



Introduction

Noeline Wright and Dianne Forbes

Faculty of Education, The University of Waikato

This book is a partnership on many levels—between co-editors, with and among the other chapter authors, external, international reviewers, and eventually with you, the book’s readership. Our colleagues have also had to trust us in the mentoring, leadership and fruition of this project. We also hope that the work is trusted in the sense of having a quality assurance process that stands up as rigorous and befitting an academic text. We will address that aspect in more detail later in this introduction.

Partnership, trust and integrity are implicit in any edited book development that grows from within a shared context such as ours, the University of Waikato’s Faculty of Education.

Where did it come from?

The book’s inception was heavily influenced by international colleagues’ books in both distance and teacher education where they too have collaborated with academic colleagues within their own institutions. Two such texts have been a particular inspiration: Atkinson and Claxton (2000), and Anderson (2008). They also worked with colleagues at their respective institutions. Atkinson and Claxton (2000), for example, challenged their authors to tackle and unpick one pivotal concept: the notion of “intuition” and what role it plays in teaching. Their text benefits from multiple perspectives and interpretations of the concept from across different domains (such as professional learning, ITE, continuing PD and assessment), while also pioneering a collaborative approach between the contributors as they worked together on the ideas.

In a similar way, Anderson’s (2008) edited text, like ours, was mostly written by authors from within a single institution. Updated from a highly successful 2004 first edition, this text is a collection of work by distance educators, where each author addresses a component of the whole. Some chapters are mainly theoretical in nature, while others are more practically oriented. Overall, the chapters are representative of a community and are intended as a launchpad for reflection, discussion and action, inviting reader responses.

We liked the open-access character of Anderson and colleagues’ work at Athabasca, the first university to produce freely available texts. We are also inspired by Anderson’s reasoning for selecting the open-access format to foster knowledge-sharing and equitable access, intending it as a gift to readers to encourage the growth of ideas and knowledge. Freed from considerations of profit, like Anderson and colleagues, we can disseminate the work widely to prompt critical dialogue and reflection with a wider readership, we hope, than might otherwise be possible.

Our own collaboration also shares multiple perspectives on the notion of ‘digital smarts’ across a range of educational sectors and contexts. It brings a distinct institutional understanding to the scope of the book. This collaboration, while using rigorous quality assurance processes, means we can be in control the book and its publishing process rather than following the systems imposed by a traditional



publishing house. And we get to experience the layers of process involved in such undertakings in order to maintain a high level of academic rigour.

Digital texts and the social networks developing for academics (for example, ResearchGate, Academia.edu) can mitigate some effects of distance, population and price, but this also means texts need to be freely accessible. Current publishing arrangements through traditional academic publishers, as noted above, can be obstacles for teachers in schools, with access prevented unless a library subscribes to the text/journal or a reader is willing to pay for an article. Admittedly, publishing houses are recognising the growing clamour from academics that openly sharing our work to a wider public—particularly relevant in education—is important and must be available more widely than the traditional academic repositories and publishing houses. We want teachers to read this text, regardless of sector and access to academic libraries, so we have taken things into our own hands.

The book's format and quality assurance processes

Our isolation from the traditional main centres of academic publishing in the English-speaking world (such as the United Kingdom and the United States) meant we have done what our forebears have done—found a way around those impediments. To mess with Ernest Rutherford's comment about creativity and making do, since we don't have a lot of money or access to the readerships in other countries through the usual publishing means, we have to think of other ways to make things happen.

To that end, we have applied the peculiarly Kiwi Number 8¹ wire mentality to this project, choosing a digital format with a Creative Commons licence. Through an open source format and by making the text as widely available as possible, we hope to share this book with academics and practitioners across sectors, contributing to debate about the value of digital technologies in educational contexts.

Within the quality assurance process, this book is the culmination of a two-year process of collaboration. Contributing authors shared drafts at regular monthly meetings, leading to an open peer review of each other's progress. This open review phase had a number of purposes, including sharing and developing emerging ideas into something cohesive, with digital smarts as the glue. It was also for newer research colleagues to experience both sides of the reviewing process, a key quality assurance aspect of academic writing. Through access to each other's work, chapter authors could better see how their own work fitted the wider scheme of things. In turn, this assisted in refining and editing the chapters, thus contributing to a greater cohesion of the book as a whole. This has led us to organise the book in a certain way. We have put complementary chapters together, beginning with early childhood through to tertiary sociocultural educational contexts.

