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Abstract

There is increasing value being placed on engaging and empowering first year students and first year curriculum design is a key driver and opportunity to ensure early enculturation into successful learning at university. This paper summarises the literature on first year curriculum design linked to student engagement and empowerment. We present conceptualizations of 'curriculum' and examples from first year curriculum design. We also note the limited literature where students have been involved in designing first year curricula. The results of the literature review suggest that key characteristics of engaging first year curricula include active learning, timely feedback, relevance and challenge. The literature also points to the importance of identifying students' abilities on entry to university as well as being clear about desired graduate attributes and developmental goals. Acknowledging realities and constraints, we present a framework for the first year curriculum design process based on the literature.

**Keywords:** curriculum; first year; literature review; graduate attributes

## **Introduction - the importance of engaging first year students**

Higher education is capable of making a significant contribution to the development of individuals, and the first academic year can be highly formative in that experience. However, many universities are concerned about first-year drop-out rates, estimated at 25% in the US, and 11% in the UK (ACT 2002; Yorke and Longden 2006). The negative consequences affect individuals, universities and societies (Bryson and Hand 2007; Tinto 2006-7). Strong links have been suggested between a student's early experiences and subsequent progression and success (Flores Juarez 2005; Yorke and Longden 2006; 2008). Therefore, provision of positive and high quality learning experiences in the first academic year is seen as a priority for higher education, stimulating research (AUSSE 2007-08; NSSE, 2001-08; Yorke and Longden 2008; Kuh 2008; Krause et al. 2005) and development (Kift 2008; QAA 2006) .

While first year student retention may be a driver to improving student experiences, it should not be the main focus. This paper explores student engagement and empowerment as means of enhancing first year experiences, viewing this as a goal in itself. Bryson and Hand (2007) suggest that student engagement involves a dynamic interaction between the student and their learning environment. Similarly, Krause (2007) describes it as "the time, energy and resources students devote to activities designed to enhance learning at university". In a large survey of Australian undergraduates, Krause (2007) concluded that those who described being engaged with university life were more likely than their peers to express satisfaction, achieve greater success and be motivated to persist in their course of study.

As well as engaging first year students, it is also important to help them develop the ways in which they think about, and act within, the world. Students are required to adopt increased independence, autonomy and critical thinking within their learning. This could be encompassed in the term ‘empowerment’, conceptualised by Piper (2006) as a transformational process of increasing ownership and control of the learning process. Mezirow talks in greater depth of “the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world” and changing these structures (Mezirow 1991, 167). While Chan (2001) suggests that choice and control in learning lead to greater motivation, and found evidence for links between engagement and empowerment. A similar link was also found in a study of the perceptions of 50 UK students (Bryson and Hand 2007).

Although gains have been made, there appears to be scope for improving current levels of first year student engagement and empowerment. Many strategies have been used, including interventions to involve students in active learning and to facilitate transition through targeted orientation and induction activities. A further area for development is that of strategic curriculum design. A large survey of 6,700 students and more than 5000 academic staff in the US demonstrated associations between coherence in first year curricula as reported by staff and perceptions of academic competence reported by students (Reason, Terenzini and Domingo, 2005). A qualitative study of 30 students in Mexico found that influences on first year student engagement included assessment, timetabling, and perceived connectedness in the curriculum (Flores Juarez, 2005).

Existing research identifies the curriculum as a key driver for improving student engagement, and thereby success from first year onwards. There is also growing interest

in enhancing ownership and choice, and thereby empowerment (Piper, 2006), through student participation in curriculum design (Bovill, Morss and Bulley, 2009).

This paper summarises themes and issues arising from a literature search of published work that addressed one or more of the following questions:

- 1) is first year curriculum design being used to engage or empower students?
- 2) is there evaluation evidence that first year curriculum design has been used to engage or empower students and is effective in achieving its goals?
- 3) are students being involved in the process of first year curriculum design?

This study of the literature was the first stage of a practice-led project on student enhancement and engagement in the undergraduate first year through curriculum design (Bovill, Morss and Bulley, 2008), and has been updated since the project's completion. Literature was reviewed that explicitly focused on first year curriculum design, with reference to more general work on the curriculum or elements of learning, teaching and assessment where it enhanced our understanding of elements already raised in the specific literature. The detailed search strategy is outlined in Bovill, Morss and Bulley (2008).

