



## Contemporary Issues

# Flexible learning design in curriculum delivery promotes student engagement and develops metacognitive learners: An integrated review



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## Introduction

Historically, university students have been the passive recipients of face-to-face instructor designed and led classes (Hudson, 2014; Myers et al., 2011). Technological advancement, however, has provided an opportunity for greater flexibility around educational structure; students are starting to expect more from tertiary education providers, specifically around the delivery and provision of education (Myers et al., 2011). For universities to meet the ever-changing needs of the student they need to consider the integration of flexible learning designs into their curricula. The consequent willingness of the faculty to rethink the design and delivery of curricula has seen a recent shift in the design and delivery of education. As universities strive to promote student engagement, active learning, and communities of enquiry, they are moving progressively towards flexible learning models, virtual interaction and student centric curricula (Heise and Himes, 2010; Hsu and Hsieh, 2011). The challenge this shift creates is how to best engage students throughout their studies in order to produce graduates with the skills necessary for societal and professional sustainability (Castle and McGuire, 2010). Despite a wealth of literature addressing this topic, there is a paucity of substantive, conclusive outcomes as to the efficacy of its full implementation and potential for producing capable learners. This integrative review therefore aims to inform curriculum delivery that is flexible, student centric and scaffolds learning. It also aims to identify whether this approach assists in the development of metacognitive learners.

## Methodology

Integrative reviews seek to establish holistic conceptualisations of old and emerging themes (Torraco, 2005) by extracting and extending relevant data from empirical and theoretical literature (Whittemore and Knafl, 2005). In the process of identifying pertinent research for inclusion in this review, a variety of databases were accessed. These were:

EBSCOhost; CINAHL; PUBMED; Cochrane Library; and the web browser Google Scholar. Limitations were applied that yielded literature published in English from 2004 onward. A selection of relevant key words and phrases were utilised, in multifarious combinations, in the search process (Table 1).

Findings, thematically relevant to the search combinations, were restricted categorically to nursing education and expanded to incorporate allied health inclusive of undergraduate and postgraduate courses from 2004 onwards. Undergraduate and postgraduate courses were both included as neither was covered exclusively in the literature identified. Antecedent literature published prior to 2004, with substantial theoretical underpinnings highlighted in articles reviewed, was included to provide contextual grounding. The abstract, discussion and conclusion of each article were read by three reviewers so as to determine their reliability and suitability for inclusion. If required, conflict between reviewers was resolved by an independent review by a fourth reviewer. The methodological integrative approach demarcated by Whittemore and Knafl (2005) was employed, in part, as were strategies suggested by Torraco (2005), both of which permitted an orderly deconstruction, analysis, synthesis and thematic division of suitable research.

There were 61 articles that had findings pertinent to the search, with clearly identifiable outcomes, which were selected. Suitability criteria were restricted to results that demonstrated clearly identifiable outcomes, with conclusive data quantifiable in nature. Research with findings exclusive to particular web based education models and frameworks were excluded, as were articles with generalisable outcomes that lacked specific and measurable data, as well as literature reviews. Consequently 38 articles were included in this integrative review.

## Synthesis

The search for relevant literature yielded mixed qualitative and quantitative results with data retrieved from primary studies; the authors utilised various approaches to extrapolate data. There were

**Table 1**  
Keyword and Phrase Search Limitations.

'Learning styles'
'Sustainable flexible learning'
'Evidence integrated e-learning'
'Flexible education vision'
'Mobile technologies'
'Distance learning'
'Online action learning'
'Web-based learning'
'Online approach'
'Online teaching strategies'
'Blended learning'
'Student centred learning'
'e-Learning'

multiple study designs present amongst the 38 articles selected for inclusion including but not limited to quasi-experimental studies, randomised controlled trials, pilot studies and interview analyses (Table 2). The abstract, discussion and conclusion of each of the 38 articles were independently analysed to abet extraction of themes. As the studies were tabulated (Table 2), various thematic trends emerged. The reviewers discussed appropriate thematic divisions until consensus was obtained, which prompted the thematic divisions represented in the body of this review. Student driven curricula was a recurrent idea that emerged, although there was a lack of consensus between studies about nomenclature. Although not prolifically cited, the descriptor that most suitably highlighted its significance was student centric curricula—the term utilised in this review. Often related to this key idea were particular learning designs, of which 'blended learning' and 'e-learning' gained prominence. These were then discussed in relation to specific web based programs, such as blogs, discussion forums and podcasting. The majority of the literature discussed the efficacy of these ideas, hence the inclusion of advantages.