A final step in the chapter revision process was drawing on our international academic networks to provide external, blind peer-reviews before the chapters were finalised, formatted and digitised for open sharing.

To that end, we cannot thank the Wilf Malcolm Institute of Educational Research ([WMIER](#)) enough for providing us with the means to pay for the major costs involved, that of professional

¹ Built as we are on an agricultural backbone, Number 8 fencing wire has been relatively plentiful—it became the go-to resource for many things on farms.



proof-reading, graphic design and digitising. We also thank the University of Waikato's Faculty of Education for providing the context in which this book could grow.

Why 'digital smarts'?

We chose digital smarts as the key phrase for the book because we have appropriated it to encompass the following

- an emphasis on **pedagogy**
- **agency**, or students' active participation in their learning. This includes any learner in early childhood through to secondary and tertiary learning contexts where learners exercise agency over the focus of learning, generate content and resources, and are encouraged to provide feedback and feedforward to each other
 - creativity
 - **risk-taking**, experimentation, inquiry
 - **challenging** the publishing status quo—managing our own workload, using open review processes, viewing assessment as learning, posing challenges for teachers and seeking open access to research publications.

In terms of using an e-book format, we make it easier for authors to include aspects such as:

- multimedia content
- small scale **case studies**—collectively a rich picture
- attention to **participant perspectives**—students, staff, researchers, authors.

The word 'smart' also links to an early statement by the New Zealand Ministry of Education in 2002 which talked about the 'smart use of ICT' in educational contexts. Over time, the sense of agency that the word 'smart' has for both learners and teachers has disappeared. More recent MOE statements about e-learning focus instead on describing the potential influence of the technologies on the learning, not the learning on the technologies and how they are used. We think it is important for digital technologies to be seen as the servants of learning, providing opportunities for all learners to be adaptive help-seekers and agents of their own lives as they appropriate these technologies as cultural tools (see [Pachler, Seipold, & Bachmair \(n.d.\)](#) for example, for an exploration of agency, culture, appropriation and the idea of the 'mobile complex').

We think the Ministry of Education's emphasis on the technology rather than pedagogy is misplaced. For example, the ministry's [Learning with digital technologies](#) page is mostly about ultra-fast broadband, not learning. The technologies should always be servant to pedagogy; teachers' deliberate planning that incorporates opportunities for students to learn through or with these technologies is what makes a difference—not the provision of technology itself. Evidence for our emphasis is contained in this book, where educators' thinking about how digital technologies are used for learning is the focus. It is this active thinking and pedagogical design that makes the difference to the value of the technology in a learning context, not the technology itself. Later in this introduction, we outline the ideas in each chapter that show how the author has approached learning with and through digital technologies.



This emphasis on the “potential influence of the technologies on the learning, not the learning on the technologies” also raises concerns about agency and the apparent diminishing of the teacher’s role. Some technologies are dazzling but they end up overshadowing what we are in education for, which is teaching and learning—helping people learn how to think critically and deeply.

Digital technologies are helpful for teaching and learning but should never drive it. We need to always think, is this technology appropriate for my intended learning purpose? The technology should not be a solution looking for a problem (Campbell, 2001). With such an orientation, busy work rather than intellectual labour as part of longer term learning goals may easily eventuate. Our contention, therefore, is that being digitally ‘smart’ is about purposeful pedagogical thinking and practice: it is agentic. Digital technologies can help with smart endeavours but should never take over or drive them.

We are therefore reclaiming the word ‘smart’. Having multiple meanings also makes it easy for our chapter contributors to interpret this term for themselves. For example, ‘smart’ can refer to ‘smarting’—in the sense of being hurt, either physically or emotionally; it can also refer to creativity in the making of digital products; or the idea of a smart piece of work, something polished and sophisticated; or the degree of agency one exercises, such as in phrase *working smarter, not harder*; and we mustn't forget the ‘smart’ acronym for something that is Specific, Measurable, Attainable, Relevant and Timely.

