2011

Applying a learning design to the design of a university unit: a single case study

Jennifer Jones
University of Wollongong, jenjones@uow.edu.au

S. Bennett
University of Wollongong, sbennett@uow.edu.au

Lori Lockyer
University of Wollongong, lori.lockyer@gmail.com

Applying a Learning Design to the Design of a University Unit: A Single Case Study

Jennifer Jones
Faculty of Education
University of Wollongong, Australia
jlj366@uow.edu.au

Sue Bennett
Faculty of Education
University of Wollongong, Australia
sbennett@uow.edu.au

Lori Lockyer
Faculty of Education
University of Wollongong, Australia
llockyer@uow.edu.au

Abstract: Learning designs have been proposed as a possible support to lecturers' unit design processes. The collection of exemplary learning designs, development of tools and design languages have been the focus of the majority of activity to date. Research has only begun to explore how documented learning designs can be reused to support lecturers' design thinking and processes. Using a case study approach to gain understandings of these processes, the study reported in this paper followed the design, implementation and reflection phases of a unit designed with the support of a learning design. Findings indicate that the process of applying a learning design helped organize and deepen thinking about pedagogical connections within the unit; however, for an experienced technology user implementing a new unit, the learning design was reported to have minimal affect on the lecturer's use and integration of technology.

Introduction

There has been a focus on increasing quality in higher education and the design of effective online learning experiences has been the focus of both government and universities in Australia (Bradley, Noonan, Nugent, & Scales, 2008; DEST, 2002) and abroad (Abrami et al., 2006). Rapid changes in technology-enhanced learning environments have added to this challenge for university lecturers and those who support their professional development. Universities have strived to find ways of meeting the professional development needs of lecturers, underpinned by significant developments in understanding about what constitutes good teaching (see Bates, 2005; Biggs, 2003; Laurillard, 2001; Prosser & Trigwell, 1999; Ramsden, 2003) However, the question of how the development of pedagogical and technological knowledge and skills can be best supported is still being explored.

One support strategy for the improvement of teaching is the documentation, sharing and reuse of learning designs. Learning designs are referred to here in the broad sense of any representation of teaching practice and design intended for sharing and reuse. Much work and funding has focused on collecting exemplary designs, creating design tools and developing technical standards in the hope that they will aid lecturers' design of pedagogically sound learning experiences (see Bennett, Agostinho, & Lockyer, 2005; Conole & Fill, 2005; Falconer, Beetham, Oliver, Lockyer, & Littlejohn, 2007; Goodyear, 2004; Koper & Tatterstall, 2005). However, little is known about the reuse of learning designs and how lecturers use learning designs to support their own design practice.

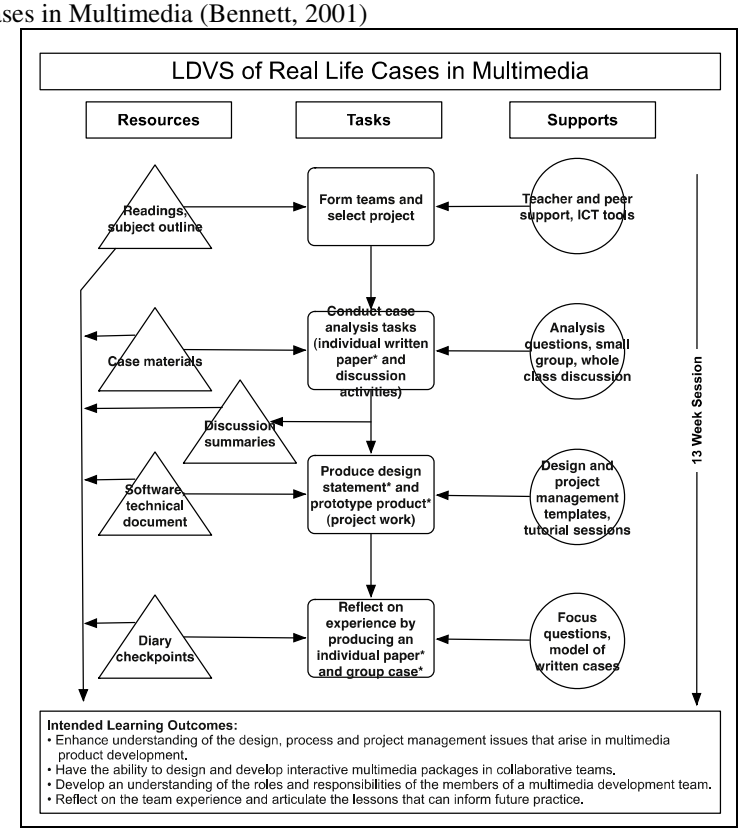
This paper reports on a case study drawn from a larger study focused on how lecturers' use a previously documented learning design to support the design of their teaching. The case reported here explores how one lecturer reused and adapted a learning design while designing a unit (i.e. a semester long subject within an overall degree program), what contextual factors influenced her process and the challenges to the implementation of her unit's design. The following section gives a brief overview of the specific set of learning designs the lecturer chose from and the original project they were collected in.

