and assessment. For instance, devices continuously monitor changes in individual characteristics and performances and adjust the learning path, through gradual and adaptive philosophy. As a consequence, the educational models

need to support designing customised and predictable learning pathways that ensure extended visibility for the benefits of the learner (learning must be portable, shareable, and visible), as well as to ensure that learning outcomes and profiles can be tracked and followed for the entire period of active learning, from the very beginning to the end. Such an approach can create a learning readiness that supports relevant actors and educational providers to adapt learning offerings and allow individuals to access their learning profile and use it for professional and personal needs across their entire lives.

Learning cannot be separated and detached, from teaching and, even more, from evaluation. Teaching contexts and approaches need to facilitate a form of active learning that relates to a higher learning awareness for all students, supported by transparent and clear learning outcomes and their benefits for future needs and contexts, reflected in the learning portfolios and the processes and means through which these outcomes have been assessed. Teaching facilitates showcase not only the achievement of competencies, attitudes, skills, and knowledge components, but also the learners' awareness of these achievements and their use for personal and professional future development, through integrated feedback, organically provided in a digital format and environment. But, this can only be achieved when assessment is ensured and tightly linked with teaching and learning, as well as the learning environment in which individuals progress.

Therefore, the future of learning, teaching, and assessment (in its new digital existence) in the academic area might ensure visible and trackable learning experiences up to the end, to the extent in which another key question raises: when is the end of this inseparable cycle. Even though learning and teaching are digital, digital assessment can change until the end of the process, and vice versa. For example, when teaching and learning are "face to face", it doesn't mean that the evaluation should necessarily be designed to be in a "face-to-face" format as well. A mechanical approach, strictly determined by technology (assessment as a digital construction from the beginning to the finish line and especially as a reaction to technological facts and events), should be removed from the approaches of innovative post-modern pedagogies (based on flexibility, agility, innovation, and deep personalisation). Alternative approaches, mixt formats, and diversified inputs into teaching and learning must govern the way in which future education is designed and delivered.

We particularly appreciate the epistemological positioning of the editorial team and the authors of this volume towards a more constructive and experiential orientation, the digital assessment in their vision gaining an organic perspective, a construction of facts and experiences of growth, development, training (as an integrating sign of a concept "borrowed" from the Germanic pedagogical space—"bildung"), and, essentially, of a broader and deeper reflection on the transformative role of technology in modelling educational practices. The separation of the three processes (teaching, learning, and assessment), made only to categorise or create taxonomies, oriented mainly on new technologies, will not meet the training needs of the university staff (many of them remaining reluctant to some interventions and innovations coming from the world of educational sciences), thus an integrative vision is more in line

with what the future holds in store for higher education practices, as we can see in the present volume.

Teaching and learning are inseparable from assessment, which serves as evidence of learning achievements, particularly in higher education. Based on the learning profile and expectations, assessment aims in this context to verify the occurrence of learning and the impact of teaching on the transition from expected to achieved learning outcomes, particularly for adult learners. As per the previous strategic dimensions, when teaching and learning change by organic consequences, assessment follows. Higher education practices need to adapt the assessment paradigm accordingly, not neglecting also the major impact of AI in what and how assessment can/will be conducted, following key specific aspects that propose more connections between learning and its outcomes: organic feedback, even if it will be digitally or directly provided.

Assessment in higher education brings and maintains the need to consider a formative dimension of its objectives and practices, sustained and engaging feedback proving to do more for learning than a simple list of marks can do. Where marks consolidate hierarchies among learners and remain a mere indicator of levels and scores, they cannot become a way in which assessment is transformed and personalised as a learning process, accompanied by awareness among learners and a constructive and motivated approach to what and how teachers assess. Alone, they remain only such, without a real power to create more learning and to ensure that learning occurred, and it became relevant for the individual.