Conceptualisations of the curriculum are summarised, followed by useful and current examples of curriculum design that aim to increase student engagement or empowerment – purely descriptive examples are followed by those that included evaluative data. Literature addressing student involvement in curriculum design is then presented, and a summary of the review findings as a flexible framework for the first year curriculum design process. Possible conflicts and challenges are discussed and directions for future research are suggested.

### **Conceptualisation of the curriculum**

There are many different definitions of curriculum within the literature and we have chosen to use definitions outlined by Fraser and Bosanquet (2006). These demonstrate a range of different ways in which curriculum can be perceived, and cover curriculum content, structure and processes. These authors conducted a phenomenographic study of curriculum descriptions from 25 Australian universities. Four categories of conceptualisation emerged: the first focused on structure and content of a unit or subject, while the second focused on the structure or content of a programme. The third emphasised flexible learning experiences with exploration of individual needs and goals. The fourth conceptualised curriculum as a co-construction of knowledge between learner and teacher. In this paper, we have attempted to find literature and examples that related to all of Fraser and Bosanquet's definitions of the curriculum. However, relevant literature on first year curriculum design tends to refer most commonly to the first two of Fraser and Bosanquet's definitions relating to content and structure. Specific examples of curriculum design to engage or empower students are now synthesised.

### **Examples of curriculum design to engage or empower students**

Several examples of curricular innovations have primarily focused on facilitating transition into the first year of higher education and developing generic academic skills. Stand-alone units have been advocated by Beder (1997) and Mitchell, Csavina and Sweeney (2002). The former advocated one-week orientation courses positioned at the beginning of the first academic year, while the latter developed a voluntary, non-credit bearing first year workshop. In contrast, Kift (2008) describes institution-wide efforts to

improve orientation and transition at Queensland University of Technology (QUT) which have improved student feedback. Orwin and Bennett (2002) integrated orientation and transition activities within their engineering programme, but experienced negative attitudes and poor work quality from students; they concluded that students needed guidance in moving from being recipients of information to more active participants. This suggests that curricula require a developmental aspect within their design.

Harvey, Drew and Smith (2006) believe that the development of study skills should be facilitated throughout a programme's curriculum using engagement strategies such as active, collaborative, and problem-based tasks, learning communities, e-learning, and formative assessment. Similarly, the Skills Plus project (Helsby 2002) promoted 'tuning' of curricula to develop employability skills through strategic distribution of optimal learning and assessment strategies, with integration of space for deep learning.

Further examples to develop academic skills have come from the US, Canada, Australia and the UK. Beder (1997) reported incorporation of learning activities and problem-based approaches in US-based programmes. Lines (2005) documented three case studies from Canada (Ryerson University), Australia (LaTrobe University: Pitkethly and Prosser 2001 – reported later) and the UK (London Metropolitan University) which undertook curriculum redesign in order to promote learning and personal development, build group identity, and develop academic skills. Other projects were located through the UK Higher Education Academy's 'Change Academy,' and Subject Centres and included two projects that aimed to improve integration of support for students through pre-entry activities, induction, support services and first-year curriculum (Edwards et al. 2006; Best et al. 2005).

Malave, Imbrie and Watson (1999: US) and McLaughlin and Sutton (2005: UK) described early reassessment strategies within first year curricula to assist student progression. When trying to evaluate the impacts on student retention and progression, McLaughlin and Sutton (2005) noted the difficulty of attributing improvements to this initiative, when several changes were implemented simultaneously. This is a common challenge in attempting to evaluate complex curricular interventions, but several studies have attempted to evaluate the impact of their curricular developments.

### **Evaluations of curriculum design to engage or empower students**

Most evaluations have focused on initiatives to develop academic and study skills: common areas of concern in first year that may also reflect the recent prominence of the employability agenda and its associated emphasis on skills development. Other literature has described the use of data to inform curriculum redesign, potentially enabling future comparisons.

Two evaluative studies designed opportunities for generic skill development as distinct modules within the curriculum. In their study, Harwood and McLaughlin (2005) found clear evidence of development in writing, presentation and information searching. Students also reported feeling more confident and became more independent in their learning. In the US, Light and colleagues (2006) developed a study-skill/transition-related seminar programme as part of a 'living-learning' community. Qualitative data indicated that while living in the same halls of residence was found to have had benefits, the seminar programme was seen to be too generic, unchallenging, and unrelated to their subject area.

