Chapter 1
Introduction

Tríona Hourigan and Ann Marcus-Quinn

This book is necessary given that digital learning is being strongly promoted at all levels of education at present. Comprising 31 chapters, this publication presents a select number of case studies which reflect and discuss issues regarding the integration of technology within a learning environment, both physical and virtual. As such, this book will guide the adoption, design, development and expectation of future digital teaching and learning projects/programmes in K12 schools. The publication primarily shares case studies and experiences from international digital teaching and learning projects in K12 education. In addition, it outlines advice regarding future school policy and investment in digital teaching and learning projects. The book also provides an expectation on the future capacity and sustainability in digital teaching and learning in K12 schools. Authors from around the word share their experiences and knowledge of adopting digital technology in teaching and learning in K12 schools. It is important to note that all of the featured projects and practices are contemporary in nature, thus providing a snapshot of digital practices in today's schools. Consequently, this makes this book very attractive for all stakeholders including educators and developers.

T. Hourigan (✉)
Department of Education and Skills, Limerick, Ireland
e-mail: trionahourigan@gmail.com

A. Marcus-Quinn
University of Limerick, Limerick, Ireland
e-mail: Ann.Marcus.Quinn@ul.ie

Overview of Chapters

Chapter 2, by K. M. Crook (Highgate Wood School, London, UK) and C. K. Crook (School of Education, University of Nottingham, UK) discusses the creation of multimodal opportunities with digital tools. The authors consider the potential of exploiting multimodal communication, or more specifically the often neglected format of narrated-photos or "sound photos" within a distinct educational context. The authors also underline the many challenges related to integrating examples of multimodal digital expression into the established curriculum. These issues are reinforced through observations recorded in an empirical study whereby students were required to create their own multimodal artefacts by using their mobile phones. The main idea behind this intervention was to encourage students to become more aware of the multimodal nature of human communication and in doing so, to consider their own learning via another lens. This chapter also considers the impact of such an approach on educational practice and how digital tools may enhance student awareness of this important form of communication.

Chapter 3, by Helen Boulton (Nottingham Trent University, Nottingham, UK) reports on introducing digital technologies in secondary schools with the aim of both developing literacy and engaging disaffected learners. The research presented here outlines emerging trends from *Literacy and Technology*: *Towards Best Practice*—a project funded by the UK's Teaching Agency, which involved five secondary schools in the East Midlands, UK. In effect, the project introduced digital technologies into two core curriculum subject areas: science and English. The main goal of the initiative was to identify whether digital technologies could intervene and raise the literacy levels of students with special education needs or disabilities and learning needs related to having a second language (EAL). Students experiencing low levels of literacy or identified by their school as being disengaged with learning also participated in this study. Research observations from the project outline its success with raised literacy levels and greater engagement in learning, thus resulting in improved levels of progression.

Chapter 4 considers the transformation of mathematics teaching through digital technologies from a Community of Practice Perspective. Alison Clark Wilson (UCL Knowledge Lab, UCL Institute of Education, London, UK) details work undertaken within the context of a large, multi-year study entitled *Cornerstone Maths*. It is important to note that established research in this area reports a significant underuse of digital technologies in mathematics by learners. In addition, studies also highlight various challenges relating to classroom integration of such technologies by teachers, thus compounding the difficulty of using technology in this specific learning environment. As such, this particular initiative attempts to address the barriers related to low technology integration through the provision of professional development for participating teachers. In this particular context, the experiences of four teachers who engaged with this professional development opportunity is examined from a Wengerian perspective. The research attempts to provide insight regarding the trajectories of the teachers' growth in terms of their subject content knowledge and their emerging pedagogical practice with digital technologies.