Learning Design Frameworks

The learning designs that were used in this study are based on a particular framework that arose out of a two year Australian government funded project conducted from 2000 to 2002 (see http://www.learningdesigns.uow.edu.au/). This previous project, collected, evaluated and disseminated learning designs from Australian university contexts. Of the peer-reviewed learning designs, 32 exemplars were chosen as high quality examples of teaching and learning using information and communication technologies (ICTs). Each of the 32 exemplars included disciplinary and contextual information specific to the unit they were designed for. Five of these 32 designs were also further developed into generic guides, which removed specific disciplinary detail, with the view that the designs might be easier for lecturers to then adapt to other disciplines.

Within the collection, each learning design exemplar and guide documents the learning activity through both a textual description and a visual representation. The textual description includes a summary of the learning design, a detailed description of the learning sequence (including the tasks, resources and supports), describes the pedagogy, assessment, technology use, and provides contextual and historical information about the original unit the design was implemented in. The visual representation, or Learning Design Visual Sequence (LDVS), displays the learning sequence in graphical form. The central column, which uses rectangles to represent the student 'Tasks', shows the sequence of the activity over time and flows temporally from top to bottom. The 'Resources' triangles (e.g. readings, sample work, study guides) and the 'Supports' circles (e.g. tutorials, discussion board activities) show what is needed for the task or what is produced by the task. The LDVS for "Real Life Cases in Multimedia" is shown in Fig. 1. The full learning design including the textual description can be viewed at http://www.learningdesigns.uow.edu.au/exemplars/info/ld1/index.html.

Figure 1: Real Life Cases in Multimedia (Bennett, 2001)



Research On Learning Designs And Learning Design Frameworks

Over the last decade, numerous projects working to collect and disseminate learning designs and investigate learning design approaches have formed a significant international research agenda. To date, research in the area has explored issues around evaluation and sharing (e.g. Agostinho, Oliver, Harper, Hedberg, & Wills, 2002; Buzza, Bean, Harrigan, & Carey, 2004); representation (e.g. Agostinho, 2008; Falconer et al., 2007); learning design

tools/toolkits (e.g. Bennett, Agostinho, Lockyer, Harper, & Lukasiak, 2006; Conole & Fill, 2005) and technical standards/design languages (e.g. Koper & Tatterstall, 2005).

The potential use and reuse of learning designs has been widely discussed (e.g. Dalziel, 2003; Falconer & Littlejohn, 2006; Goodyear, 2004) but few studies have explored how learning designs are used in practice. Preliminary work specifically focused on the use of the LDVS (the graphical representation) by lecturers and academic developers found that participants used the LDVS as a tool to communicate, document and reflect on design ideas and previously taught units (Agostinho, 2006). There was, however, no mention in the findings that indicated whether the participants were reusing previously documented designs. Therefore, while Agostinho's study provides evidence that a visual representation of a design is being used for recording and sharing information about current practice, there are still questions around whether the LDVS communicates a design well enough for it to be reused by a third party.

The question of reuse was investigated in a small scale study conducted by Bennett et al. (2005). The researchers interviewed and observed four lecturers as they chose and applied a problem-based learning design to an Education unit. The unit was to be taught to students in four different majors (early childhood education, primary education, secondary physical and health education and secondary mathematics and science education) and each of the lecturers applied the same learning design as a guide for the redesign. The result was the successful adaptation of the learning design into four unit designs which tailored the problems for each of the major's needs while achieving the same learning objectives across all four offerings by (Bennett et al., 2005).

The above studies provide preliminary evidence about the use and reuse of both the learning design and its subcomponent, the LDVS. Of particular relevance to the study being described in this paper, Bennett et al.'s (2005) work provides evidence of learning design reuse and adaptation to new contexts. However, it is of note that the participants in Bennett et al.'s study were all professionally trained educators familiar with the language of pedagogy, which begs the question of whether lecturers outside the field of Education would be able to interpret and adapt a design for their contexts. A second issue, which has not been addressed by research into the area, is whether learning designs that specifically document effective technology use can aid the integration of technology into a pedagogically sound design. Therefore, the aims of the research presented in this paper are two-fold: first, to present an example of how a lecturer outside of the field of education worked with and applied a learning design to her own context; and second, to explore the effect the learning design had on the lecturer's use and integration of technology.