Some authors integrated skill-development strategies into subject-specific modules. Keating (2004) redesigned a UK sociology curriculum for first-year students. The final reflective assessment suggested students had actively engaged with the learning objectives. McLean, Ruddick and Adams (2005) aimed to improve students' engagement with chemistry material in an Irish university. Regular assessment and rapid feedback strategies demonstrated improvements in student performance and satisfaction.

Three studies have targeted student engagement through active learning, as well as the development of academic skills. Oliver-Hoyo and Allen (2005) redesigned a chemistry module in a US university, and conducted surveys of attitudes and subject-specific anxiety before and after participation in either the traditional or new module (113 and 48 students, respectively). The latter resulted in significantly more positive attitudes towards the subject and no increase in anxiety. A US-based Engineering project aimed to encourage cooperative learning, team-work, and both subject-specific and generic academic skills through using collaborative simulations of real-life projects with students from two different universities (Mehruboglu and McLaughlan 2007). Tasks were completed successfully, learning objectives were met, and students reported positively on the experience. Gleixner, Douglas and Graeve (2007) aimed to develop more integrated and engaging materials for teaching Introductory Materials Engineering modules, focusing on concepts and applications of specific technologies. Survey responses demonstrated enhanced student enjoyment and learning.

Implementation of tutoring systems to facilitate academic skill development has also been evaluated, sometimes enabling early diagnosis of learning needs (Morda et al. 2007; Sutton & McLaughlin 2005). Interestingly, several studies have found that these

have been associated with poor attendance when evaluated using focus groups, questionnaires, journal reports and module evaluations (Cook and Naughton 2005; Morda et al. 2007). When the tutorial systems were integrated into assessed components of the course, attendance improved, for example from 34% to 74% in the study of Cook and Naughton (2005). Sutton and McLaughlin (2005) integrated tutoring into subject-specific modules from the start; they and others found strategies to be effective in addressing student concerns, and improving success and retention (Morda et al. 2007; Cook & Naughton 2005).

Indeed, in the wider literature, Nicol (2009) has drawn attention to the critical importance of designing assessments that engage students in self-regulation and self-evaluation of their learning, whilst developing other attributes such as study skills and time management. His paper describes two case studies in which assessments have been re-engineered following four key conditions for assessment (Gibbs and Simpson 2004) and seven principles for feedback (Nicol and Macfarlane-Dick 2006). Evaluation demonstrated quantifiable learning benefits in terms of depth of learning, standard of work, elevation of marks and reduction in failure rates.

Some studies have aimed to redesign entire first year courses or programmes. Lines, McLean and Taylor (2006) reported on a longitudinal study of course redesign for first-year architecture students at Robert Gordon University in Scotland. Various quantitative and qualitative data were collected and analysed, leading to curricular change: increasing contextualisation of subject matter and promotion of independent learning. Similarly, Jantzi and Austin (2005) reported on the early stages of curriculum redesign of a nursing course to develop five competencies over the four-year programme.

Knowledge, skills and attitudes were evaluated as students entered the course and they were asked to specifically relate work tasks to the programme expectations as part of individual e-portfolios.

The last examples have moved from course-specific interventions, towards more systemic changes. Several Australian authors believe that university-wide development is required (Kift and Nelson 2005; Krause 2007). Administrative and support services should support and help implement curricular aims. These authors have developed two separate lists of principles or guidelines that we have amalgamated and these are ordered conceptually in Table 1.

**Table 1. Principles and guidelines for curriculum design to engage and empower students**

(Krause, 2007; 2006\*; Kift & Nelson, 2005#)

