Using generic learning designs to promote good teaching and learning practice

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If an effective learning design could be transferred from lecturer to lecturer, from discipline to discipline and/or from university to university, then good teaching and learning practice could be shared. Effective learning designs promote student engagement, productive learning and optimise student retention (Scott, 2005). The aim of this study was to establish whether academics and educational designers considered effective learning designs could be used to introduce different teaching and learning approaches. The results from this pilot indicate that this is not only feasible but it will also facilitate the promotion of quality teaching and learning throughout the higher education sector. This study is the initial phase of a broader ALTC project, details of which are also outlined in this paper.

Learning design

The field of learning design studies the creation of student learning experiences. It examines:

- What support people need in order to learn;
- How the results of a learning process can be assessed and communicated; and
- How learning and support can be made as effective, efficient, attractive and accessible as possible for everyone involved in the process (Koper & Tattersall, 2005).

When methods of instruction and their contexts are identified, this "design knowledge" can be used to create new learning experiences that are more likely to achieve success than ad hoc or random design decisions (Reigeluth, 1999). A "learning design" is the application of this learning design knowledge into the development of a defined learning experience (Koper & Tattersall, 2005). Koper uses the phrase 'learning design' (without capitals) when referring to process of designing units of learning, learning activities or learning environments (Koper & Tattersall, 2005, p. x). Yet it is crucial that any definition of 'learning design' includes a means of describing learning activities (Conole, 2009) so that they can be shared and reused. Therefore, a more comprehensive definition that we will use here is, "a representation of teaching and learning practice documented in some notational format so that it can serve as a model or template adaptable by a teacher to suit his/her context" (Agostinho, 2006).

It has been proposed that generic learning designs could serve as pedagogical frameworks to support academic staff in creating new learning experiences, whereby the lecturer adapts an existing learning design, specifies the learning activities, and chooses or creates the resources and supports needed to suit his/her students (Bennett, 2004). This pilot project conducted in 2008, tested how well academics and educational designers thought learning designs would transfer across the higher education sector. It examined whether they considered a learning design that works effectively can have its content changed and be successfully implemented in another area. The study also investigated if those surveyed saw a need for teaching staff to be provided with additional guidance to successfully deliver the learning designs. That is, to successfully implement a new learning design, did the lecturers also need to be supported with pedagogical information about the way their subject content in this learning design can come to be understood, the ways it can be misunderstood, what counts as understanding in this context and what they need to know about how students will experience the subject via the learning design.

Background

Currently, there are significant differences in learning outcomes, activities, teaching methods and assessment across the sector. These have an effect on student engagement, learning and retention (Scott, 2005). Generally, lecturers teaching with high student interaction and feedback are associated with higher student satisfaction ratings (Cook, 2006; Franklin & Theall, 1992; Scott, 2005). It is proposed that sharing learning designs is one way to introduce different teaching and learning approaches that address this issue. This proposition assumes that not all learning designs are discipline specific and there is evidence that certain learning activities occur more frequently in some disciplines than others. The way a subject is taught is driven primarily by a lecturer's understanding of the commonly agreed consensus within their discipline about what constitutes valid knowledge (Bates, 2003). It has been acknowledged that it is important to understand that the general educational goals of any lecturer are determined through the specific subject content in which they are expressed (Ramsden, 2003).

However, even within a discipline, there may be a need to approach the same subject in different ways to meet the learning needs of all students (Cook, 2006). It was found that Sciences (such as subjects like Maths and Physics) tended not to use collaborative tools. Whilst other groups in the disciplines highlighted e-portfolios and other reflective technology as key tools, Natural Sciences and Maths did not use such tools. Liberal Arts subjects (eg, English and Art) valued communicating effectively using different modes of expression and also used wikis to encourage shared knowledge-building and active research. Cook suggests it may be that Maths and Physics do not use discussions because of the subject nature, or because the design of the learning does not provide room for discussion.