The research on digital assessment in higher education is indeed less extensive than that on digital learning and digital education, as it can easily be seen when roughly analysing the existing scientific literature out there (i.e. the Web of Science database holds around 17.800 papers focusing on digital education in higher education, 9.900 on digital learning in higher education, and 2.200 on digital assessment). While there is a growing emphasis on the need for digitally competent individuals in higher education (Martzoukou, 2020), the literature on digital assessment methods is still limited (Devran, 2020). This is further compounded by the low digital competence among university teachers (Fernández-Batanero, 2021) and the complex interplay between literacy skills and digital technologies (Nikou, 2021). The attitude of students towards digitalisation in education is also influenced by their experience of distance learning during the pandemic (Frolova, 2021). The need for further development in technology-supported teaching and learning processes is highlighted (Kamsker, 2020), and the use and definition of digital competence and digital literacy in higher education research are explored (Spante, 2018). The implementation of digital transformation in higher education is also discussed in this context (Alenezzi, 2023) and can bring more insights into how assessment may be shaped in the next years. Academic assessment needs to be transformed and personalised as a learning process (where marks and hierarchies become second in importance), as well as through continuous provision of feedback, wherever possible: verbal, written, nonverbal, in any form of it, as positive or negative reinforcement. These interventions can benefit greatly from new digital tools, not as a means by

itself, but as a complementary integration with the organic nature of assessment processes.

The present volume also advocates for a digital, flexible, and integrative approach to academic assessment as standard or traditional learning environments become more and more discrepant with the societal environment and the new learning paradigms (digitally focused). Learners need to play a higher role in designing and implementing their own learning pathways, adapting how learning expectancies are connected to teaching, learning, and new ways of assessment. These changes require a dynamic approach that fosters new standards and descriptors for learning performance and assessment readiness (very often, digitally designed and processed). Teachers should provide students with rich opportunities to play a more active role in designing and implementing their own learning pathways, adapting it through their own understanding and the dynamics of learning expectations, related to teaching and customised assessment. It would be recommended to keep teaching, learning, and assessment processes organically united, without a visible separation between them, even if they will be directly or digitally implemented.

The future academic assessment in higher education, accompanying teaching and learning, needs to provide support for new learning opportunities. Even more, it must foster opportunities to transform motivation into will by confronting symbolic obstacles which students learn to overcome through assessment, and the easiest and the friendliest way to connect with student's life is to open the digital gate. Therefore, the addressability perspective of this volume is very broad and targets not only the academic staff interested in improving their own technological "arsenals" used in the evaluation processes, but also helps in shaping a new approach to academic evaluation, encouraging the academic assessment as a new way of applying signature pedagogies in all three components: teaching, learning, and assessment.

Understanding what needs not to be part of the learning process is a must, especially considering the current learning environment and the rapid communication flows and channels, augmented now even more by AI supported informational systems and fast access to knowledge of all kinds (not only "good knowledge"). Going one step ahead, the volume advocates that AI should actually be integrated into a pedagogical framework of assessment, supporting transversally each pedagogical action at different levels.

The geographical distribution of the authors is impressive, being also highly appreciated at the academic, scientific, and professional levels of qualification and expertise. The extraordinary structure and coherence of the topics and chapters have almost imposed a modern philosophical construct for a new field of innovative pedagogies, this time targeting academic assessment and evaluation.

Teachers are invited to develop their own unique pedagogical identity, spread over the classroom/amphitheatre/aula, as the teacher's style, character, know-how, and personality can create a true signature learning for all students. But the signature pedagogies do not only mean learning and teaching, but also feedback and digital assessment. The present volume is the first authentic one focused on the field of digital transformation, not placing technology at the forefront, but positioning it in

the mainstream pedagogy, as a true pedagogy of digital success, through authentic assessment.

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Romita

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Preface

The content of this introduction will offer readers a brief overview of the concept and structure of the book *Digital Assessment in Higher Education: Navigating and Researching Challenges and Opportunities* to facilitate their understanding and orientation. The book aims to explore various perspectives on digital assessment in higher education, with a specific emphasis on the challenges and opportunities that have been encountered, particularly in the aftermath of the pandemic. This book is the result of collaborative efforts among researchers worldwide, catalyzed by a European project titled “Practical Skills Evaluation with Digital Technologies in Teacher Education” (D-Eva project, ref. 2020-1-ES01-KA226-HE-095485). D-EVA project was funded by the European Union under the Erasmus call and carried out by a team of researchers and practitioners from four countries.