<b>1.) Facilitation of student development should be based on abilities on entry:</b>
→ explore students abilities on entry, aims and goals, and conflicting roles # → become familiar with students' needs and aspirations *
<b>2.) Students should be enabled to develop the abilities required on graduation:</b>
→ curricula should be designed to develop abilities required on graduation in a cumulative manner # → reflection and independence should be facilitated to ensure potential for lifelong learning #
<b>3.) Academic skills should be developed throughout the course or programme:</b>
→ development of academic learning and literacy skills should be facilitated * → student needs should be developed in a long-strategy throughout the whole programme of study #
<b>4.) Students should be aware of their progress in relation to course standards:</b>
→ integration of early and ongoing formative feedback should be used to inform students on standards and progress *
<b>5.) The conflicting roles of students should be understood and valued:</b>
→ learning experiences from paid work should be capitalized on *
<b>6.) Engaging learning experiences should be generated:</b>
→ 'engaging learning environments' should be designed with contextualised tasks # → information and communication technologies should be strategically integrated in learning *
<b>7.) Course content should should integrate research into teaching:</b>
→ course structures should be coherent and current * → research and teaching should be linked from year one, promoting discovery and debate *
<b>8.) Institutional structures should support curricular strategies</b>
→ an institution-wide approach should align curriculum with administrative and support services #

Kift and Nelson (2005) focus on awareness of students' abilities and needs over the course of the programme, with progress from abilities on entry towards graduate attributes. Krause (2007; 2006) also emphasises the importance of understanding students' backgrounds - language, culture and previous educational experiences.

No evaluation of Krause's principles was located in this literature search, however, Kift and Nelson (2005) implemented their principles in a ten-year programme at QUT. While 4000 students were involved in the development process, the nature of their contribution was not detailed. Kift (2008) has outlined the changes to first year curriculum which are being undertaken by half of the faculties at QUT. Six core first year curriculum design principles have been used that reflect a systemic approach to change and a broad definition of curriculum, addressing issues of transition, diversity, design, engagement, assessment, and evaluation and monitoring. Kift warns, however, of the need for continued support and resourcing of such ambitious plans.

Pitkethly and Prosser (2001) followed a similar university-wide model to facilitate change in an Australian university. A key component of their strategy was the regular, strategic collection of student feedback through surveys and focus groups. Key areas for improvement were disseminated to the appropriate staff at school and faculty level. While student responses informed change through highlighting areas of weakness, direct student involvement in curriculum design was not included.

### **Student involvement in curriculum design**

One interesting finding of the literature review was that students were consulted less often than employers and other stakeholders during the curriculum design process. Based

on a view of curriculum as experiential and collaborative, one group of academics in the US redesigned an engineering course involving students as colleagues, involved in the processes of deciding on deadlines, policies for assessing work, and setting learning objectives (Lundstrom, Mariappan and Berry 1996). Elon University, in the US, has gone an exciting step further, engaging first and second year students in the design of first year education courses in collaboration with staff. Delpish and colleagues reported that:

“...the collaborative process not only produced an effective new course...but also produced significant learning for everyone on the team. Students...gained significant new disciplinary knowledge; developed...an understanding of how learning happens; and became more confident in expressing their own expertise in academic settings” (Delpish et al. 2010, 99).

Their experiences highlight the need for institutional support, shifting roles for students and staff, giving students genuine responsibility and respect and allowing them time to grow in confidence. These initiatives are informative and useful, but there is a need for more evaluation studies investigating initiatives where students have been co-creators of curricula. Examples of students co-creating education, geography and environmental justice curricula are included in the report by Bovill, Morss and Bulley (2008). These examples differ greatly in their designs. It is clear that different disciplines with varied requirements from professional bodies, different cohort sizes, and varied confidence levels of students and tutors will influence what is possible within co-created curricula.

The literature search revealed one qualitative and one survey study of UK-based academics' views and practices regarding student feedback (Oliver 2002; Davidson and Young, 2005) and a review of grey literature addressing the use of student feedback in four UK higher education institutions (Harvey, Drew and Smith 2006). While module

(unit) and course (programme) feedback are frequently collected, this may not be done in a standardised way and the use of information is rarely explicit or reported back to students (Harvey, Drew and Smith. 2006). Davidson and Young (2005) argue that students require training in how to give useful feedback, and academic staff must become more responsive to comments given by students. Strategic and appropriate involvement of students is likely to facilitate the design of curricula that are engaging and empowering. However, there may be reluctance from some academic staff to involving students in curricula design (Bovill, Morss and Bulley, 2009). There is potential for much more exploration and development in the area of student involvement in curriculum design.