Chapter 5, by Tony Hall, Bonnie Thompson Long, Eilís Flanagan, Paul Flynn and Jim Lenaghan (School of Education, National University of Ireland, Galway, Ireland) reviews design-based research (DBR) as intelligent experimentation. This chapter looks towards systematising the conceptualisation, development and evaluation of digital learning in schools. It primarily examines the concepts and principles of DBR within education, and how this specific approach—as a practitioner-oriented, interventionist methodology—can play an important role regarding systematising the design of digital learning in schools. After establishing the present context and reflecting upon the contemporary challenges of technology-enhanced learning in educational contexts, Hall et al. outline and discuss the key features and principles of design-based research methodology. Their chapter takes into consideration the main contributions and indeed limitations of DBR, and how this approach might be introduced and applied—over time—to scale and optimise the impact of design for digital learning in schools.

Moving on to Chap. 6, Charles Crook (School of Education, University of Nottingham, UK) and Natasa Lackovic (Lancaster University, Lancaster, UK) examine how school websites represent digital learning. This chapter endeavours to give us a rare glimpse into the digital culture of primary schools via a comprehensive examination of school websites. Such an approach is highly relevant today, given the increasingly market-oriented and accountability-based environment of schooling. Crook and Lakovic's main intention is to sketch the present landscape of how digital learning is represented in this particular context. Interestingly, one emerging theme from their examination of this digital content was a distinctly low profile detailing the experiences of pupil invention, creativity and connected learning around digital tools. The authors also note the rising prominence of the school App and its potential role in leading future transformations of learning and student experience. The authors reflect upon the promotion (or lack thereof) of digital learning on these school websites and whether or not this is indicative of digital learning in general within these schools.

Chapter 7, stresses the importance of corpus-based resources for L1 teaching, focusing specifically on the case of Slovene. Špela Arhar Holdt, Iztok Kosem (Faculty of Arts, University of Ljubljana, Ljubljana, Slovenia; Institute for Applied Slovene Studies, Trojina, Slovenia) and Polona Gantar (Faculty of Arts, University of Ljubljana, Ljubljana Slovenia) focus on the integration of a corpus for first language (L1) teaching in the higher grades of elementary school and also in secondary school. The researchers provide a description of the Šolar corpus and the Pedagogical Grammar Portal, focusing on the applicative value of the emerging results of their examination of these tools. Furthermore, in this chapter the authors consider the design and implementation of these resources and highlight the main challenges associated with such projects including the advantages and disadvantages of the emerging applied solutions. In addition, the chapter provides the reader with a wider discussion on the usefulness of these results for L1 teaching within K12 educational contexts in general.

Moving on to Chap. 8, Louis Major, Bjoern Haßler and Sara Hennessy, (Faculty of Education, University of Cambridge, Cambridge, UK) highlight the issue of

tablet use within schools today. The authors acknowledge the increased popularity that has led to a major uptake of tablets in K-12 learning environments at present. More importantly, this chapter builds on ongoing research by the authors related to the impact of these digital tools on student knowledge and skills as well factors which influence and contribute to successful or unsuccessful uptake of this technology. In this chapter Major et al. provide useful information and helpful advice for educators (including initial teacher educators) and school policy makers who are interested in the educational use and exploitation of tablets. The authors note that, while tablets have significant potential for enhancing learning the most important element in this process remains the teacher, and their individual classroom practice.

Chapter 9, by Ben Murray (National Council for Curriculum and Assessment, Dublin, Ireland) and Sinéad Tuohy (Junior Cycle for Teachers, Monaghan, Ireland) details the participation of Ireland as one of seven European countries participating in the EUfolio Classroom ePortfolios project. This was a 2-year project, from May 2013 to May 2015, which was funded by the European Commission under the framework of the Lifelong Learning Programme. The chapter focuses primarily on the experiences of the Irish pilot, and in turn highlights specific examples of where ePortfolios were used to encourage a collaborative approach to assessment and learning. In this context, the authors note how the various interactions between participating teachers and students actually opened up the learning process, thus allowing the establishment of a more supportive culture which enabled formative practices in the classroom to emerge and develop.

