Chapter 2
Digital Technologies: Enhancing Pedagogy and Extending Opportunities for Learning in Senior Secondary Physical Education?

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ABSTRACT
This chapter draws on research that has explored the use of digital technologies in the context of examination-based assessment in senior secondary physical education in Western Australia (WA). It discusses the potential that digital technologies present to enhance pedagogy in senior physical education teaching and extends learning opportunities in the subject. Pedagogical innovation is particularly considered in relation to linkages between traditionally distinct ‘theory’ and ‘practical’ course components and the ‘personalization’ of learning that is associated with the use of digital technologies. The use of digital technologies is identified as supporting the development of authentic, ‘integrated’ learning experiences, and greater inclusivity through enhanced recognition of different abilities at the point of summative assessment. Attention is also drawn, however, to the need to further explore issues of equity amidst the development of assessment and pedagogies utilizing digital technologies.

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INTRODUCTION

For decades students in schools in Western Australia (WA) wishing to enter universities have been required to undertake tertiary entrance examinations in a limited number of recognized courses considered to be ‘academic’. Almost all of these examinations were conducted using paper and pen over a three-hour time period. Following a major review of senior secondary (i.e. pre-tertiary) education in WA (Curriculum Council of WA, 2002) the number and range of courses that could count towards tertiary entrance was significantly extended and new courses progressively introduced into WA schools from 2007. Many of the new courses included a major element of practical work. This gave rise to a range of issues concerning prospective examinations and in turn, the forms of knowledge that would ultimately be recognized and valued, and the diversity of students whose interests and abilities would genuinely be catered for amidst the ‘reform’ of senior secondary schooling (see Penney & Walker, 2007). For any course to count towards tertiary entrance, an external examination was a mandatory component of summative assessment. For those courses in which significant attention focuses on practical or performance-based skills, knowledge and understandings, this presented the challenge of ensuring that the external examination was authentic in the sense that it aligned with the content and underpinning rationale of the courses, and that it also acknowledged feasibility issues. This meant addressing how to validly assess ‘performance’ at a reasonable cost, in a manner that aligned with standard examination requirements (for example, relating to secure examination settings and consistent procedures) and that allowed for reliable marking to generate a defensible examination score.

This chapter reflects that digital technologies have been central in efforts to engage with these challenges and that they have a potentially key role to play in extending opportunities for learning and for student achievement in senior secondary schooling. The chapter focuses specifically on the Physical Education Studies (PES) course (Curriculum Council of WA, 2008). This course was first included for tertiary examination in WA in 2008 and sought to foreground performance-based skills, knowledge and understandings. We report on a co-funded 3-year research project that recognized that both the appeal of PES and other practically orientated courses from a student perspective and the authenticity of assessment would be compromised if core performance components of courses were excluded from examinations. In initiating the project we acknowledged that senior secondary schooling represents a ‘high stakes’ assessment context in which teachers will inevitably tend to ‘teach to the test’ (see Barnes, Clarke & Stephens, 2000) and where alternatives to paper-based exams have generally been considered to be too expensive and too unreliable to ‘mark’ (Ridgeway et al., 2006). Our project has investigated performance assessment in four WA senior secondary courses; Engineering Studies, Applied Information Technology Studies, Italian, and Physical Education Studies. In each course context, the aim was to successfully develop and implement a performance assessment task that could be undertaken in examination conditions, and to create a single scale score from the evidence generated in the task. As we discuss below, this required innovative approaches to task design, recognition that digital technologies could enable new forms of ‘evidence of achievement’ to be captured, and the exploration of new marking processes. Before focusing on the research, we provide some further commentary on pedagogical issues that are particularly pertinent to assessment in senior secondary physical education.
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