### **Developing a framework to guide the first year curriculum design process and acknowledging constraints**

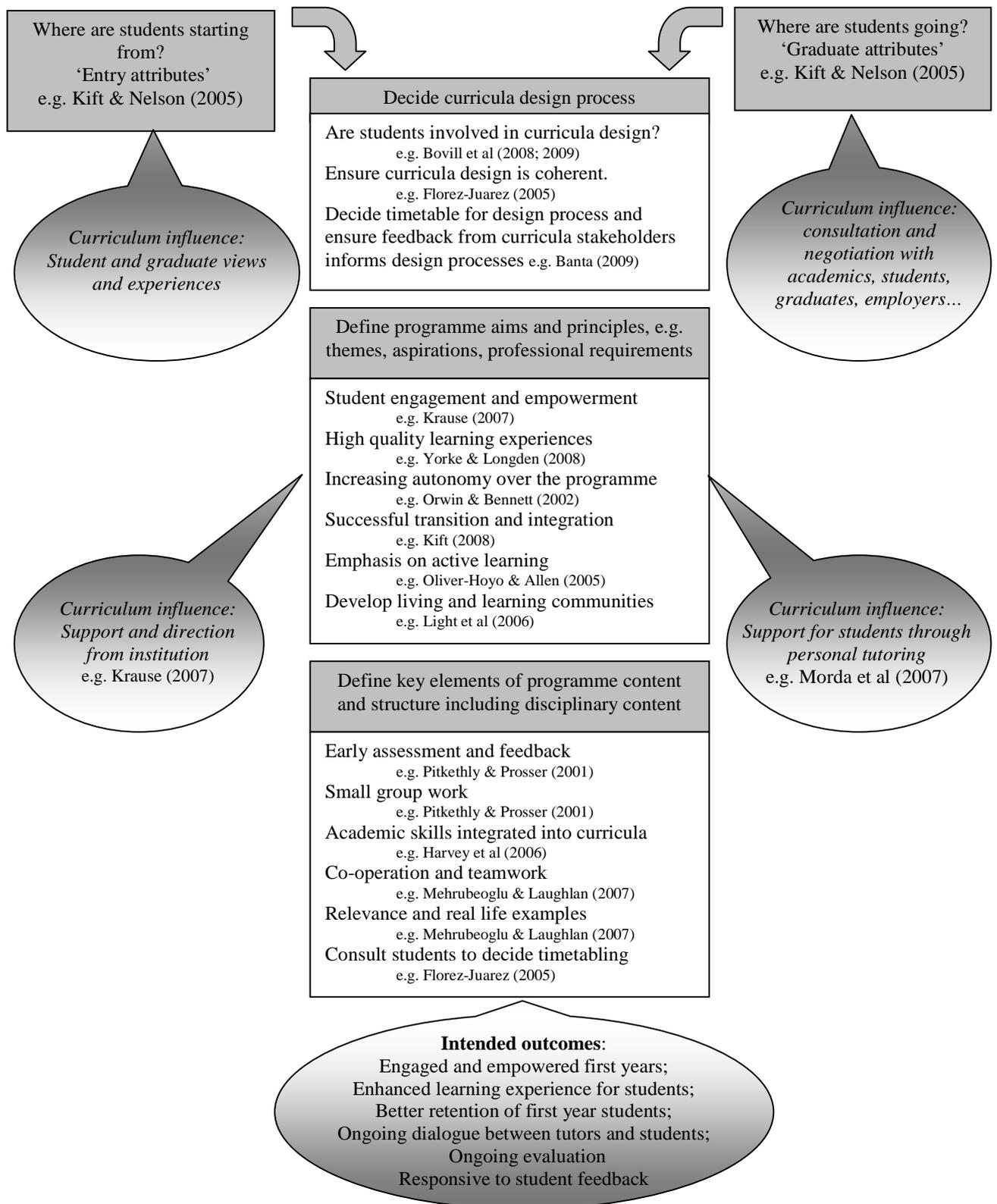
Recurrent themes arising from this study of the literature have been used to inform a framework for the process of curriculum design. Attention to academic (study) skills development must ensure that resources and activities are relevant to subjects, challenging, and aligned with assignments to provide ‘just in time’ guidance. Therefore, it is probable that academic skills support is more effective when integrated into students’ subject-based learning rather than as a stand-alone unit. Activities for learning and assessment should frequently engage students and give them feedback, to enable them to stay on track and understand the standards to which they should aspire. Active learning is best if it is collaborative and work-relevant. Genuine collaboration with students within curricula design processes is a way of engaging and empowering them, however, high level institutional support will be important to enable changes to established curriculum

design processes. Interestingly, these themes mirror the practices recommended by Kuh (2008) to achieve high level outcomes through active learning and engagement.