In Chap. 10, Christina Preston (MirandaNet Fellowship; De Montfort University, Leicester, UK) and Sarah Younie (MirandaNet Fellowship; De Montfort University) use the topic of mobile devices or tablets in teaching and learning to show how professionals engaged in a community of practice such as MirandaNet can learn and exchange ideas about innovation in school environments. As an example of how a community of practice can work in today's world, Preston and Younie demonstrate how a member might learn about the role of tablets in systemic change in relation to social networking, online practitioner debates, through online members' publications, conferences and through various action research projects. The authors note that these observations are indeed highly useful principles which professional community could adapt and apply to any curriculum theme or leadership topic. The authors highlight the fact that such an approach is possible today due to increased access to technologies which help to sustain a community group unable to meet face to face on a regular basis.

In Chap. 11, Stylianos Sergis (Department of Digital Systems, University of Piraeus, Greece and Information Technology Institute, Centre for Research and Technology, Hellas, Greece), Effrosyni Papageorgiou (Department of Digital Systems, University of Piraeus, Greece), Panagiotis Zervas (Department of Digital Systems, University of Piraeus, Greece and Information Technology Institute, Centre for Research and Technology, Hellas, Greece), Demetrios G. Sampson (School of Education, Curtin University, Australia and Information Technology Institute, Centre for Research and Technology, Hellas, Greece) and Lina Pelliccione (School of Education, Curtin University, Australia and Information Technology Institute, Centre for Research and Technology, Hellas, Greece) present an evaluation of

lesson plan authoring tools based on an educational design representation model for lesson plans. The authors note that within online teaching communities, lesson plans (LPs) are commonly used to capture and disseminate teaching practice. However, they argue that there are no commonly accepted and appropriately designed models for representing LPs. This particular shortcoming is also identified in the existing LP authoring tools. Consequently, to address this pertinent issue, the authors propose an educational *Design-driven LP Representation Metadata Model*. This chapter critically evaluates of a set of widely used LP authoring tools. The authors' findings in their evaluation underline various shortcomings in this area and as such they propose a number of guidelines with regard to future implementations of LP authoring tools.

Chapter 12 focuses on the implementation of teaching model templates for supporting flipped classroom-enhanced STEM Education in Moodle. In this chapter, Stylianos Sergis (Department of Digital Systems, University of Piraeus, Greece and Information Technology Institute, Centre for Research and Technology, Hellas, Greece), Panagiotis Vlachopoulos (Department of Digital Systems, University of Piraeus, Greece), Demetrios G. Sampson (School of Education, Curtin University, Australia and Information Technology Institute, Centre for Research and Technology, Hellas, Greece) and Lina Pelliccione (School of Education, Curtin University, Australia and Information Technology Institute, Centre for Research and Technology, Hellas, Greece) introduce a set of flipped classroom-enhanced teaching model templates which focus on two widely used STEM-appropriate teaching models: namely, the inquiry- and problem-based teaching models. This chapter presents the implementations of the particular teaching templates in Moodle—a widely used open source Learning Management System. According to the authors, the primary added bonus associated with the proposed adaptable Moodle templates is to offer support to (novice) STEM teachers. Such support would be helpful to teachers in terms of their educational design (through their exploitation of the proposed templates), and also in the delivery of this content in their individual lessons or teaching scenarios.

Chapter 13, by Michael J. Timms (Australian Council for Educational Research, Camberwell, VIC, Australia) presents an assessment of online learning. Timms notes how one of the challenges for the teacher in an online learning environment is to maintain awareness of each individual learner's progress towards the instructional objectives. As widely acknowledged, within a traditional a face-to-face classroom environment, simple observations by the teacher of student body language can easily communication difficulties or lack of understanding to the teacher. However, online learning typically removes some of these channels of information that are available in a conventional classroom setting. As a result, this leads to the teachers relying more on channels such as assessment of learning. In order to address this issue, Timms explores the various kinds of assessment that are possible in an online learning environment and how might these may be integrated into the instructional process in order to enrich both teaching and learning.