Methods

The case study described in this paper is one of nine cases collected as part of a larger study, which investigated how lecturers might use a learning designs to support their unit design practice. The larger study was guided by the following overarching question and four sub-questions:

1. How does designing a unit of study with the aid of a Learning Design Framework lead to the development of more complex forms of knowledge about the integration of technology, content and pedagogy?
    a. How does a Learning Design Framework support the integration of content, pedagogy and technology within a unit of study?
    b. How does a Learning Design Framework influence university lecturers' technological, pedagogical and content knowledge?
    c. How do lecturers use a Learning Design Framework to support their design process?
    d. What are the significant contextual factors that influence a university lecturer's use of a Learning Design Framework?

The methodology outlined here was used for each of the nine cases.

The study used a multiple case study approach to follow participants from Australian universities in New South Wales and the Australian Capital Territory. As Merriam (1988) and Yin (2009) suggest, the case study approach lends itself to the investigation of processes and of phenomena that are difficult to separate from context. The purpose of a multiple case study design is to gain further insights into a particular issue and/or refine theory (Stake, 1995). This aligns well with the investigation of unit design, which is embedded within the institutional, faculty and individuals' contexts. Findings from a study investigating design processes indicated that influences of context, in particular, disciplinary cultures were the key influence in the planning process (Stark, 2000). Therefore a multiple case study approach was taken in order to examine variability across disciplines and institutional contexts. This approach allowed collection of data from multiple perspectives and provided a broader set of learning design experiences within these contexts.

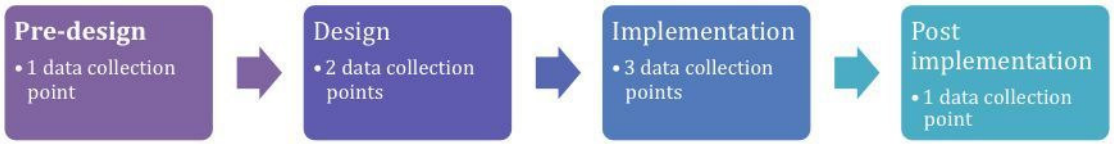
Participants were recruited from three broad disciplinary groupings: the Humanities (e.g., History,

Philosophy, Literature, Languages), the Sciences (e.g., Chemistry, Biology, Physics) and the Professions (e.g., Medicine, Law, Education). Calls for participation were sent out to teaching and learning professional association mailing lists within Australia and targeted lecturers who were planning to (re)design a unit they were going to teach in Semester 1 or 2, 2009 and who were also interested in exploring how learning designs might support them in this process. Cases were selected in order to obtain the greatest variability across disciplines. Participants were introduced to the learning designs and the associated website (www.learningdesigns.uow.edu.au) during the Pre-Design phase of data collection (see below). The purpose of this introduction was to familiarize the participants with the layout of the learning design website, explain conventions used within the learning designs and LDVS as well as give participants a brief background to the history of the project in which the learning designs were originally collected.

Data collection

A lecturer's individual design practice is "complicated, and often remains a private, tacit process" (Sharpe & Oliver, 2007, p. 41) presenting significant challenges to the researcher. The aim of this study was to generate richly detailed accounts of lecturers' design practice which is often embedded within other academic work activities and responsibilities which do not always take place at scheduled times. As pointed out by Stark (2000) "…design is not only a science but a creative act linked to teacher thinking that must be examined contextually" (p. 414). Therefore, in order to develop a comprehensive picture of a lecturer's design and the contextual factors influencing this process, a series of data collection points were negotiated with each participant. The design process was broken down into phases: the Pre-design Phase, the Design Phase, the Implementation Phase, and the Post Implementation Phase (as shown in fig. 2 below).

Figure 2: Data Collection Points throughout the Design Phases



Semi-structured interviews were conducted at each of the data collection points in order to capture the lecturers' accounts of design activities and contextual factors over time. The foci of the interviews were designed to shift (as outlined below), in order to collect data specifically relevant to that phase. In addition to the semi-structured interviews, the participants were asked to guide the researcher through the unit's elearning site (later referred to as "Webtours") while explaining their design decisions and technology choices. These Webtours were conducted at the end of the Pre-Design, Design and Post Implementation Phases and were paired with the collection of documents related to the participant's unit and the design process (e.g. unit outlines, industry guidelines, lecturer's planning notes and diagrams, etc.) and the researcher's field notes to triangulate data.