Throughout this project, participants were entrusted with a daunting mission: to contemplate enhancements in assessment practices and devise strategies in which technologies serve as pivotal mediators and facilitators of assessment processes within an increasingly digitalized higher education landscape. This mission was successfully fulfilled, and the project has since provided the academic community and professional users with instruments and resources to seamlessly utilize digital tools to enhance student learning and cultivate more authentic and sustainable learning environments.

Beyond equipping us with “ready-to-use” tools and implementing them in our assessment practices, the project has afforded us the opportunity to reflect on our assessment methodologies. It has prompted us to identify challenges, reconsider assessment practices from novel perspectives, and contemplate the limitations and possibilities faced by educators in the face of unforeseen challenges such as the advent of artificial intelligence (AI) or virtual learning contexts extensively adopted during and after the pandemic in higher education institutions (HEIs).

When it comes to university digital assessment, in this book we adopt a holistic perspective that considers its various purposes. This book emphasizes the importance of assessment under the framework of “assessment for learning,” viewing it as a means to facilitate student achievement and development, fostering and sustaining long-term learning. Within this framework, the contributors to this book offer diverse

perspectives on assessment and explore its multifaceted nature. These perspectives align with the overarching concept of assessment as an integral part of the learning process and ongoing development.

This spectrum of assessment practices includes specific techniques and formative tasks, spanning various formats and involving educators, students, their peers, and other stakeholders. In this context, assessment also refers to the feedback procedures that take place at each stage of the learning process, such as peer-feedback mechanisms and educator feedback. In essence, assessment is viewed not just as a means of evaluation but as a dynamic process that supports continuous learning and growth.

Despite the recent extensive exploration of digitalization in teaching, learning, and assessment processes, this book approaches digital assessment from a nuanced perspective. When we discuss digital assessment, we are portraying a scenario where digital technologies are not merely supplemental tools but rather integral components of the academic landscape, deeply embedded within our institutions and practices. Our viewpoint diverges from the simplistic notion of adopting digital tools as a reactionary response to the sudden shift to virtual environments prompted by the constraints of the pandemic. Instead, we view digital assessment as an organic and essential aspect of a broader, more profound reflection on the transformative role of technology in shaping educational practices. It is part of a holistic examination of how digitalization impacts education at all levels. Therefore, we advocate for a thoughtful and deliberate approach to integrating digital assessment into our educational frameworks, recognizing its potential to enhance teaching and learning experiences. Ultimately, our aim is to adapt our approaches in alignment with the evolving educational landscape and the demands of the digital age.

Drawing on the latest research-based evidence and innovative theoretical approaches, this book provides invaluable insights, guidance, and practical examples to navigate the complexities of digital assessment in higher education. Digital assessment emerged as a sensitive issue during and beyond the pandemic, posing ethical considerations and challenges related to academic staff's competencies in integrating it into teaching activities. Moreover, the infrastructure of higher education institutions faced significant challenges in implementing digital assessment effectively.

The advent of emerging technologies such as artificial intelligence and ChatGPT has further spurred the need to explore pedagogical and technical solutions that uphold integrity, relevance, and fairness in assessment procedures, whether conducted digitally or not. Addressing key topics and challenges, the book delves into the design, implementation, and evaluation of digital assessment strategies while emphasizing the critical role of academic staff competencies in digital assessment.

With chapters covering a diverse array of relevant topics and the emergence of generative AI tools, the book offers comprehensive insights into the evolving landscape of digital assessment in post-pandemic times. It also delves into the essential competencies required by academic staff to effectively engage with digital assessment and ensure digital ethics are upheld.

Furthermore, the book explores the implications of digital assessment at both the micro-didactic and institutional levels, shedding light on the new digital literacy

required by technological advancements. Contributions from academics with extensive expertise and early-career researchers from various regions worldwide enrich the volume, making it a valuable resource for educators, researchers, higher education institutions managers, and policymakers seeking to enhance their digital assessment practices and stay at the forefront of educational innovation.

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What Can You Expect from This Book?

This book is organized into three parts, in which the chapters are grouped in order to give the reader in-depth knowledge about the topic. While you have the flexibility to read the chapters in any order, we highly recommend starting with the next chapter.