Chapter 14 examines digital literacies in a Chinese secondary school. Xiaofan He and David Wray (Centre for Education Studies, University of Warwick, Coventry, UK) note that many studies relating to literacy practices of adolescents in

technological environments have primarily focused on Western countries. Many educational practitioners in China maintain that technology has the potential to introduce a "new direction" into the Chinese education system—one which is often characterised by rote learning and teaching to the test. Their chapter provides us with an important insight into the development of digital literacies within a Chinese post-primary school environment. The empirical study reported in this chapter centres upon one secondary school with digitised classes in Xiamen, China. The outcomes of this case study are used to suggest some emerging key features relating to the literacy practices of these students within a digitised learning environment. The authors provide useful and insightful comparisons between these emerging "Chinese" features and what is established from research into similar situations in Western educational settings.

Chapter 15 examines the role of digital technologies in collaborative open space learning programmes developed at Northern Beaches Christian School, Sydney, Australia. Stephen Mark Collis (Sydney Centre for Innovation in Learning, Northern Beaches Christian School, Australia) firstly outlines the role of an in-house innovation incubator in nurturing a school philosophy that values emergent interactivity. He then justifies the implementation of this philosophy by applying Self-Determination Theory. Collis goes on to describe a number of open space learning designs and makes reference to the practical use of digital technologies in this context. Collis also proposes an ecological design language that "interprets structures in physical, virtual, and cultural space by their ability to facilitate emergent, unscripted interactions between people, their environment, and information". This chapter highlights the "paradoxical importance of linearity, constraint, and expert teaching in learning designs that set the scene for emergence to occur".

In Chap. 16, Gregory Powell (College of Arts, Social Sciences and Commerce, School of Education, La Trobe University, Melbourne, VIC, Australia) introduces the use of blogs as digital technology reflective instruments for pre service teachers. In this particular chapter, Powell describes blogging technologies which aim to build knowledge, promote independence, as well as engaged and active learning in order to tailor the learning to pre-service teachers for the twenty-first century. According to Powell, it is through blogging that pre-service teachers experience a form of authentic learning which, as we are all aware, is critical to teaching and learning in a modern-day setting. Powell goes on to underline and demonstrate a number of educational understandings as pre-service teachers collaborate and create individual and indeed authentic online and offline learning experiences through their use of these tools.

In Chap. 17, Paul W. Bennett (Saint Mary's University, Halifax, NS, Canada) assesses digital learning in Canadian K-12 Schools and reviews critical issues, policy and practice. He notes how digital learning is increasingly becoming more popular in Canada and how it is now impacting upon education policy in most of the nation's ten provinces and three territories. Interestingly, as a national education department does not currently exist, the promotion of 21st century skills, technology and learning becomes the responsibility of provincial and territorial education authorities with varying degrees of commitment to this issue. Bennett points out in this chapter that even though national advocacy groups do have some degree of

influence over provincial ministers of education, the integration of 21st century learning is still not evenly distributed. This is particularly the case outside of the recognised eLearning leaders among provinces such as: Ontario, British Columbia and Alberta. Bennett argues that despite the great potential for the development of online learning and virtual education, the free market remains regulated and private providers do not play a prominent role. In fact, as Bennett outlines, provincial or school district authorities encourage a more "growth-management approach" where both online and blended learning are considered the next stage of effective technology exploitation and integration.

Chapter 18 investigates the idea of the flipped classroom with the main focus on how to facilitate personalised learning through the help of digital tools. In this chapter, Maurice de Hond (Chairman of the Foundation Education for a New Era, Amsterdam, The Netherlands and http://www.stevejobsschool.world) and Tijl Rood (Director of De Verwondering, School, Amsterdam, The Netherlands and http://www.stevejobsschool.world), explore how information technology can play a pivotal role in establishing a culture of individualised learning in schools. The authors reflect on both the importance of reforming the traditional classroom environment and on recent difficulties encountered by educators in addressing this issues. Consequently, de Hond and Rood emphasise that by embracing and integrating digital tools, schools are in a position to evolve from a traditional one-size-fits-all approach to facilitating more personalised learning experiences for all individuals. Both authors argue that the organisational and the educational aspects of schools can easily be transformed if schools themselves are open to reconsidering their educational goals.

