Preface

This timely and interesting book will provide readers with some valuable and sometimes challenging insights into the key learnings of teachers in the higher education sector who work with students in virtual environments. These insights are focused on the central aspect of learning and teaching: assessment. The editors invited the authors to specifically focus on assessment in virtual environments in presenting their case studies because assessment is often considered to be one of the most challenging areas of learning and teaching in the higher education sector. There may also be a perception that working in virtual learning and teaching environments may raise some specific issues for good practice in assessment.

As well as providing some valuable discussion on research outcomes and insights into the practicalities of using virtual worlds and serious games as platforms for online teaching, this volume represents years of experience in assessment across disciplines. It demonstrates, among other things, that good practice in assessment requires adherence to the same principles of good practice regardless of the mode of delivery of the unit of study. That is, because the purpose of assessment is the same whether the unit is taught face-to-face, online, blended, or in whatever other mode technology allows in the future, the principles relating to what is required to best achieve that purpose are also the same. There is, of course, a large literature related to the purpose of assessment at university. Authors including Boud (2000), Biggs and Tang (2011), and Brown (1994), to name a few, remind us that good assessment not only measures the standard of students’ achievements but is instrumental in providing the crucial feedback that students need to be successful in demonstrating their mastery of learning outcomes for their assessment tasks. It, therefore, provides the twin benefits to students and teachers of formatively developing students’ learning and providing teachers with necessary information to scaffold that learning as well as providing summative data on whether students have achieved learning outcomes and how well. Assessment is also a necessary social reporting mechanism, which allows stakeholders in higher education including government, universities, parents, and students themselves to measure the quality and efficacy of institutions and the students who graduate from them.
The case studies in this book are necessarily historical in that it is only possible to capture a particular moment in learning and teaching time in a case study. It focuses on assessment in virtual worlds and serious games because. Although some teachers in the higher education sector have used these kinds of technology for teaching purposes for some time, there is evidence that they have not yet been particularly widely embraced (McNeil & Diao, 2010). These kinds of technologies may or may not be enduring, but it can be confidently predicted that online delivery of units of study and emerging technologies for doing this have definitely not yet had their day. The primary message of this book then is also enduring. The over-arching theme of this book is that as university teachers we need to be flexible, versatile, agile, innovative, and current in our use of technology and assessment, but we also need to be careful to adhere to tried and true principles of good practice in assessment, which continue to support the learning of our students and safeguard the quality of our courses regardless of how the teaching units we create are delivered.

So, if the reasons we assess are to support and develop the learning of our students, to assure the quality of our teaching and to provide feedback to society about the quality of its universities and students, what are the fundamental principles of good practice in assessment? How can we design assessment which we can be confident will give us reliable, high quality outcomes? After serving on a number of assessment policy committees, contributing to the development, implementation and review of policies, designing my own units of study, and of course, engaging with the literature, including the case studies in this book, I have come to believe that a list of sound principles of good assessment should include, not necessarily in this order:

1. **Encouragement, Support, and Reinforcement of Learning:** Wherever possible, assessment tasks should be both formative and summative and overall assessment design for a unit of study must incorporate both formative and summative assessment. It should provide the means for students to demonstrate their achievement of learning outcomes. Assessment tasks should be active and allow students to enact their ability to do the things that are required to be demonstrated as outcomes of what has been learnt. Assessment tasks should be designed to scaffold students’ learning so they can meet learning outcomes incrementally across a unit of study and across a course of study. The marking of assessment tasks should provide timely, supportive feedback to students who can use that feedback to improve and develop their skills and abilities to achieve the requirements of the unit. Assessment should not be an add-on at the end of a unit of study, but the center of its design and delivery. It should direct the structure of a unit of study and a course of study. Units of study should be linked through assessment and learning outcomes to incrementally develop course level learning outcomes.
2. **Measurement of Student Achievement Against Standards:** Standards are pre-set. Teaching team members and students all know before teaching begins what criteria constitutes the minimum standard of achieving the learning outcomes and what kinds of extra features are needed to demonstrate mastery of the learning outcomes at higher standards than the minimum. Standards do not depend on an individual academic’s professional judgment, but on levels of achievement that have been benchmarked across the sector locally and internationally. Teaching team members meet before the unit outline is released to students to discuss and reach consensus on standards for each assessment task for the unit of study for that offering.