Part I, *Considerations on Integrating Digital Assessment in Higher Education*, contains those texts that introduce the topic of the assessment in a digital context.

Sava, Grosseck, and Malița, in their chapter linked to the D-EVA project mentioned at the beginning of this text, conducted an exploration of the needs of academic professionals regarding the use of digital tools for assessment. The chapter discusses, in a comprehensive manner, the broader considerations about digital assessment specificities in HEIs and the challenges the implementation of digital assessment might determine at the individual and institutional levels. It also outlines the process of conducting a training needs analysis, which aims to identify both individual needs and the institutional ecosystem. Broader socio-cultural factors and technological advancements have an impact on these needs. The examples and designed practices show a wide range of problems that higher education teachers face, not just with technology but also with more general issues of pedagogy, such as ethics, academic honesty, and making sure that assessment methods are in line with learning goals. To address these challenges, academic professionals stress the importance of adopting a holistic approach that integrates new technology with traditional teaching methods. Such an approach is seen as useful for enhancing the effectiveness and significance of digital assessments in teacher education. The chapter offers valuable guidelines for the successful implementation of digital resources in higher education (HE) assessment.

Lelescu and Sajal open the debate on the role of generative artificial intelligence technologies in enabling sustainable assessment practices. A conceptual model is proposed to guide the integration of AI-powered digital assessment methodologies, emphasizing the importance of AI literacy and human capabilities in fostering life-long learning. The objective is to explore sustainable trends and emerging frontiers in digital assessments within the AI domain. The study aims to provide an answer to the research question of how digital assessments can use a generative AI-powered model

in higher education. The findings of this chapter offer valuable insights for policymakers and educators in higher education institutions, facilitating the enhancement of students' learning experiences in an increasingly digitalized world.

Domilescu and Mladenovici dig more into the generative AI for assessment, putting the focus on ChatGPT, and Bing highlights the ethical dilemmas and weaknesses within higher education systems. The authors advocate for a reconsideration of traditional mindsets, necessitating a focus on learners' personal and social implications, including their emotions, interests, and values. This chapter proposes leveraging Fink's taxonomy of significant learning to develop an integrative framework for digital assessment techniques aimed at enhancing student motivation and academic performance. By bridging conceptual work with empirical evidence, the chapter aims to facilitate the successful implementation and integration of digital assessment in higher education while emphasizing the human dimension of learning.

Chuah and Sumintono approach in their chapter on the issue of ChatGPT investigating its use for academic support in higher education, focusing on students' readiness, perception of its usefulness, and understanding of academic integrity issues. Employing a quantitative approach with a non-experimental design, the study reveals varying levels of student readiness and awareness regarding ChatGPT usage and adherence to academic integrity. The study highlights the urgent need for universities to establish clearer guidelines for utilizing AI tools in academic contexts. While students recognize the potential benefits of ChatGPT, many lack full preparedness for its integration into their academic routines. This chapter enhances understanding of students' perceptions and engagement with AI tools in higher education, offering insights into the future of digital assessments and the potential impact of AI tools like ChatGPT on assessment methods and academic integrity.

Moving the focus on the feedback processes to explore the role of technology in their development, Martins and Cano stress the potential of feedback as a process involving making sense of information related to the learning journey and leveraging it for self-improvement. While feedback can originate from various sources, the integration of technology introduces opportunities for gathering and analyzing data from learning activities, thereby positioning learning analytics as a feedback source. However, it is imperative to not only consider design elements and content but also the pedagogical underpinnings of these tools. Despite the proliferation of dashboards, they often encounter challenges in effectively fostering self-regulation. The authors developed a learner dashboard utilizing logs collected from a specific instructional sequence implemented in Moodle, aimed at cultivating self-regulation in higher education. This chapter presents a case study elucidating and critically analyzing the decisions made throughout the iterative process of designing and developing a learning analytics dashboard tailored for higher education students.

Opre and the other authors extensively examine the intricate domain of digital assessment, investigating its capacity to radically change academic assessment methodologies while establishing connections throughout the whole teaching-learning-assessment process. This way, the chapter comprehensively reunites the general considerations of the first part of the book, offering a broader view of assessment in the whole triangle of teaching, learning, and assessment.