Moving on to Chap. 19, Elizabeth Hartnell-Young, (Australian Council for Educational Research; The University of Melbourne, VIC, Australia) outlines current education policy in Australia, referring specifically to technology provision and an increasingly national approach to teaching, assessment and curriculum. The author highlights the importance of conducting online assessment with a growth mindset, whereby teachers and educators facilitate and enable their students to demonstrate growth over a specific period of time. This is seen as a necessary component in meeting the first Professional Standard. Her work outlines examples from a Learning Assessment System to support this initiative and the role which technology plays in this context. The chapter provides and analyses data from schools working with researchers, government and industry in order to establish such assessment tools that meet their individual needs. The author emphasises the need for local and global collaboration in order to meet the demands of this complex task.

Chapter 20, by Dovi Weiss (Kibbutzim College, Tel Aviv, Israel), introduces a case study which investigates one to one computing integrated within a mathematics class. Weiss begins by highlighting one to one computing as an important educational reform which facilitates ubiquitous access to a digital devices by both teachers and students in the classroom. Weiss considers the largely positive results from recent research studies which have highlighted gains in areas such as student engagement, pedagogy and availability to digital content resources. However, despite these encouraging reports, Weiss points out the lack of curricular resources

and aligned digital content made available to teachers and students. He discusses the development of a digital teaching platform which was designed to support the Common Core ELA and Mathematics curriculum. As such, this chapter describes the effects of integrating such a platform into a mathematics classroom in a school in Brooklyn, US during the 2011 school year.

Chapter 21, by Gregory R. Moore and Valerie J. Shute (Florida State University, Tallahassee, Florida, USA) looks at improving learning through a stealth assessment of conscientiousness. In this chapter, the authors describe the importance of assessing and developing conscientiousness in students and how they are approaching this challenge. Moore and Shute discuss the inherent benefits conscientiousness has for learning and then move on to highlight the process which they are using to establish a valid stealth assessment of conscientiousness. The authors consequently consider the current state of this work and move on to highlight a number of areas for future research into this important theme. The scope of this chapter addresses the strengths and limitations of using stealth assessment to measure non-cognitive competencies. Some recommendations are suggested in order to help others use this approach. The authors' main aims are to emphasise both the importance and complexity of conscientiousness measurement in educational environments, and a general process for reflecting upon and designing assessments for non-cognitive competencies.

Chapter 22, by Saleh Alresheed (Bedfordshire University, London, UK) offers insight into integrating computer-assisted language learning (CALL) in Saudi schools. Presently, in Saudi Arabia, the government is aiming to provide most educational institutions with computers and networking for integrating CALL into classrooms. However, the author notes that integrating digital technologies into typical language learning classrooms is not readily accepted, particularly where the teaching of both English language and information and communication technologies (ICT) is subject to religious and cultural constraints. The chapter introduces a case study approach using mixed methods in order to interview and observe a sample of teachers and school inspectors in urban and rural secondary schools. The emerging findings from this study point to recommending a model to deal with and address the covert and overt issues identified. It would also be hoped that this model may provide systematic support for integrating CALL into Saudi Arabian English language classrooms in the future.

Chapter 23, by Gregory Powell (College of Arts, Social Sciences and Commerce, School of Education, La Trobe University, Melbourne, VIC, Australia) provides us with insight into challenge-based learning and sandbox experiences that integrate digital technologies for pre service teachers at a higher education institution in Victoria, Australia. In this chapter, Powell introduces and describes a range of digital technologies that aim to enhance teacher knowledge, promote active learning, autonomy, and personalise learning for individuals in the twenty-first century. In this chapter, Powell describes how through challenge-based learning and the provision of Sandbox experiences pre-service teachers are able to experience authentic learning inquiries that are pivotal to modern teaching and learning in today's world. The participants in the study play, create, build, collaborate and reflect on their

learning and as a result demonstrate their understanding of this through the use of digital technologies. Powell aims to emphasise how this approach enhances and reinforces pre-service teacher education experiences.