This project investigated the extent to which those surveyed believed non-specific, generic learning designs are suitable for different disciplines within the higher education context. Stark (2000) found that the importance of building on disciplinary orientations to support teaching improvement and of fostering understanding of disciplinary differences should not be under-estimated and that it often hampers curriculum committees in their work if they promote institution-wide generic principles. This suggests that generic learning design solutions that can be easily modified by a subject specialist is likely to be used and each discipline may require a range of designs, teaching methods, activities and assessment approaches.

Methodology

This pilot study was a preliminary investigation of the issues surrounding the benefits of re-use and sharing of learning designs. The following discussion draws on data gathered using survey and focus group research methods. Two surveys were administered: The first was an online survey completed by 25 faculty members from 6 different disciplines areas from 7 universities. Participants were then invited to attend a focus group. To verify and validate survey responses, focus group participants were asked to expand on survey questions. It is acknowledged that the pilot study group was small but the results resoundingly indicate that the introduction of different teaching and learning approaches via generic learning designs is feasible. It also indicated that the sharing of learning designs could facilitate the promotion of quality teaching and learning throughout the higher education sector.

Results

Question: N = 25	Always	Some times	Rarely	Never
Student Exit Surveys report disciplines with higher student interaction and feedback are associated with higher student satisfaction ratings. Do you think all subjects/disciplines need to incorporate high student interaction?	100%	0	0	0
Do you think generic learning designs (designs without content) would be effective in introducing different teaching and learning approaches to different subjects/disciplines?	57%	43%	0	0
Does your university supply educational development support?	4%	43%	39%	14%

When introducing different teaching and learning approaches, do you use the external support provided by your university?	0	36%	35%	29%
Do you consider different disciplines require different teaching approaches?	0	71%	29%	0
Do you think that if a learning design that works effectively in one discipline, it can have its content changed and be successfully implemented in another discipline?	14%	86%	0	0
Have you used a learning design from another discipline and modified it to suit your teaching context?		71% (yes)	29% (no)	
How true is the following statement in your experience? "Even within a discipline, there may be a need to approach the same subject in different ways to meet the learning needs of all students."	43%	29%	28%	0

Discussion

All respondents agreed that an effective learning design can be transferred between disciplines to some extent. Respondents also thought generic learning designs (designs without content) would be effective in introducing different teaching and learning approaches to different subjects/disciplines. These responses are typical of the acknowledged gap between teachers' professed positive attitudes towards sharing teaching and learning resources, including learning designs, and the actual practice of re-use (Walker & Masterman, 2006; Woo, Gosper, Gibbs, Hand, Kerr & Rich, 2004).

Although all of our participants reported they had all used a learning design from another discipline and modified it to suit their own teaching context, the factors surrounding the sharing and re-use of resources are complex. The literature consistently suggests that issues relating to socio-cultural and pedagogical issues will be the most difficult to address (McNaught, 2003; Margaryan & Littlejohn, 2007). Further, while teaching staff want to make their work available to others, they do not want to be any busier, they need to be able to control ownership of resources they have created, be assured of the security of their resources and have easy access to them, and avoid the possibility of copyright infringement (Foster & Gibbons, 2005). Also, interoperability and portability are key considerations affecting re-use. For example, Lloyd and Butcher (2006), reporting on their experience of re-use of a specially customised role play simulation for Geography students, noted that migration of the simulation from one institution to another, across two different learning management systems, was not straightforward. It had significant financial implications, and the support of educational designers and experienced users of the system was essential to the migration. Development time and the enthusiasm of the team members involved in the project were key success factors impacting on the successful outcomes of the re-use project.

Discussion and observation of exemplary learning designs created by others has been observed by the authors to challenge conceptions of learning and teaching, at the same time promoting the development of good practice. Designing for online environments often challenges assumptions about teaching and learning, and "working with online learning technology lends itself to a team-oriented, collegial approach" (Gray & McNaught, 2001, p.217). When teachers and support staff work together collaboratively on the development of online resources there is an opportunity for professional development and mentoring that can benefit all participants as experts and novices work together. In addition, this sharing and discussion of learning designs as an enabler for professional development has been observed to be beneficial for pre-service teachers when developing their first designs for online learning with students in primary (elementary) or secondary (high) schools (Cameron, 2006; Kearney & Young, 2007).