The Pre-Design phase interview focused on the history of the unit, how the lecturer had designed in the past, the contextual factors affecting the design, and the lecturer's plans for the (re)design of the unit. Two data collection points were included for the Design Phase. The focus of the first interview was to learn how the lecturer had approached selecting a Learning design to apply to their unit, what design work had already been done using the learning design and what the participant was planning to do with the design and the learning design. The second interview in this phase was conducted just before the participant was to begin teaching. At this stage, the participant was asked to describe their design process, their reasons for particular design decisions, and the ways that they had adapted and used the learning design in this process. Two or three short interviews were conducted during the Implementation Phase to track further developments in the design throughout the semester. The participants were asked to explain how the planned design was going, and what design work or alterations they had made or were planning to make. The final phase of the study took place after the unit had been taught. The interview focused on the lecturer's overall view of the design and implementation of the unit and how the use of a learning design had supported the participants in this process.

The following section reports on the results of a single case which followed a lecturer – Joanne - through her design process for a unit to be taught in Semester 2, 2009. The results are reported following the data collection points shown in Fig. 2 and discuss preliminary findings regarding how a lecturer might use a learning design to support their design process.

Case Study Results

Pre-Design: Background and Context

At the time of the study, Joanne was a senior lecturer at a regional Australian University with seven years of university teaching experience. She had recently returned to lecturing after an 18-month break. Joanne was an experienced user of technology who had been involved in early institutional trials and implementations of new technologies; however, this involved significant time investments into technologies that often failed or were often dropped and this had made her wary of investing too much energy into learning a new technology:

> I guess I've been one of the early adopters especially as [the university's] rolled out different technologies and they've all failed. I've been on there and been one of the failing…they haven't implemented a lot of our Elearning technologies very well, so if you are a early adopter and you've gone: 'right well you say using online quizzes works, so let's give it a go' and they've lost systems...and that's made me less inclined to use it. (Joanne, Pre-design interview)

Joanne was familiar with the use of an LDVS format for describing learning sequences, having been introduced to it during a centrally-supported faculty project. She hoped the Learning design she chose for this unit would help her to organise her thinking and help her ensure that the objectives, assessments and student needs were all well aligned throughout the design process.

The unit Joanne chose to apply a learning design to was part of a newly refocused major and would be running for the first time in the upcoming semester. A working group led by Joanne 18 months prior to this unit being taught had conducted broad planning work on the unit. The planning group had scoped out all of the units in the major aiming to create a major in which all of the units worked together to build up students skills and knowledge. During the planning phase, the team considered career paths for students, what workplace skills would be needed professional body requirements and the university's rules (e.g., rules about the proportion of group assessments permitted in a unit).

Decisions about the types of assessments were guided by considering the skill sets they wanted students to possess at the end of the unit. Related content and resources were pulled into a repository from websites (e.g. organizations and other universities) that Joanne now needed to filter through and organize for her unit. As Joanne explained "other than that, [we had] free reign" to design what they wanted (Joanne, Pre-design interview).

The design work at this point was now solely up to Joanne. At the end of the pre-design interview, Joanne said that her next steps would be to review the objectives and unit description as set out in the planning documents and to look at what the students had done in the preceding unit and make sure that the students learning was still in line with the original plan for the set of four units so that she could add in anything that may have been missed. Joanne also talked about the need to create lecture, tutorial and assessment content. She emphasized the fact that she wanted the tutorials to be interactive and building towards the work that the students would be doing.

Selection of a learning design and initial uses

Even though Joanne had some prior experience with the LDVS format for representing practice she had not used a full Learning Design Framework (i.e. the LDVS and supporting text) when designing a unit. The researcher introduced the learning design website to Joanne in the first meeting. By the next meeting, three weeks later, Joanne had chosen a learning design to use in her design process and done some early design work.

When asked about how she had chosen a specific learning design to adapt for her unit, Joanne recounted that she first reviewed the planning documents that she had previously written for the unit and with this overview in mind she went to the learning design website concentrating on the 'Focus' that appealed to her and had not found it difficult to find a learning design to apply to her unit. Her description of her thinking as she went through the designs highlights some of the many factors that come into play when a lecturer is trying to find a design that will work for his or her context:

> I actually had types of assessment that I needed to include. So because I had that constraint, when I started looking through the different Learning Designs…I was looking initially at problem based learning and role play but as I looked at those… [I thought] this [unit] it's just not going to suit [them], in this first instance and certainly not under the time constraint I've got to get it done. So I started looking a little more sideways and thought collaborative was my next stop. Thinking …we want to encourage group work in this [unit] where they're building materials together but none of those really suited when I looked at the [LDVS]." (Joanne, LDF selection interview)

In describing her search she talked about reading the summaries and LDVS as her first step. She said she got "a better snapshot of how [the design] inter-linked throughout the course using the diagram rather than the text based descriptions" (Joanne, LDF selection interview). She mentioned that she focused on the resources and supports in the diagram, using the resources (and to a lesser extent the supports) as a checklist for thinking about

what she already had and what she was going to do or could do in the unit. This allowed her to decide whether the learning design would fit what she wanted to do.