In Chap. 24, Keith S. Taber (Faculty of Education, Science Education Centre, University of Cambridge, Cambridge, UK) explores the role of new educational technology in teaching and learning by offering a constructivist perspective on digital learning. Taber outlines how constructivism draws upon research into the nature of learning to inform pedagogy. According to the author, from a constructivist standpoint, we can view educational technologies as potential tools for enacting curriculum through particular pedagogical approaches. Thus, new technologies make an important contribution to the teacher by offering alternative ways to facilitate learning. The author highlights that while digital technologies offer many new possibilities for teachers, they should always be used as part of a principled pedagogical approach rather than seen as ends in their own right. Taber's work considers the key principles of constructivist thinking with regard to learning, and offers a number of informative examples which outline how digital technologies can potentially support school teachers in adopting a constructivist perspective to inform and enhance their classroom work.

In Chap. 25, Temtim Assefa (Department of Information Science, Addis Ababa University, Addis Ababa, Ethiopia) gives an account of implementing educational technology in Ethiopian high schools through instructional Plasma TV. The study reveals a number of benefits reported by teachers and students using this technology. For example, the author notes how its multimedia content presentation is useful for maintaining student attention and also helps to simplify complex concepts with visual demonstration. However, the author identifies a number of student, teacher and technical related problems. This includes the fast delivery of content in advanced English which is problematic for some students. Teachers feel that they cannot use their skills and knowledge to assist their students. In addition, technical problems interrupt the normal flow of the teaching learning process. This chapter provides us with valuable insight into the Ethiopian experience of technology integration and encourages us to consider the challenges facing developing countries in this regard.

In Chap. 26, Megan Poore (Australian National University, Canberra, ACT, Australia) discusses the issue of managing risk in the school social media environment. The author notes how the use of social media in the classroom has become an important topic in recent years. While much of the established research addresses young people's online behaviour and its associated dangers, there is less discussion on the need to manage the risks of digital technology use within the school environment. This chapter provides an overview of some of these aforementioned risks The author focuses on what teachers need to do in order to address this issue and also covers some of the critical elements which need to be considered. In this chapter, Poore discusses the importance of professional development to address this question as well as the need to put into place proper support structures and suitable risk management procedures. Poore also underlines the need for an informed policy environment in schools, particularly if teachers and students wish to benefit from exploiting social media for teaching and learning purposes.

Chapter 27, by Anna Dabrowski and Jason M. Lodge (The University of Melbourne, Parkville, VIC, Australia) looks at the issue of pedagogy, practice, and the allure of open online courses, noting a number of implications for schools. As access to education continues to flourish in the online environment, Dabrowski and Lodge provide us with an overview of current and emergent applications of online learning. The authors focus on the implications regarding these developments for the school sector. The chapter outlines in particular the recent rapid expansion of massive open online courses (MOOCs) and considers both the advantages and potential disadvantages of MOOCs within school settings. The authors debate as to whether or not online learning is suitable as a tool for teaching and learning when used by a cohort of high school students. In a time where some nations are signalling a movement towards acceptance of such courses in school environments, the authors outline implications for policies and practices of schools, and the type quality of learning which students would receive.

Chapter 28, by Ann Marcus-Quinn (University of Limerick, Limerick, Ireland) and Tríona Hourigan (Department of Education and Skills, Ireland) emphasises the potential of OERs for K-12 Schools. The authors report that while there is a growing body of work advocating the use of Open Educational Resources (OERs) to enhance teaching and learning there are still barriers preventing teachers from integrating such resources into the classroom. According to the authors, one possible means of overcoming these issues is to raise awareness of the potential of OERs by either placing an emphasis on them during accredited Initial Teacher Education programmes or through continuing professional development programmes aimed at existing teachers. This chapter goes on to discuss why it is necessary to put a policy in place to actively advocate and promote the use of OERs at second level.

