ABSTRACT
This paper presents a design framework for online learning. The framework is based upon the taxonomy devised by Dettmer (2006). In a learner-centered focus, it draws together the cognitive, affective, social, and sensorimotor domains of learning, and is situated with the concept of online personal learning spaces and environments. It is at this intersection of learning domains that the graduate attributes and general capabilities of students are able to be intentionally supported and demonstrated. The proposed framework draws on recognized theory, principles, and practical considerations of contemporary online learning to clarify considerations of the learning outcomes, learning processes and learner performance when designing online learning that is mediated by education technology. This integrative approach will support mentored, reflective learning design and design-based research aimed at improving both the experience and outcomes of online students. The paper contends that this framework presents a useful design that reflects the nature of contemporary online learning environments.

Keywords: Distance Education, E-Learning, Higher Education, Personal Learning Spaces, Web2.0

INTRODUCTION
Contemporary literature (Gosper, 2011; Woo, Gosper, McNeill, Preston, Green and Phillips 2008) attests that increasing numbers of tertiary students are seeking more flexible study options. Student-centred flexible learning has been identified as “meeting the learning needs of students, in terms of logistical and pedagogical perspectives” (Willems, 2011). Universities are pressured to demonstrate sensitivity to these flexibility needs as students demand well-resourced, quality online learning products. In addition, higher education institutions are required to meet learning outcomes that include generic skills and attributes in order to prepare graduates for the technology-led, networked 21st century society (Barrie, 2007). For instance, an initiative proposed by the Australian Higher Education Standards panel has proposed that the learning outcomes of coursework be informed by the generic skills and attributes required of graduates, and the application of these attributes in the context of the field of study, including
the communication skills required (Higher Education Standards Panel, 2013). In an aligned curriculum, the implications are that the course design should include an active engagement with the graduate skills and attributes. These factors prompted research through a review of the e-learning literature (Fasso, Knight & Knight, 2013), into the way in which a higher education institution intentionally frames and designs online courses. From the literature it is clear that learner-centred, technology-mediated approaches to university teaching enhance student learning outcomes. Furthermore, the technologies available to universities allow staff to create learning communities in new ways that are not simply an online version of face-to-face classes, but allow for learning experiences that are different. These potential differences include wider participation, participatory learning, personalisation and the establishment of learning networks (Laurillard, 2007). This paper presents a summary of this literature, and uses it to propose a learning design framework that supports learner-centred, technology-mediated learning that addresses not only cognitive learning outcomes, but those associated with graduate attributes.

The rationale behind the design of the framework was to support the design of courses that engage students in cognitive, social, and emotional engagement in learning through a commitment to active participation. This was designed to respond to internal audits that found that that courses presented in the learning management system (LMS) were often designed to deliver content, and expected minimal social engagement of students. At the time, the institution in question was engaging for the first time in fully distance teacher education, and had concerns that students would not be adequately prepared for the uncertainties of the profession without active engagement that included the negotiation of disciplinary values and beliefs. Furthermore, academic staff had, in general, little knowledge or experience of online learning design. This framework is framed to identify learning design considerations as a range of domains, within which learning outcomes, and aligned learning experiences pedagogies could be developed. It is intended to support both distance and blended learning design. Goodyear & Yang (2009) have highlighted the importance of the dual role of teachers as both designers of learning, and facilitators to improve students’ learning experiences. Learner-centred approaches to online learning design have greatly enhanced, and even transformed the nature of online learning (Cleveland-Innes & Garrison, 2012). The focus on the student, and processes, functions and outcomes of learning is designed to challenge any potential, residual belief in distance learning as the delivery and transmission of knowledge. It is designed to use the e-learning environment to support the development not only of disciplinary knowledge, but of attributes and skills that reflect the 21st Century expectations of graduates. The framework is informed by a focused review of research on a range of theory that have informed e-learning design in the past decade along with contemporary research about individualistic and social learning in a networked society. The nature of the framework is not intended to result in steps as an instructional design process. It is intended to support a mentored approach, through which a series of reflection questions can be generated to stimulate conversation amongst design teams when conceptualizing the learning transactions within their courses.

21ST CENTURY LEARNING OUTCOMES: THE NEED FOR A HOLISTIC APPROACH

Initiatives in education, from P-12, vocational education and training, and higher education acknowledge the increasing importance of a range of capabilities in the workforce in the 21st Century (ACARA, 2012; Bowman, K., 2010; Klenowski, 2012). Most Universities have identified a set of generic attributes and skills that are expected to transcend disciplinary study. For example, the graduate attributes of the institution identified in this research are: communication; information literacy; team work;
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