She then created a shortlist to go through in more detail. She spoke of having three or four learning designs open on her computer and flipping back and forth between them to see which one might work the best for her purposes. After her initial focus on role play, problem based learning and collaborative learning designs, Joanne looked at the case study learning designs and chose "Real Life Cases in Multimedia" (see Fig. 1), a learning design originally based on an education unit, as the learning design she wanted to apply to her unit. Joanne was drawn to this learning design because it aligned with her thinking and resulted in the students having to produce a product:

> What I want them to do in this [unit] is get in touch with a lot of up-to-date sort of news-based things that are happening at present. So the resources for the [unit] will be newspapers, trade magazines and journals and then I started thinking 'well that's more like a case study approach' …and then I read the descriptor of project case study focus which said…'the emphasis of this Learning Design is to create a product or artifact' and the end result in [this unit] is that they actually write their own procedure for dealing with a certain aspect of IT in the workplace, that … fit pretty well. (Joanne, LDF selection interview)

The selection of a learning design was closely followed by the deadline for Joanne to submit the unit outline to her Faculty. For this Joanne had needed to create the lecture schedule, which she focused around the module format she had planned to implement and mapped out the assessments. Due to time constraints she had not had time to include all of the detail that university policy required her to give students. She felt she needed more time to flesh out the assessments and work with the learning design so she provided basic information (e.g. assessment names, type, and weighting) at this point. Her plan was to provide students with the full description of the assessments in the first week of class.

At this stage, she reported that she had used the learning design as a checklist to keep her focused and ensure she was providing the resources needed for specific aspects of the design. Joanne reported that the process of selecting and thinking about applying a learning design had her thinking about the long-term direction she wanted to take with the unit. Specifically, she was very interested in including a role-play or problem-based learning (PBL)

Pre-Implementation Design using the learning design

A month after Joanne selected a learning design and the week before teaching started, the researcher spoke to her again about the design work that she had done and how she planned to teach the unit. Joanne said she felt that she had "played it safe" with the design of this unit because this was its first implementation. She saw the unit design as a long-term process that would evolve over numerous iterations, and she hoped to incorporate a PBL scenario in future. One of the reasons for this staged approach was the lack of time to fully create what she wanted. Joanne had found it reassuring that the unit described in the learning design "had been built up over several semesters" (Joanne, pre-implementation interview). This aligned with her plans to work towards building in more interaction and activity types, and had her consciously thinking about building unit evaluation into the process:

> It's not going to happen first cycle round and I'm actually looking forward to seeing this run one time round. That's what I did take out of this…The comment from the project team that put the reminder in saying 'Keep in mind that this has been developed over a long time and it is a complex one' and the more I read that the more I went 'You're not going to do all this in one semester so get the structures there, see how they look'. But the other good reminder out of this was… it has been evaluated each time it's run and I guess that's not something I've ever gone in thinking to do. It has happened out of random circumstances and it's worked well but this time I would like to go in and go 'Okay, let's review it'. (Joanne, pre-implementation interview).

Joanne described her starting point for the design process as a blank piece of paper with weeks 1 to 13 written on it. As she worked, she kept the Learning Design beside her and used it as a "touch point" to refocus her thinking. Looking at the diagram, in particular the resource triangles, helped her to think about what she might have to do next:

> It was good having the learning design sitting beside me because it reminded me of what I was planning on doing and just going back [and] being reminded about the case materials. That helped me as I was filtering through all the resources that I could use for the [unit]. (Joanne, pre-implementation interview).