These chapters are, we believe, the products of SMART thinking by the authors. What we are producing is *specific* (for it traverses individual education sectors, and is interpreted for the specifics of each chapter’s context), *measurable* and *attainable* (in that the research has produced findings (attainable) arrived at through a rigorous process of investigation (in a sense they have been ‘measured’). It is *relevant* (in that the book focuses on digital technologies in educational contexts) and *timely*. The here and now is always a good time to explore and share what is happening, suggesting implications for pedagogical practices across sectors. In other words, the term ‘digital smarts’ represents intelligent, pedagogically oriented and strategic uses of digital technologies to benefit learners of all kinds.

Introducing the chapters

In the realm of early childhood education, *Elaine Khoo* and *Rosina Merry*, in partnership with early childhood teachers and children, explore the impact of iPad use on young children’s relationships and interactive learning. The authors interpret digital smarts in terms of quality pedagogy and the ways in which teachers responsively seize opportunities to extend children’s interests, meaningfully integrating iPads into the teaching and learning context. Khoo and Merry emphasise, among other important factors, the agency of children, the awareness of teachers and the salience of learning alongside the affordances of iPads. Staying with an early childhood context, *Sara* and *Simon Archard* build on these themes with a case study of diverse and creative ways of using ICT to learn in early childhood. Central to Archard and Archard’s work is the construct of digital habitus, representing the competencies and understandings that children bring from home to preschool settings. Their chapter examines the diversity of digital experiences and implications for teachers.

As in the first two chapters, *Garry Falloon* also presents a case study view of ICT use with children, this time in terms of digital learning objects in a primary (elementary) school. Falloon takes us behind the screens to share insights into how children interact with digital learning objects and with



each other. He explores the levels of thinking stimulated by the design of particular learning objects in a literacy learning context, indicating implications for future learning for primary school children. A challenge is issued to researchers and educators to develop smarter ways of evaluating the value of digital resources for learning.

These three chapters suggest to teachers and, by extension, to teacher educators, that in complex and changing times, it is vital to maintain our focus on quality learning in terms of higher order thinking, creativity and active decision-making, even when learners are very young. A key message is for teachers to recognise and celebrate student agency and diversity. These, and other chapters, reflect the importance of student perspectives on learning and teaching.

Kerry Earl shifts the focus to the preservice teacher education sector, surveying student perspectives on assessment within online courses. Earl proposes smart assessment design via short text assignments in a modular format as a means of enhancing student learning and balancing the complex demands of tertiary education. Her case study is illustrated with assignments from online courses, reflecting choice, variety and support for learning through assessment. Creative approaches to assessment incorporate tasks that are relevant to diverse students, enabling management of workload and digital affordances.

Further insights into initial teacher education are provided by *Dianne Forbes* in her chapter about negotiating guidelines for asynchronous online discussion with students. The idea is to elicit student perspectives and to surface their expectations of peers in online discussion. As students in each class contribute to shaping guidelines for working and learning together, the guidelines are passed forward as a legacy to subsequent classes as a starting point for renegotiating their own set of guidelines. In this way, each cohort of students contributes actively to decisions and protocols for working together, and each contributes to the learning of the next group of student teachers.

Noeline Wright's chapter moves the focus from online to in class, and from primary to secondary school classrooms. Her initial teacher education students needed to review their incorporation of digital technologies into specific lessons of their choosing while on practicum. She argues that it isn't enough to consider the uptake of digital technologies in terms of ease of use or satisfaction in getting a job done. For teachers, it's much more complex than that. Teachers—whether in ITE or in compulsory school classrooms—are much more likely to persist with using digital tools if their students broadly find favour with them and if there appears to be a change in how they go about their learning. Wright appropriates the Continuance Theory model and applies the Kiwi Number 8 wire attitude to it. Through this appropriation, she suggests that for educational contexts, when digital technologies positively affect students' learning, task concentration and task completion, teachers will continue using these tools, even if there are some impediments to doing so. Her pre-service teachers, many of whom were anxious about this task, were also keen to persist once their students indicated their positive responses.