Beyond its role as a method for confirming and evaluating diverse learning outcomes and tracking students' progress, digital assessment holds immense promise for enriching the learning experience and cultivating skills essential for success in the twenty-first century. To fully utilize this potential, however, deliberate efforts must be made to customize digital academic assessment methods that make the most of the unique features and capabilities of digitized assessment while also taking into account how they fit into the overall framework of teaching and learning. By examining the intricacies of digital assessment and elucidating its transformative potential, this chapter aims to shed light on the importance of embracing digitalization in academic assessment practices. It underscores the imperative for educational stakeholders to actively engage in reimagining assessment methodologies, harnessing the power of digital tools to foster enhanced learning outcomes and prepare students for the challenges of the digital age.

Part II of the book, *Trends in Researching the Use of Digital Assessment in Higher Education*, explores the current trends in researching the use of digital assessment in higher education.

Luştreá and Craşovan, in their scoping review opening this part, examine the features, methodologies, and outcomes of research on online assessment accommodations for students with special needs, aiming to provide recommendations for curricular design in higher education. Through a systematic literature review across different academic databases, the thematic analysis revealed four main themes: conceptual developments, barriers to online assessment, recommendations for enhanced accessibility, and accessible curriculum design. The findings suggest a shift toward viewing online assessment as an inclusive, universal approach, with accommodations benefiting all students. The authors, advocating for diverse assessment formats such as blackboard quizzes and multimedia presentations with flexible timelines, aim to promote inclusivity in HEIs. The insights from this review have the potential to drive positive changes in curriculum design, fostering inclusive education for all students in higher education settings.

The chapter authored by Guruloo and Osman through a systematic review analysis provides a comprehensive analysis of digital assessment adoption in higher education, focusing on research published between 2020 and 2023. The findings illustrate a growing acceptance of digital assessment tools such as online quizzes, e-portfolios, and adaptive learning platforms, offering benefits such as increased student engagement, improved feedback mechanisms, and insights into learning processes. The chapter also addresses challenges including faculty training gaps, disparities in technological access, and concerns regarding academic integrity and data security. Finally, recommendations for effective digital adoption are provided. Among them, robust faculty development initiatives, equitable technology distribution efforts, and innovative security solutions are present.

In the next chapter, Espinosa Rodriguez, also conducting a systematic review, focuses on the role of digital tools to foster soft skills assessment. This study aims to explore three main aspects: identifying which soft skills are being evaluated in university settings, describing the strategies or instruments used for their assessment, and investigating the extent to which gamification is employed in this process. The

results of this review revealed the diversity of academic works dedicated to this topic, the range of soft skills assessed, various application techniques, types of evaluation and instruments utilized, and the integration of gamification, serious games, or technological tools in the assessment process. Ultimately, this review seeks to provide a comprehensive conceptual understanding of soft skills assessment in higher education, laying the groundwork for further research in this area and exploring alternative approaches for implementation in the Latin American context.

Part III of the book, *Solutions and Reflections on Using Digital Assessment*, presents effective strategies, solutions, and reflections on using digital assessment, showcasing practices in higher education contexts from different continents.

It starts with a chapter, authored by Ion and Mercader, derived as well from the D-EVA project, and presents a research-based professional program aimed at enhancing the assessment competencies of higher education academics using digital tools. Through a participatory co-creation process involving academics, assessment experts, researchers, and digital content creators from four European countries, the program's design incorporates comprehensive research insights and crucial factors conducive to academic and professional growth. Emphasizing the active role of educators in shaping their assessment methodologies, the program situates them as reflective practitioners within a Professional Learning Community framework grounded in social constructivist principles. Furthermore, the "D-EVA training" leverages evidence-informed practices to facilitate teacher development in universities, accommodating diverse levels of digital literacy. It offers a variety of resources, including a database housing various assessment activities, an online hub featuring examples of digital resources, and four self-paced micro-modules designed to support and enhance assessment practices.