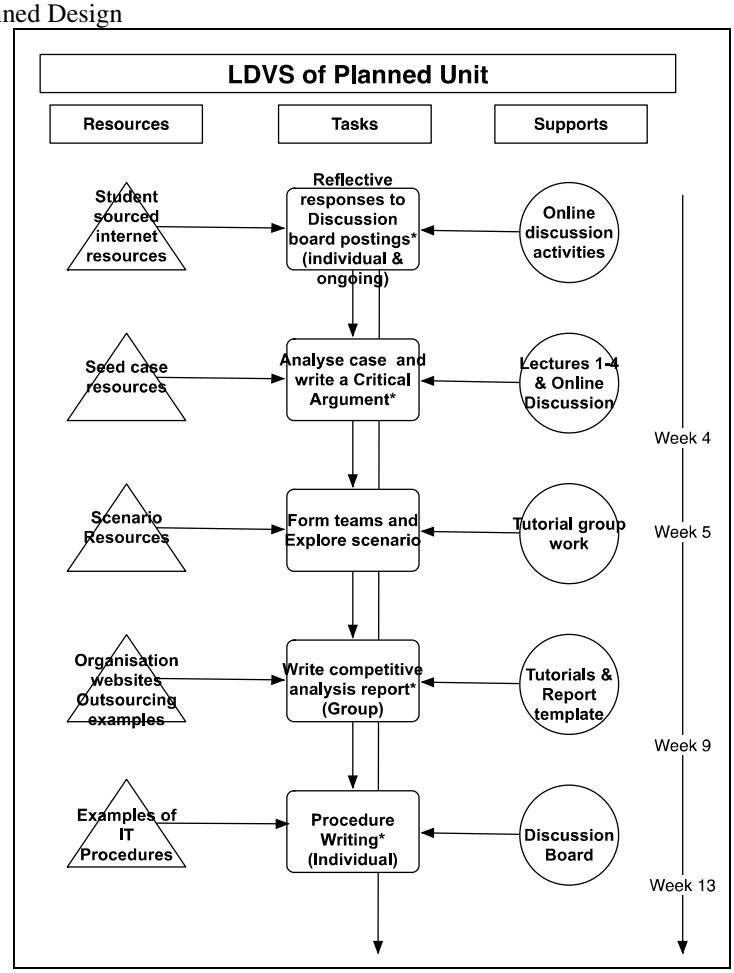
Joanne said she felt the learning design was easy to use and was encouraged to find that a lot of what was described in the learning design aligned with what she did intuitively. She commented that inexperienced lecturers might find the learning design restrictive because they might not have the confidence to adapt the design for their own unit.

When asked to compare her design (see Fig. 3) to the learning design on which it was based (see Fig. 1). Joanne said there were two main differences. First she added an opening phase where students worked individually. Joanne said that she wanted to start the students out with some individual work before the group work began:

> I'm learning more about them and how they're working, they get a chance to show me what they're capable of and then we fall into the group work once they've established a bit more rapport with each other (Joanne, pre-implementation interview).

The individual work and activities were to continue through the semester. Second, whereas Real Life Cases learning design culminated in a reflective task, Joanne integrated ongoing discussion board activities and reflection throughout the semester.

Figure 3: Joanne's Planned Design



Joanne had a lot of prior experience using technology in her teaching, but felt that due to time pressures and the fact that this was a new, untested, unit she would create a minimalist model on which she could build on in future iterations. Joanne said that she did not feel the Learning Design had influenced her design of the elearning site. However, she did feel it influenced how she would like the e-learning space to be designed in future iterations, explaining, "It's given me lots of ideas for how I'd like to do it next year" (Joanne, pre-implementation interview). She said she had a number of including more interactivity, richer case materials and rich visuals (created by a graphic designer) to support the unit.

Implementation Phase

Joanne taught this unit in Semester 2, 2009. When reflecting on its implementation, Joanne said she was happy with how the unit ran, in particular the interaction she had with students in tutorials and lectures. During implementation she identified three main challenges. The first was the fact that Joanne was returning to teaching after an 18 month absence and she felt she had underestimated the time it took to complete all of the preparation and administration for teaching. She described feeling constantly under pressure to get everything done: "It's a bit of a fly-by-the-seat of my pants kind of [unit] where I'm only writing the materials Sunday night, delivering it Monday morning" (Joanne, implementation interview 2). The second challenge was the language difficulties experienced by

the international students in the unit, which according to Joanne led to misunderstandings of task instructions which in turn impacted some activities negatively. The third major challenge was the higher than expected enrolments, with more than 120 students taking the unit when Joanne had been expecting 20-40 students. The task that suffered the most from the increase in student numbers and language barriers was the discussion board activity, which she had designed originally with 40 students in mind. While students enjoyed the online discussion, the high number of posts overwhelmed some students who misunderstood the scope of the task and mistakenly tried to read everything:

> My instructions aren't being received very clearly so there's a lot of confusion around [the discussion board] and what's expected of them. The international students particularly are having a hard time with it so I've explained it I don't know how many hundred times now and I can't make it any clearer than I have. (Joanne, implementation interview 1).

While Joanne specifically approached the unit's design with a long-term, staged approach in mind, during implementation she began to feel that she had not spent enough time preparing the case materials for the unit. She said she particularly needed to work on the assessment and connections within the unit. In Joanne's opinion, two of the designed assessments had worked as she had hoped, one needed adjustment and the discussion board activity needed major rethinking. The volume of posts around the discussion board activity resulted in Joanne reducing the length of the task by two weeks in order to quell student anxieties.