3. **Transparent Processes and Requirements:** All requirements of the unit of study (subject) should be clearly spelt out in writing in advance and explained verbally at regular intervals over the teaching period. Learning outcomes should be publicly available. No secrets are kept about how the unit will operate and will be administrated. Processes and requirements for the unit of study will not change after teaching has commenced. Students know what they can expect to learn before undertaking the unit of study. They know what the assessment tasks are, what the learning outcomes for each task are, what the criteria for marking those tasks are, what their teachers expect to see as demonstration of achieving each criterion and what more needs to be done to achieve beyond minimal achievement.

4. **Inclusive, Equitable, and Fair Processes:** Assessment should be designed so that a diverse student population is able to demonstrate achievement of the unit’s learning outcomes. That is, students with physical disabilities may require alternative types of assessment to be able to demonstrate achievement of the same learning outcomes that students without physical disabilities are able to demonstrate. Students who may be primary carers of someone with a disability or, due to poverty are required to work and are unable to attend classes may need optional attendance modes so that participation requirements for assessment can be met.

5. **Developmental and Responsive to Student Needs:** The best assessment tasks are often those that are developed by a teacher who has observed students’ responses to assessment over time and responds to the needs of students by modifying and developing tasks to suit current cohorts. Well-designed assessment requires teachers to know their students’ learning needs, however challenging this can be with increasingly large cohorts. This does not necessarily mean that teachers need to know the individual learning needs of every student, but that teachers design assessment with a clear understanding of the broader characteristics and backgrounds of most students and how these match with the minimum standards for achieving the learning outcomes of the unit. More or less and different types of scaffolding will be required for different cohorts of students.
6. **Enjoyable to Do and to Mark:** David Boud (1998) argues that if a task is not fun to mark and is not fun for students to do, then don’t do it. I had originally thought that this was a nice sentiment, but not always possible in practice. I now believe that it is possible in practice and is an essential part of learning – and teaching. Teachers should begin designing assessment with the assumption that students want to achieve the unit learning outcomes because they are desirable traits that are fundamental to mastery of the course of study they have chosen and as such are attractive. Learning outcomes need to embody attractive traits, skills, and knowledge for the discipline being studied. We also need to remember why we are teaching in the first place. We are in the unique position of being the guardians and gatekeepers of our disciplines. Many of us are passionate about our disciplines and by teaching students to be the next generation of guardians and gatekeepers of high standards in our disciplines our own sense of achievement, professional satisfaction, pleasure, and enjoyment can be fulfilled. If we can pass on a joy of learning, researching, and practicing our disciplines to our students, then we are successful teachers indeed.

The above list is by no means conclusive or exclusive. There are many more things that can contribute to good assessment. This list is, however, one which allows us to think about assessment holistically and not, as it often is, as something which is “added on” or somehow separate from overall curriculum design. It allows us to understand assessment as the heart of learning and teaching. It also allows us to consider the ethics and fundamental reasoning behind assessment. Assessment is not only the end measurement of learning, but the beginning and the middle of learning as well. It is also key to providing the necessary data that teachers’ need to know their students’ learning needs and be able to amend their teaching and assessment designs accordingly. I would argue that the case studies in this book embody many of the features noted in the list above and do a good job of demonstrating the positive outcomes of incorporating these principles into assessment design.