Other elements that may assist in the re-use process include meaningful secondary metadata accompanying the learning design, providing insights into the rationale behind it, creating and assisting with the transference from one context to another (Lucas, Masterman, et al., 2006). Additionally, Walker and Masterman (2005) emphasize the key role played by staff in the mentoring process, enabling important design features and outcomes of the learning design to be fully realized. From the authors' experience, the discussion about the advantages and disadvantages of the learning design, the pedagogical

and technical modifications that are required and the expected impact on implementation bring short- and long-term benefits regarding professional development.

In our focus groups, our respondents said they saw benefits in sharing and reusing learning designs in order that teaching and learning ideas were transferred throughout their universities. The benefits observed included process support (scaffolding, inspiration and mentoring); facilitated access to a variety of learning designs (exemplary and works in progress); contribution to sustainable practices (time, effort and resources); and engagement with an emerging community of practice.

Re-use

For educators, reusing learning designs of another experienced and/or successful teacher is a means of sharing innovation and best practice, whilst at the same time conserving resources. It seems reasonable, therefore, to suggest that the sharing and re-use of good teaching methods and exemplary learning designs between disciplines should be encouraged and promoted. The practice of re-use could be expected to be especially beneficial for inexperienced teachers where the process of documenting and/or producing a replicable lesson or learning design requires much time, reflection and support. However Ramsden (2003) found experienced teachers also sought support if they were concerned about their students' performance, wanted some reassurance about their teaching techniques, wanted to try an innovation or would like to improve their teaching.

Koper (2003) identifies three levels of re-use: (1) re-use of resources created by oneself as the author; (2) re-use of resources created by someone within the same community or organization; and (3) re-use of resources created by another from an external community. These three levels, applicable to learning objects, could be applied to learning designs. Additionally, they may well be influenced by issues of trust and preparedness to share.

Benefits of sharing and re-using learning designs

Sharing and re-using generic learning designs can provide:

- Scaffolding and mentoring for teachers new to the profession;
- Inspiration for teachers wishing to redevelop or redesign the curriculum;
- Access to archived and catalogued learning designs;
- Greater exposure to models of best practice;
- Foundation for more sustainable practices in e-learning – conservation of time and effort;
- Development of resources which support and promote communities and professional and student networks;
  and,
- Explicit copyright licensing agreements which support equitable sharing practices (Philip & Cameron, 2008).

For some, the concept behind reusable learning designs is that "an activity once specified clearly enough is reusable in a different subject matter, merely by changing the resources" (McAndrew, Weller & Barrett-Baxendale, 2006). For example, an online debate in History could have the same underlying pedagogical structure as a debate in Psychology. By changing the learning objects or resources within the learning design, the debate becomes reusable in other contexts. While this argument is appealing, and the authors have observed instances where learning designs have been re-used in this way, there is evidence that there may be a greater tendency for teachers to repurpose learning designs in an amended form for the new context, rather than taking the template and using it "as is". Research findings in both Australia and the United Kingdom corroborate this. In each case, learning designs created using the LAMS (Learning Activity Management System, see www.lamsfoundation.org) software were more likely to be used by university teachers, not in their original form but as models for their own original designs (Philip, 2007; Walker & Masterman, 2006; Lucas, Masterman, Lee & Gulc, 2006). It is suggested that teachers are using the designs for inspiration and modelling, rather than direct transference.

Conclusions of the pilot and future directions

The results from this pilot study indicate that the sharing of generic learning designs may facilitate the promotion of quality teaching and learning throughout the higher education sector. Consequently, further work will now be undertaken in the ALTC funded project.