Struan and Diver use a case study strategy to examine the implementation of a comprehensive approach to teaching digital literacies and academic literacies within a large, research-intensive university setting. Drawing on insights from over a decade of assessment at scale, ranging from 2000 to over 18,000 students annually, the chapter explores how digital assessment and pedagogy have been integrated into the institution's educational framework. The study is mostly about two aspects: using a digital literacy pedagogy that promotes early student engagement and enhances digital skills through entirely digital course materials and online assessments and integrating this instructional approach with the academic literacies framework to foster critical engagement and prepare students for the technological demands of today's job market. These two domains—digital literacies and academic literacies—are intentionally integrated into a cohesive approach. The authors offer key considerations and recommendations for the interconnectedness of academic and digital literacies, emphasizing that successful engagement with one reinforces the other.

Luştrea and colleagues, from an international perspective, investigate the Digital Reflective Journal (DRJ) as an online assessment method in education, aiming to provide insights into its efficacy, challenges, and implications from students' perspectives. Based on data collected from 105 students in three editions of the Classroom Laboratory Joint Course, using DRJs was linked to several benefits, such as higher student engagement, commitment, and self-regulated learning; better teamwork and

collaborative learning; better feedback practices; and more opportunities for reflective learning. The chapter concludes that providing support and guidance to students, especially in the initial stages of implementation, can help address challenges and maximize the effectiveness of DRJs as a pedagogical tool.

Barrett, Fitzgerald, and Ryan delve into the utilization of ChatGPT within the Scholarship of Teaching and Learning (SoTL). The chapter, which includes a literature review that examines the role of ChatGPT in enhancing education, focuses on a case study on assessment, both before and after the integration of ChatGPT. The discussion then analyzes the findings using a 3P framework: prompts, positivity, and potential. Subsequently, the chapter explores the challenges faced by educators in adapting to the disruptive influence of ChatGPT. It concludes by advocating for educators to embrace and explore the potential of ChatGPT, emphasizing the need for guidance and supportive policies to ensure its beneficial impact on student learning.

Paloş and Vîrgă's chapter presents a study aimed at investigating shifts in student performance, as indicated by grades, across three distinct periods: pre-pandemic, pandemic, and post-pandemic, in an educational psychology course. Over the course of five years, the authors looked at 916 student tests that were given in a variety of ways: face-to-face teaching and testing (2019), a mix of face-to-face and online teaching with online assessment (2020), only online teaching and testing (2021), a mix of face-to-face and online teaching with face-to-face assessment (2022), and only face-to-face teaching and testing (2023). The findings revealed significant differences in final grades and course/seminar grades across the five evaluations. These results shed light on the challenges encountered by both students and educators over the pandemic years in adapting to the evolving educational landscape while striving to uphold educational quality.

Alanazi, Osman, and Halim delve into the incorporation of Digital Assessment Tools (DATs) within the realm of physics education, specifically in Saudi technical colleges. The primary emphasis lies on investigating how these tools influence the enhancement of Higher Order Thinking Skills (HOTS) and problem-solving capabilities among students. The findings of the study indicate that, while some educators were not familiar with DATs, the majority recognized their positive influence on learning outcomes in physics education. Specifically, DATs were found to enhance students' understanding of physics concepts, critical thinking abilities, and analytical skills. Educators emphasized the importance of DATs in boosting student engagement and facilitating the practical application of theoretical knowledge.

Summing up, the volume reunites contributors from Ecuador, Finland, Indonesia, Ireland, Malaysia, Norway, Romania, Saudi Arabia, Scotland, Spain, and Switzerland. Some contributions were possible due to the long-lasting cooperation within the research network on professionalization from a lifelong learning perspective of Asian and European higher education institutions members of the ASEM Education and Research Hub for Lifelong Learning (ASEM LLL Hub), more recently extended globally. With practical, pertinent, authentic, and recent input and theoretical framework suggestions, the various perspectives, reflections, and practices illustrated offer a significant advancement to the international debate on improving digital assessment.

The editors would like to thank all contributors, including the partners and colleagues involved in the D-Eva project, as well as the editorial team at Springer Publishing. The joint, equal teamwork of the editors of this book, together with the efforts of all the authors, made possible the volume, and we hope that it will be of interest to readers in higher education all over the world.