To summarise the themes from the literature and the relationship between these themes, we present Figure 1 as a synthesis of these findings into a ‘framework for the first year curriculum design process’. This is intended as a guide to first year curriculum design based on the findings from the literature. However, it is meant to be flexible enough to be adapted and interpreted appropriately to different institutional and disciplinary contexts.

Despite many congruent suggestions for optimising the curriculum design process, several studies and analyses argue that this does not often occur. A survey of Scottish academics found highly variable curriculum design practices, although a low return rate limits conclusions (Lines, McLean and Taylor, 2006). This was supported by two qualitative studies involving interviews with academics in the UK (Oliver 2002; McGoldrick 2002). Numerous conflicts of interest or influences affecting curriculum design in the UK have also been described by the Higher Education Academy (2007), but this situation may differ internationally.

Oliver (2002, 14) found that curriculum design was portrayed as “a social practice that involves orientation to historical precedents, accessible resources, local values, and interpersonal micropolitics.” McGoldrick (2002) found barriers such as inflexibility or resistance on the parts of colleagues, increasing student numbers without equivalent increases in resources, lack of infrastructure and support, and conflicts between staff accountability and professional autonomy. Furthermore, administrative requirements for any change are so demanding that they act as a deterrent, while the design of space and



**Figure 1: Conceptual map of a 'framework for the first year curriculum design process'**

teaching facilities may impact negatively. McGoldrick (2002) also found that curriculum change is seen to be constant, influenced locally by the level of leadership in facilitating open discussion and good decisions about how to navigate the variety of external influences.

Bridges (2000) comments that universities are influenced by government due to their role in developing a workforce that enables economic competitiveness. This leads to a variety of agendas, including the emphasis on employability, graduate attributes and transferable skill development, widening access to higher education and student retention, changes in professional demands, and increasing student ownership of their learning (QAA 2007; Land and Gordon 2008; Shaw 2002). Aims such as these are frequently compatible with academic integrity, although the dominance of these agendas may leave less space for adopting some of the transformational pedagogies with potential to lead to changed ways of thinking and acting in the world (Westheimer and Kahne 1994). Shaw (2002) suggests that curriculum designers should map the various influences and creatively design ways of effectively addressing multiple concerns. Indeed, the many influences on the curriculum design process suggest that taking a strategic and overarching approach to curriculum design is advisable.

## **Conclusion**

This review has found many suggestions for first year curriculum design to effectively engage and empower students. These have been summarised in relation to overarching principles (Table 1) and a suggested framework for the first year curriculum design process (Figure 1). We have synthesised a range of literature that supports the idea that

institutional support for curricular change is important, but that its absence does not prevent curricular innovation. We also note that curricula to engage students would be facilitated by alignment with administrative and support services as proposed by Kift (2008). Building relationships and connections between departments is likely to have benefits for both students and staff. In addition, building relationships between academic staff and students is likely to benefit curriculum design.

The findings from the literature must be viewed in the light of specific considerations and limitations. It is important that examples and suggestions are read with contextual awareness of the country they refer to. Research is relatively plentiful in relation to individual learning, teaching and assessment strategies, but more evaluation of their application across the curriculum would be valuable. Unfortunately, the lack of peer-reviewed articles reporting more generalisable or transferable research, results in a “danger of building a ‘massive but trivial literature’” (McInnes 2001, 112). Harris et al (2009) have suggested a suite of useful research methods and tools that may be implemented in systematic short- and long-term curriculum evaluation. A recent psychometric analysis of student survey data by Krause and Coates (2008) demonstrates the usefulness of such an approach and alerts us to the multidimensional nature of ‘engagement’ as encompassing both behavioural and attitudinal aspects, therefore requiring both quantitative and qualitative research. Banta, Pike and Hansen (2009) also make a plea for linking systematic evaluative research with curriculum planning. Without this kind of evidence, it will be difficult to convince many academics and their managers

to invest the substantial time and energy required to ensure well designed first year curricula.

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