This book has a rather interesting chapter order, which is a reflection of common professional learning practices in the scholarship of learning and teaching. The book is divided into two sections, Case Studies and Methodologies. Each chapter is followed by a critical response from an invited expert in the topic area of the chapter. The chapters with their commentary provide a sense of conversation, inconclusiveness, and tension, thus emphasizing the value of peer review, reference to the broader literature, and critical reflection, which are so crucial to teachers’ professional learning (Biggs & Tang, 2011).
Some readers may be surprised to read in Chapter 4 about using Grademark to mark online. The editors considered this chapter to be a valuable one to contribute to the conversation about the technical aspects and challenges of online assessment including online marking and grading. We argue that if we are prepared to deliver units online in virtual worlds and serious games and consider the ways in which our students can become immersed in these worlds and games, then we should also consider the ways in which we, as teachers and assessors, can co-immerses ourselves in the virtual worlds to assess, mark, and grade our students within them. That is, we would like to begin a conversation about the most effective ways of assessing, marking, and grading without separating these tasks methodologically from the mode of activity within the virtual world. Why, for example, should it be that activities occur in the virtual world, which are then assessed as an essay or exam and graded using a paper-based process? How might we be able to assess activities, which are happening in the virtual world while they are being enacted? Davis considers how the virtual world is part of the phenomenological world and how the merging of the virtual and existential can provide ways to meld virtual experience and assessment of that experience in Chapter 1 when describing her case study in designing assessment in a virtual midwifery world.

In her response to Chapter 1, Gregory quotes Kemp, Livingston, and Bloom’s (2009) list describing ways in which virtual worlds (specifically, here, Second Life) can be used for assessment. The list warrants repeating here:

- Blog posts in Moodle that automatically displays the URL of the Second Life location (SLURL coordinate). This way, when in Second Life, postings of interesting places to visit can be automatically uploaded to Moodle’s blog to provide students with places to visit, Web quests, treasure hunts, or assessable tasks;
- Students can submit content, including prim buildings, notecards, audio clips, and snapshots that they have created in Second Life into a Drop Box for assessment through Moodle. Moodle logs all uploaded details and the virtual world assignment can be graded using Moodle’s Gradebook;
- Web-intercom enables a combining of Moodle and Second Life chats so students can participate in chats in Second Life using the accessible Moodle chat room. Moodle archives discussions securely in a database;
- Registration booth, which enables identity management for Second Life and Moodle and links students’ avatars to their Moodle user accounts, is an essential component of ensuring students are linked from avatar to Moodle and vice versa;
• Academics can assess tasks in Second Life using the quiz tool and Drop Box where the grade uploads into Moodle. Moodle’s Gradebook could be used to review grades quickly and easily. Quizzes can be set or 3D modeling tasks created in Second Life enabling students to engage in the environment they are working in;
• Quizzes using multiple-choice questions and the answers are stored in Moodle. Objects can be used as props for quizzes and sound effects used for correct and incorrect answers;
• Assignments can be submitted via Second Life and relayed to Moodle;
• The voting tool used in Second Life as well as in Moodle is where the results can also be seen in either platform;
• The Sloodle Toolbar can be used for gestures such as clapping, raising arm, waving which could be used as a form of in-world assessment where questions could be asked of students and they could raise their arm in response (such as closed questions with yes/no answers);
• Presenter tools can also be used by students to author Second Life presentations on slides and/or the Internet in Moodle using shared media. The shared media scoreboard enables academics to award points which can be shown in Second Life and Moodle;
• A rezzer can enable a shared-media interface for saving and loading of positions n scenes.