Anne Ferrier-Watson looks at initial teacher education from another viewpoint, that of a librarian offering online support. She investigates how widely a specific group of online ITE undergraduate students use the virtual services of the library. She wanted to find out what sorts of library services these students valued, and what sorts of behaviours characterised their online library use. Her study sheds light on being digitally smart when learning at a distance. Through the lens of invitational theory, Ferrier-Watson examines the extent to which the university's library services provide an inviting and trusted support environment for these online learners. She unearthed the



striking influence of Google as go-to search engine: 65% of students surveyed used the general Google site to search, and just over a quarter of them used Google Scholar. However, more pleasing was that over half also used the university library's databases to search for texts beyond those in each course's readings. One finding was the frustration students felt when they searched for texts outside the university's library services, finding paywalls preventing access—perhaps prompting a turn towards the free library services. Another important finding was a lack of well-developed interpretive skills to make sense of options arising from search attempts. An important implication for practice is to help learners develop the critical and inferential thinking needed to navigate texts found via search attempts in order to select relevant items for reading and assignment tasks. This means greater links with academic staff to weave the library's key services into programmes that support this critical thinking need and improve the learning experience for all learners.

Pip Bruce Ferguson examines the value of an open peer review process to both reviewers and authors. Through feedback from four participants active in *Educational Journal of Living Theories* (EJOLTS—www.ejolts.net), she examines the value of such an open peer review process to developing transnational and cross-cultural research communities. Her four participants represented both experienced and novice researchers and reviewers. She wonders about the extent to which the online and open nature of the journal creates a digitally smart and connected community that exhibits the kinds of rhizomatic links [George Siemen's \(2004\) Connectivism Theory](#) sought to document. The chapter also calls into question the accepted blind review format, questioning also notions of academic rigour. Bruce Ferguson contends that the open review process is more robust than the traditional process because the communication between reviewers and authors means ideas and authorship can develop in a rich and meaningful way. It is certainly food for thought if we are to contest notions of academic publishing rigour and align the review process with a more supervisory and supportive process that appropriates digital smart technologies to facilitate a two-way process.

Digital smartness is next interpreted by *Stephen Bright*, who in interviewing a number of academics within the University of Waikato, but across a range of faculties, considers workload implications for those teaching fully online compared with partially or wholly face-to-face. He sought to find out from 10 staff what their experiences were like and how they managed their workloads. Those who taught fully online felt most able to manage their workloads and were happiest in their work. Those teaching a blend of face-to-face and online courses felt the most compromised and believed they were burdened with a heavier than usual workload.

His chapter segues well to *lisahunter's* where she describes, via an autoethnographic approach, what it is like to newly arrive at the university and immediately begin teaching online while still getting used to the new systems and online processes, including the help function. Not initially knowing who to call or how the systems worked makes for a painful experience. She therefore explores digital smarts in terms of something being prickly or biting, playing on the concept of digital bytes and attending to the positioning of her academic pedagogical self. Her chapter concludes the book and identifies some of the issues academics can face when including digital technologies in tertiary learning contexts and when associated technical issues are not always known in advance, or when the help provided doesn't always match the support needed.

The book therefore spans a wide range of education sectors from early childhood contexts where young children use digital tools through to university academics teaching and learning online.



External reviewers

Our group of external reviewers also contributed ideas about being digitally smart, such as this being a term best understood through the lens of digital fluency rather than digital literacy. From an educational perspective it is about insight into the affordances of technologies and their application to different teaching and learning contexts. This relates to a critical appreciation of the opportunities for the effective employment of tools—an awareness of place and space for their use, addressing both the *when* and *why* rather than just the *how* of using digital tools effectively. In short, it is all about ensuring that the outcomes of using digital tools match the original intentions of the user.

Another external reviewer argued that digital smarts is no longer simply about basic information literacy or keeping your information safe and private. Digital smarts is about developing a positive and powerful digital identity, establishing a voice within a global network, and nurturing creative and inclusive communities.

We wish to thank our external reviewers for their advice and for being prepared to volunteer precious professional time. Their feedback to individual authors has been an invaluable contribution to the academic rigour of this book. Our external review group represented reviewers from Australia, The United Kingdom and Canada. They are (in no particular order):

[Alec Couros](#)

[Steve Wheeler](#)

[Caroline Daly](#)

[Gilly Salmon](#)

[Richard Walker](#)

[Kevin Burden](#)

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