Several qualitative articles, often based on results obtained from interviews and surveys, demarcated the experience of blended transitions from the perspective of students as well as the faculty staff responsible for the respective programmes. It was thought apt to include both, as the success of any major change hinges on the satisfaction of the human experience and their involvement. Two other clearly identifiable topics emerged prominently from the literature. The first was the effect that flexible designs have on student outcomes. Reference was often made to academic improvement as well as the enhancement of critical thinking and analytical skills. The second other significant topic revolved around the development of hurdles associated with implementing innovative, flexible curriculum designs. All of these themes, ideas and topics will be explored, in detail, within this review.

## The Review

### *Student Centric Curricula*

As the nature of contemporary professional enterprise evolves and becomes increasingly complex, so does the requisite to transform foundational educational paradigms so as to ensure that students develop the necessary critical thinking skills. A shift in paradigm from conventional teaching, focused on content delivery and knowledge accumulation, to one that supports active learning is necessary if institutions are to operationalise the production of innovative, creative and adaptable graduates (Hudson, 2014). As such, it has become increasingly apparent that academics need to think critically about the way in which their curricula are structured (Johnson, 2008). Designing curricula that cater to the needs and requirements of students is thus paramount in developing analytical thinking and driving a change away from conventional, teacher-centred pedagogy (Heise and Himes, 2010).

Student centric curricula with an active learning focus respond to a growing need to holistically engage students as drivers of their own

learning. Their function is to create environments in which students become engaged (Hudson, 2014) from the outset and organically develop communities of enquiry (Heise and Himes, 2010). The latter philosophy is underpinned by a constructivist ideal whereby the collaborative work of individuals engenders a sense of community, which prompts the cultivation and acquisition of new understandings (Stephens and Hennefer, 2013). The pedagogical focus thus migrates away from conventional teacher centric, passive education to that of prioritising learning (Heise and Himes, 2010). Institutions that continue to adopt undeviating teaching methodologies, which promote learner passivity, risk creating obstacles that serve to disengage students (Hudson, 2014). Creating learner centric curricula transforms the traditionalist modus of memorisation and recitation to a practice that promotes content deconstruction and meaning acquisition (Heise and Himes, 2010). Such an approach is optimal in developing the essential metacognitive capacity in university students mandated by today's society (Hsu and Hsieh, 2014). Fundamentally, student centric curricula focus on the requirements of the student, such as flexibility and adaptability (Heise and Himes, 2010). In order to meet these criteria, and create curricula with learning as the focus, universities have begun taking affirmative action by blending their erudition via synchronous and asynchronous multi-modal delivery (Kelly et al., 2009; Preston et al., 2010; Ward and Sales, 2009).

### *Learning Approach Designs*

A particular learning approach that is a contemporary phenomenon increasingly attracting global attention, particularly in the tertiary domain, is blended learning. Its proponents have endorsed it as a flexible approach to education that is efficacious in amalgamating conventional brick-and-mortar tutelage with web based teaching and learning strategies, delivered synchronously and asynchronously (Hsu and Hsieh, 2011). The fundamental feature underpinning the function of this approach is its unique design (Myers et al., 2011). Its developers have recognised the technological aptitude of contemporary savvy learners, and sought to maintain pace by deconstructing conventional synchronous, face-to-face curricula and remodeling them by incorporating asynchronous teaching and learning via Internet based technology (Myers et al., 2011). A proposed improvement as a result of this blended design is its capacity to permit utilisation of multifarious learning spaces, including on campus, at home, or in any location that provides appropriate technological support (Glogowska et al., 2011). In essence, blended learning utilises the strengths inherent within each mode of content delivery to create an optimal learning experience in step with pedagogic objectives (Myers et al., 2011).

However, according to the literature sources evaluated for compiling this review (Epstein and Ray, 2014; Goldman et al., 2008; Halic et al., 2010; Hudson, 2014; Lyons and Evans, 2013; Moeller et al., 2010; Morley, 2012; Stephens and Hennefer, 2013; Wilson and Ganley, 2014), there are various modalities that this flexible learning design can utilise for delivery. In a randomised trial of 237 medical undergraduate students, Moeller et al. (2010) compared the effect various combinations of wiki, chat and interactive diagnostic context (IDC) had on blended problem based learning, group processes and learner satisfaction. Wiki, chat and IDC are online systems which permit multiple users the possibility of communicating and linking information via written text in both synchronous and asynchronous modes. Their study highlighted the efficacy of wiki as a comprehensive e-learning tool as well as the inadequacy of chat and IDC. As such, they suggested designers avoid encumbering courses with excessive technical components. An evaluative study involving 69 nursing undergraduate students (Morley, 2012) gives impetus to the findings delineated by Moeller et al. (2010). The author (Morley, 2012) concludes by highlighting the potential of wiki in abetting the socialisation and scaffolding process in blended tertiary environments.

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