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Chapter 4

University Student Readiness and Academic Integrity in Using ChatGPT and AI Tools for Assessments



Kee-Man Chuah  and Bambang Sumintono 

Abstract This chapter explores the use of ChatGPT for academic support in higher education, concentrating on students' readiness, perception of its usefulness, and understanding of academic integrity issues. A quantitative approach with a non-experimental design was employed. The study involved 374 university students as participants, with data cleaning and validation carried out using WINSTEPS software and further analysis was conducted using Rasch Rating Scale Model. The key findings highlight varied levels of student readiness and awareness concerning the use of ChatGPT and adherence to academic integrity. The study points to the urgent need for universities to provide more explicit guidelines on using artificial intelligence (AI) tools within academic contexts. The results reveal that while students see the potential benefits of ChatGPT in aiding their studies, many lack full preparedness for its incorporation into their academic routines. The analysis of variance indicated significant differences in the readiness and perceived usefulness of ChatGPT among students based on the frequency of its usage. However, there were no significant differences in terms of academic integrity across different demographic groups. This research contributes to the understanding of how students perceive and engage with AI tools in higher education. It also provides insights on the future of digital assessments in higher education, particularly how AI tools like ChatGPT might reshape assessment methods, particularly in upholding academic integrity and honesty.

Keywords ChatGPT · Academic integrity · Academic help-seeking · Readiness · Assessments

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4.1 Introduction

The release of advanced language models like ChatGPT represents a disruptive force within higher education. With its impressive capabilities in text generation, knowledge retrieval, and dialogue, ChatGPT presents both vast opportunities and complex challenges (Adams et al., 2023; Strzelecki, 2023). Evidently, its introduction compels a recalibration of pedagogical approaches and the need for comprehensive new policies within academic institutions. Many studies have highlighted ChatGPT's multifaceted functionality, which offers potential avenues for personalised learning, automated formative feedback, and the streamlining of administrative tasks (Adeshola & Adepoju, 2023; Rawas, 2023). However, it also raises questions about the ethics of artificial intelligence (AI) usage in education. Some of the concerns are related to upholding academic integrity (Perkins, 2023), preventing the misuse of ChatGPT as a replacement for critical thinking (Vázquez-Cano et al., 2023; Wach et al., 2023), and safeguarding intellectual property (Lund & Wang, 2023). These concerns are not unwarranted, especially when students can access ChatGPT freely and the potential for misuse to undermine academic integrity remains high.

In light of these considerations, the role of assessments in higher education is undergoing significant scrutiny and transformation. Traditional forms of assessment, such as essays and standardised tests, are increasingly viewed as vulnerable to the sophisticated capabilities of AI tools like ChatGPT (Grosbeck et al., 2023; Zirar, 2023). This prompted many educators and researchers to devise more innovative and authentic assessment methods that can effectively measure student learning. As Rudolph et al. (2023) pointed out, although ChatGPT can sometimes “hallucinate and spout nonsense” (p. 356), there is indeed a necessity for academic institutions to move away from traditional assessment practices. Educators are exploring alternative formats like project-based assessments, oral presentations, and peer-reviewed assignments, which are currently more resistant to AI-generated content (Farazouli et al., 2023; Thanh et al., 2023). However, this transition also demands rigorous validation of new assessment methods to ensure they maintain reliability and alignment with learning objectives, thus preserving the integrity of higher education credentials (Akimov & Malin, 2020). Hence, instead of focusing on educators' perspectives, there is also an opportunity to examine the students' viewpoints, particularly in terms of educating them on how to use tools such as ChatGPT as an academic help-seeking tool while fostering an awareness of academic integrity.

In general, academic help-seeking is a process that involves actively seeking information, resources, or support to address learning challenges or enhance understanding of academic content (Davison et al., 2023). In this context, academic help-seeking is emerging as a pivotal component of the educational ecosystem, as the power of AI tools can be harnessed for constructive purposes (Ajlouni et al., 2023; Tlili et al., 2023). Students, now more than ever, require guidance on how to effectively leverage these technologies to complement their learning journey rather than being prohibited from using them (Wu & Yu, 2024). The use of AI tools such as ChatGPT can significantly lower the barriers to academic help-seeking by