Chapter 29, by Anne Heintz (Michigan State University, East Lansing, MI, USA), Michelle Schira Hagerman (University of Ottawa, Ottawa, ON, Canada), Liz Owens Boltz (Michigan State University, East Lansing, MI, USA) and Leigh Graves Wolf (Michigan State University, East Lansing, MI, USA) documents teacher awarenesses in relation to blended instruction practices. In this chapter the researchers interview four early career teachers who have adopted blended instructional practices for their classrooms. These particular teachers established their own individual blended classroom environments, remaining mindful of systems-based thinking that reflected awareness of self, students, content, pedagogy and interaction. Through in-depth discussions with the participating teachers, the authors highlight the emerging dynamic systems synonymous with blended learning. Emphasis is placed on the drive which all teachers had to innovate with renewed focus on the techniques used to achieve these particular educational goals.

Chapter 30 proves an appraisal of professional communities of practice and reflects on ways in which to develop these reflective spaces effectively. Wouter Vollenbroek, Joachim Wetterling and Sjoerd de Vries (University of Twente, Enschede, The Netherlands) reflect on the Dutch education system and on how it is gradually evolving from a standardised curriculum to a more personalised approach to education. As a result, Dutch teachers are becoming increasingly aware of the continuous need for professional development and innovation in order to address

the learning needs of students in the twenty-first century. The chapter reports on a professional community of practice, namely Education21 (http://www.onderwijs21.nl), which has been established to encourage cooperation between education stakeholders in order to address the needs of schools in the twenty-first century. The network behind Education21 consists mainly of individuals working in primary schools, secondary schools, teacher education institutes as well as education professionals who recognise the importance of continuous professional development. In this chapter, the authors describe their approach, give specific examples emerging from the community and describe various challenges which have emerged.

Finally, in Chap. 31, José Lagarto (Centre for Communication and Culture, Universidade Católica Portuguesa, Lisboa, Portugal), Carla Ganito (Centre for Communication and Culture, Universidade Católica Portuguesa, Lisboa, Portugal) and Hermínia Marques (Centre for Studies in Human Development CEDH, Universidade Católica Portuguesa, Lisboa, Portugal) report on the preliminary results regarding a three year Portuguese project on digital textbooks made available to students via tablet technology. The focus of this chapter looks primarily on emerging data concerned with student behaviour and attitudes surrounding the integration of these tools into the particular learning environment. Interestingly, while emerging results highlight an increase of motivation amongst the students, this sense of motivation does not correspond with grade improvement. In their analysis, the authors discuss the importance of a paradigm shift within the teaching process itself and on the need to focus on skill acquisition in order to help students to integrate tablets adequately into their studies. The authors conclude by offering a number of helpful recommendations to allow schools, parents and young people to address this ever-complex challenge in both teaching and learning contexts.

Conclusion

Overall, this book aims to give a comprehensive overview of digital learning as it is currently practised worldwide. It is our intention that this publication may appeal to both those wishing to explore the possibilities afforded by digital learning and more established practitioners. The majority of these chapters are drawn from authentic real-world experiences and therefore are legitimate examples of good practice. When compiling the submissions for this publication it was imperative to capture case studies from around the world and not to focus on maintaining the status quo. As such, this type of compilation pushes us to acknowledge the diversity of experience associated with all stages of digital learning and integration across the spectrum of ICT in education. It has certainly been insightful to engage with the different voices from both the public and private sectors. Furthermore, it is important to embrace the potentially disruptive nature of technology while not letting it dictate the landscape of the learning environment. As the technology moves so quickly we must both move with it and yet remain critically reflective of ways of effectively integrating it into elearning. We cannot get complacent, nor can we become slaves.