Throughout the semester, Joanne said she spoke to colleagues and her Head of School about how the unit was going and issues she was facing. She also reported that she had relied on the technical support person in her Faculty more than she had in the past, particularly because she had been away from teaching and was not as familiar with the new learning management system but also because she did not have sufficient time to engage with it during the semester:

> The technology's been pretty basic and just in our current format I still can't see how I could have done it any differently without investing a semester's worth of effort preparing it…I think for a first time [unit] I've kept it pretty simple and I set out to do that. It's been good having it simple. (Joanne, implementation interview 3)

Reflection

In Joanne's final reflective interview she said that access to the learning designs, the process of looking for a learning design that was suitable and adapting one to the first implementation of the unit had a strong impact on her during the design phase. Referring to the discussion board activity, Joanne reflected that when she deviated from the learning design plan the tasks had not worked as well. She was positive about the experience of using a learning design, explaining it had made her think more deeply:

> It has actually gotten me to think about things, rather than just being a bull at the gate, and when I have forgotten about the whole learning design concept, and just tried to change things at random, it really hasn't worked…and it just reminded me that I do enjoy the learning design part, and I don't think we put enough effort into that in our [faculty] in general, that it's always looking for the quick fix, and that certainly doesn't serve students. (Joanne, final interview)

She said she would recommend using a learning design to a colleague but would also advise them to remember that implementing one is a staged process and not to try to do too much at once.

Discussion

A major aim of this study was to discover whether an individual lecturer looking to redesign a unit would find a learning design useful as a tool to support their design process. As discussed, earlier research (Bennett et al., 2005) provided a "proof of concept" that Education lecturers were able to understand and apply a learning design to a new teaching situation. The findings from the case presented in this paper add further evidence of the successful reuse of a learning design and also expand the reuse to a participant whose disciplinary expertise lies outside of the field of Education, suggesting that it is not necessary to have a formal Education background in order to use and adapt a learning design. In addition, use of the learning design appeared to have a validating effect on Joanne. Not being a trained educator, Joanne found it confirming of her teaching to find aspects of her own practice represented in the learning design.

Before selecting a learning design Joanne had expressed the hope that the learning design would help to organize her thinking. The graphical representation summarizing the learning design (i.e. the LDVS) seemed to fulfill this role and was a key reference point for Joanne throughout the design process. She found the LDVS to be useful as a summary, checklist and a tool to focus her design activities. The textual component was something she referred to when she needed to gain support from further detail. Joanne's use and reliance on the LDVS both to aid her selection of a learning design and during her design process supports findings that the LDVS portion of the

learning design is an effective tool for the communication of the overall pedagogy of the design (Agostinho, 2006; Bennett et al., 2005; Falconer & Littlejohn, 2006)

While the design process was supported by the learning design, Joanne stated both before and after the implementation of the design that she felt the learning design had not influenced the design of the elearning site for this iteration. The only influences she spoke of were aspirational goals for the future of the site though these goals seemed to be related to a future application of another learning design (i.e. role play or problem based learning). However, it is of note that her use of the site closely aligned with the technology use of the original learning design with differences more in the extent of use rather than the absence of these online resources and supports.

Perhaps one of the reasons Joanne felt that the learning design had not influenced her was that the inclusion of resources and supports in the online environment were standard practice for an experienced user of technology such as Joanne. Joanne's experience with technology meant that she knew she could be doing more in this environment but from experience she knew this came with a high time investment which she didn't currently have when she was designing and implementing a new pedagogical design. The time she had available was limited and as she stated on a number of occasions, this was the first stage of a design with broader future vision. This viewpoint not only aligned with the support notes within the learning design but was also guidance that Joanne had found reassuring throughout the process. Alternatively, perhaps the fact that she felt the learning design didn't have an impact on this area means that the learning design does not support the technological design well enough. Analysis of the remaining cases in the larger study will reveal more about how the learning design affects the design of the elearning site for other participants.

Conclusion

This paper has presented early findings from a case study of an experienced university lecturer, Joanne, who selected, adapted and implemented a learning design. Having previously spent six months scoping the new major and units with in it, Joanne had strong ideas about what she wanted students to learn in this unit and how it was to prepare students for the workplace. For Joanne, the experience of using a learning design and, more broadly, being exposed to the learning design website exemplars helped to confirm and extend her ideas. The case also showed the complexities of the context and indicated some of the benefits using a learning design can have.

It is important to remember that the case of Joanne's use and adaptation of a learning design is that of one university lecturer. While we can learn from her experience and begin to speculate as to how some lecturers might use a learning design in their practice we cannot generalize the findings from this case. Full analysis of this case and the remaining eight cases is underway and it is hoped that these cases will provide more insights as to how lecturers' use learning design's to support their design processes.