The initial step in this new project will be to identify effective learning designs currently used successfully by lecturers from a variety of disciplines and universities. Additional examples will be drawn from The Learning Design Template Project at Queensland University of Technology (Heathcote, 2006) which provided academic staff with templates that embedded pedagogical principals, eg. problem-based learning, critical thinking; The Online Course Templates Project from the University of New South Wales (McAlpine & Allen, 2007) which produced templates based on specific learning designs that were developed to support courses; the "Learning Designs" website at the University of Wollongong (Oliver, Harper, Hedberg, Wills & Agostinho, 2002), the LAMS Community (www.lamscommunity.org) and the Technology-Supported Learning Data- base developed by Ron Oliver at ECU (http://aragorn.scca.ecu.edu.au /tsldb/).

It is proposed that learning designs could serve as pedagogical frameworks to support academic staff in creating new learning experiences, with the lecturer adapting the learning design, specifying the particular activities and choosing or creating the resources and supports needed to suit his/her students (Bennett, 2004). These effective learning designs will then be shared between lecturers, across disciplines and throughout a variety of universities. The aim is to develop good learning and teaching practice so that it may be shared, re-used and disseminated throughout the sector.

Implementing effective learning designs: An ALTC funded project

The initial difficulty in sharing learning designs is how to document them effectively. The amount of detail included and the vocabulary used in a design description varies with the individual lecturer and his/her experience. Providing very specific details about lesson outcomes, appropriate learning activities and how they should be sequenced, assessment tasks and lesson evaluation criteria so others have a very clear understanding of every aspect of the lesson is very time consuming and, even then not always successful. Therefore this new project will utilise the Learning Activity Planner to clearly capture exemplar lessons for sharing and re-use. The Planner was developed to provide comprehensive guidance to teaching staff so that they encapsulate the wide range of pedagogical approaches that are used by effective learning designers.

The new project team will initially explore the issues to emerge from the implementation of learning designs and identify barriers to their widespread adoption that addresses these adoption challenges in its design and streamlines the planning process. It is then envisaged the Learning Activity Planning tool will be used by lecturers to tailor exemplary lesson designs to meet the individual's and/or course co-ordinator's particular requirements, whilst providing them with the underlying pedagogical principles involved in the learning design. Related Learning Design projects already completed by members of the project team have demonstrated that this approach has the potential to develop good learning and teaching practice so that it may be shared, re-used and disseminated throughout the sector.

Project research questions

The following questions will be addressed by the ALTC study:

- What learning designs can be readily adopted by particular disciplines as templates for best practice?
- What pedagogical issues emerge from the implementation of learning designs in particular contexts?
- How can identified barriers to academics' adoption, adaptation and re-use of learning designs be overcome?
- How can the adoption of effective learning designs be facilitated by the use of supports and scaffolds, such as, a learning activity planning tool?

Project outcomes

- A range of courses and units across several disciplines that have adopted pedagogically sound learning designs from participation in the project.
- Improved student learning outcomes by introducing a range of learning designs that promote best practice.
- A community of educational developers and academic staff who are participants in the project and are able to engage with additional staff in their own and other universities to disseminate the project outcomes.
- A highly scaffolded but flexible learning activity planning tool that helps academic staff understand the rationale for using exemplar learning designs and guides practitioners through learning design options.

- 20 exemplar learning designs and guides.

Conclusion

Learning design for the higher education environment is a complex task, especially in light of the increasing diversity of the student body. It is a professional activity for which many of our university's academic staff are not trained. For educators, reusing learning designs of another experienced and/or successful teacher is a means of sharing innovation and best practice, whilst at the same time conserving resources. It seems reasonable, therefore, to suggest that the sharing and re-use of good teaching methods and exemplary learning designs should be encouraged and promoted. The practice of re-use of learning designs could be expected to be especially beneficial for inexperienced teachers where the process of documenting and/or producing a replicable lesson or learning design requires much time, reflection and support.

It is hoped the learning designs developed in this project will comprehensive guidance that enables teaching staff to access pedagogical approaches that can engage the increasing diversity of the student body. The pilot study described here suggests that there is potential for the outcomes of this project to be applied to a wide range of discipline areas to promote and support strategic change in higher education institutions for the enhancement of learning and teaching.

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