Clearly, technology is currently capable of providing academics with a raft of ways to assess inside virtual worlds already. It can only be imagined what we may be able to do going forward. Thompson and Markauskaite argue in Chapter 6 that assessment in virtual worlds still largely relies on traditional post-immersion techniques such as interviews and questionnaires and that embedding summative and formative assessment into immersive, authentic tasks requires new assessment methods and approaches. Cram, Lowe, and Lumkin in Chapter 3 demonstrate with their case study that virtual environments facilitate assessment of spatial design. They show how digital modeling can support student achievement of learning outcomes. They argue that one strength of using virtual environments for assessing creativity is that virtual environments allow learners to evaluate and alter their designs whilst inhabiting them. This makes new kinds of self-evaluation in the context of an immersive and emergent environment possible. These authors, as do most of the authors in this book, however, focus on formative assessment in virtual environments. There is still a reluctance to treat the virtual environment as a learning environment where similar and different kinds of in-world assessment to the existential world can take place. This book can be considered a launching pad for future experimentation and debate around new kinds of assessment in virtual spaces.
To various extents, all of the authors of this book note concern about technical issues with software and the potential this creates for otherwise “good” students to be marked downwards, that is, for students who may have been otherwise very capable of achieving the learning outcomes for a task to fail because they were not able to master use of the technology. This is and has always been, of course, an issue for the use of any new technology in the classroom, past and present. It might be argued, for example, that students in the past who had difficulty using learning software such as Blackboard or Moodle were also disadvantaged. In Chapter 2, Huber and Blount insist, quite reasonably, that technology needs to be constructively aligned with curriculum. This, it seems, is something that is sometimes overlooked. Critiques of the notion that our students are “digital natives” (Ng, 2012) raise awareness that students do not necessarily transition from enthusiastic use of social media such as Facebook, YouTube, and Twitter to educational technologies. We cannot assume, Huber and Blount argue, that students will automatically be able to “pick up” new technologies such as Second Life simply because they use social media on a daily (or even hourly) basis. Students need to be engaged with new technologies and taught how to use them well. Technology cannot be merely the conduit for learning and teaching to take place; it must be integrated into the learning experience, as Mishra and Koehler (2006) claim. If using technology is vital to a unit of study and to achieving the outcomes of a course of study, then learning how to use that technology needs to be a learning outcome. Equally, learning how to troubleshoot technical issues with software needs to be taught. Cram, Lowe, and Lumkin demonstrate in Chapter 3 that technical problems and troubleshooting them provide a valuable learning activity in a unit of study and that this is completely reasonable so long as mastery of the technology is a learning outcome for the unit. Clearly, however, as Huber and Blount point out, if technology acts as a barrier to learning, then it needs to be questioned whether a more suitable selection is available or whether processes used to surmount the barriers are contributing to the achievement of learning outcomes. However, although 44 percent of students in Huber and Blount’s research agreed that technical issues including their own inability to properly use the technology significantly impeded their experience, 41 percent were neutral – they neither agreed nor disagreed. It may well be, as Huber and Blount suggest, that it is not technical issues students object to, but the time-consuming nature of Second Life. This begs the question that many students ask: Why not use Facebook as a learning technology? A recent survey of 26 member institutions of the ANZ Virtual Worlds Working Group noted a growing emphasis on social media and mobile computing technology for university education, but, as McNeil, Gosper, and Hedberg (2010) report, few unit conveners are using any technologies at all to transform assessment at university.
It may well be that many of the technologies referred to in this book will be obsolete before there is large-scale uptake of virtual technologies in universities, but, as I said at the beginning of this Preface, the principles of good practice in assessment will still apply no matter what technologies are used or how current technologies develop and evolve. The lessons learnt by the authors using current technologies and reported in this book will be ones worth learning as technology develops.

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REFERENCES


KEY TERMS AND DEFINITIONS

**Formative Assessment**: Assessment *for* learning, eliciting information on student progress to shape further teaching and learning activities.

**Scaffolding (Learning)**: Supporting a student in mastering a concept or skill by providing models, advice, coaching, key questions, outlines, and so on.

**Summative Assessment**: Assessment *of* learning, the evaluation at the end of a program, unit, or topic.

**Transparency**: (In learning requirements) assessment activities should be clearly spelt out in writing in advance and explained verbally at regular intervals.