

Chapter 1

Introduction



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Abstract This brief introductory chapter outlines how this book, *Reimagining University Assessment in a Digital World*, explores the implications, opportunities and challenges of the digital world for assessment in higher education.

This is a book about the implications, opportunities and challenges of the digital world for assessment in higher education. It has been produced as a collaboration between international researchers, catalysed by a 2017 symposium at the Centre for Research on Assessment and Digital Learning (CRADLE) at Deakin University in Melbourne, Australia. At that symposium, we set a challenging brief for our colleagues: to fundamentally reimagine the intersection of assessment and digital learning in higher education.

When we say university assessment, we refer to a broad and inclusive conceptualisation. Assessment serves multiple purposes, and this book emphasises the need for assessment to prompt and sustain learning as much certifying achievement. While the authors in this book take a range of views about assessment and focus on various purposes or aspects, these align with the broadest view: assessment as making judgements about what someone is capable of, based on some sort of demonstration or product. This ranges from high-stakes examinations to low-stakes formative tasks, and it includes judgements made by educators, students, their peers, and others. Assessment is therefore also concerned with the feedback information that is produced as consequence of these judgements.

When we say the digital world, we mean a world where the digital is pervasive and all around us. This isn't a naïve 'digital natives' style argument; we don't think students are magically wonderful with technology, nor that we should pander to some imagined desire for high-tech learning. We do however recognise that life in general, and education in particular, has been changed as our world has become more digital.

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The digital world offers a range of technologies that can enable us to do things we've always wanted to do with assessment at a massive scale. It also enables us to assess differently, or make sense of masses of data to understand the efficacy of existing approaches. This book explores these and other potential benefits of the digital world for improving assessment.

The digital world also poses fundamental challenges not just to how we assess, but to what we assess. As artificial intelligence advances, computers are increasingly able to undertake tasks that were once the domain of humans. As students engage with social media, they become exposed online in ways that previously only applied to media figures or celebrities. This poses challenges for assessment, which are explored in this book.

Assessment in a digital world is thus a broader concept than the narrower concept of 'e-assessment' that tends to occupy the intersection between technology and assessment. E-assessment is largely concerned with technologized assessment, and at its best it leverages what new technologies can do to enable new forms of assessment that are better for learning and judging what students can do. While there is benefit in making assessment digital, we think that there are much greater opportunities and challenges posed by the digital world for assessment. Some of these may not even involve technologized assessment at all; instead they may involve preparing learners for tasks that are distinctly human. These are concerns beyond the tradition of e-assessment, and they require a broader set of disciplinary voices. This book features chapters by scholars from the disciplines of philosophy, computer science, media studies and psychology (to name but a few) – as well as assessment and educational technology.

This book is broken up into five parts; this chapter and the next comprise *Part I: Introduction*. You can read the chapters in any order, however we strongly encourage you to read the next chapter first. That chapter provides some foundational concepts about how assessment can or should change to suit the digital world. It situates the question of university assessment within broader debates about the place of technology in the university and the place of the university in a digital world.

Part II: The changing role of assessment in the digital world asks what shifts are required of assessment in order for it to be fit for purpose in the new digital world. Two of its chapters deal with the ethics of re-imagined assessment: one with a focus on the new and emergent ethical issues posed by the digital world (Bearman et al., Chap. 3), and the other revealing challenges of inequity that persist despite the digital world (Harris and Dargusch, Chap. 8). Keeping with the theme of persistent challenges, this part also explores how feedback might not actually have been re-imagined as it has been technologized (Pitt and Winstone, Chap. 7). This part also includes two chapters that focus on artificial intelligence: one which focuses on the different roles people and computers will play in assessment, and what really needs to be assessed in a world of artificial intelligence (AI) (Bearman and Luckin, Chap. 5); and another which asks how student use of AI tools should be incorporated into assessment (Dawson, Chap. 4). A final theme in this part is how assessment spans

the boundaries between learners' digital work, study and social worlds. How learners portray themselves online, and the role assessment has in mediating this, is the focus of one chapter (Ajjawi et al., Chap. 6); this complements a focus on how assessment can represent the realities of digital design work and shift away from the textual bias so present in current assessments (O'Donnell, Chap. 9).

Part III: The role of big data in reimagining assessment asks how data can be used to improve assessment. A view of big data as 'augmenting' assessment and feedback practices is presented in this part (Knight, Chap. 10), in which analytics support (but not supplant) the human players in assessment. The next chapter asks how the huge datasets generated by online students can be used to identify problems with assessment (Rogaten et al., Chap. 11). The following chapter identifies ways technology can broaden the repertoire and scaling possibilities for assessment, and how it can help assessors observe learning processes (Pardo and Riemann, Chap. 12). The part ends with a chapter on 'metrolytics', a combination of educational measurement and learning analytics approaches (Milligan, Chap. 13). Where the previous part was focused on possibilities of what could or should be (as well as what should not be), this part explores the bleeding edge of what is possible with data and assessment.

Part IV: Practical exemplars provides a grounded snapshot of what expert educators are already doing in reimagining assessment, and what is possible with current technology. It begins with a chapter focusing on self and peer assessment in self-paced online courses (Corrin and Bakharia, Chap. 14). This is followed by a chapter exploring what is currently possible in self and peer assessment, including a table showing the capabilities of current tools (Tai and Adachi, Chap. 15). The next chapter gives an exemplar of a reimagining of assessment in support of constructive alignment that would only be feasible through technology (Cain et al., Chap. 16). One implication of the digital world on assessment has been increasingly open-ended tasks, and the next chapter in this part explores the challenges this poses for educators and students (Apps et al., Chap. 17). This is followed by a chapter documenting how assessment can be not just reimagined, but redesigned through play (Kim and Rosenheck, Chap. 18). This part ends with a chapter on how the representation of assessment can be reimagined through digital credentials (Jorre de st Jorre, Chap. 19). Common throughout this part is a focus on what is possible, through practical exemplars educators can explore.

The book concludes with *Part V*, a chapter that builds on common threads from throughout the book to establish an agenda for future work on assessment in a digital world.

As you read this book, we would like to issue you with the same challenge we issued the chapter authors: to broaden your thinking about the intersection of technology and assessment beyond just e-assessment toward fundamentally reimagining assessment in a digital world.