Acknowledgements

This research is part of an ongoing PhD study which has been funded as part of an Australian Research Council Linkage grant in collaboration with Janison Solutions Pty Ltd.

References

Abrami, P. C., Bernard, R. M., Wade, A., Schmid, R. F., Borokhovski, E., Tamim, R., et al. (2006). A Review of e-Learning in Canada: A Rough Sketch of the Evidence, Gaps and Promising Directions. *Canadian Journal of Learning and Technology, 32*, 3.

Agostinho, S. (2006). The use of a visual learning design representation to document and communicate teaching ideas. In P. G. L. Markauskaite, P. Reimann (Ed.), *The 23rd Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education: Who's Learning? Whose Technology?* (pp. 3-7). Sydney: Sydney University Press.

Agostinho, S. (2008). Learning design representations to document, model and share teaching practice. In L. Lockyer, S. Bennett, S. Agostinho & B. Harper (Eds.), *Handbook of Research on Learning Design and Learning Objects: Issues, Applications and Technologies*. Hershey: Information Science Reference.

Agostinho, S., Oliver, R., Harper, B., Hedberg, J., & Wills, S. (2002). A tool to evaluate the potential for an ICT-based learning design to foster "high-quality learning". In A. Williamson, C. Gunn, A. Young & T. Clear (Eds.), *The 19th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education: Winds of change in the sea of learning*. Auckland.

Bates, T. (2005). *Technology, E-Learning and Distance Education* (2nd ed.): Routledge.

Bennett, S. (2001). Real Life Cases in Multimedia. Retrieved 11 April, 2009 from http://www.learningdesigns.uow.edu.au/exemplars/info/LD1/

Bennett, S., Agostinho, S., & Lockyer, L. (2005). Reusable Learning Designs in University Education. In T. C. Montgomerie & J. R. Parker (Eds.), *IASTED International Conference on Education and Technology* (pp. 102-106). Anaheim, CA: ACTA Press.

Bennett, S., Agostinho, S., Lockyer, L., Harper, B., & Lukasiak, J. (2006). Supporting university teachers create pedagogically sound learning environments using learning designs and learning objects. *IADIS International Journal on WWW/Internet, 4*(1), 16-26.

Biggs, J. B. (2003). *Teaching for quality learning at university : what the student does* (2nd ed ed.). Phildelphia, Pa.: Society for Research into Higher Education : Open University Press.

Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). *Review of Australian Higher Education Final Report.* Retrieved 16 March, 2010 from http://www.deewr.gov.au/HigherEducation/Review/Documents/PDF/Higher%20Education%20Review_one%20document_02.pdf.

Buzza, D. C., Bean, D., Harrigan, K., & Carey, T. (2004). Learning design repositories: Adapting learning design specifications for shared instructional knowledge. *Canadian Journal of Learning and Technology, 30*(3), 79-101.

Conole, G., & Fill, K. (2005). A learning design toolkit to create pedagogically effective learning activities. *Journal of Interactive Media in Education*. Retrieved 10 December 2007 from http://jime.open.ac.uk/article/2005-8/276

Dalziel, J. (2003). *Implementing learning design: The Learning Activity Management System (LAMS).* Paper presented at the Interact, integrate, impact: Proceedings of the 20th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education, Adelaide.

DEST. (2002). *Striving for Quality: Learning, Teaching and Scholarship*: Canberra: Commonwealth of Australia.

Falconer, I., Beetham, H., Oliver, R., Lockyer, L., & Littlejohn, A. (2007). Mod4L Final Report: Representing Learning Designs [Electronic Version], Retrieved 01 June 2007 from http://www.jisc.ac.uk/media/documents/programmes/elearningpedagogy/mod4lreportfinal.pdf

Falconer, I., & Littlejohn, A. (2006). *Mod4L Report: Case Studies, Exemplars and Learning Designs* [Electronic Version]. Retrieved 16 March, 2011, from http://mod4l.com/tiki-download_file.php?fileId=2

Goodyear, P. (2004). Patterns, pattern languages and educational design. In R. Atkinson, C. McBeath, D. Jonas-Dwyer & R. Phillips (Eds.), *Beyond the comfort zone: Proceedings of the 21st Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education* (pp. 339-347). Perth, Australia: University of Western Australia.

Koper, R., & Tatterstall, C. (Eds.). (2005). *Learning Design: a handbook on modelling and delivering networked education and training*. New York: Springer.

Laurillard, D. (2001). *Rethinking University Teaching: A Framework for the Effective Use of Educational Technology* London: Routledge.

Merriam, S. (1988). *Case study research in education: a qualitative approach*. San Francisco: Jossey-Bass.

Prosser, M., & Trigwell, K. (1999). *Understanding Learning and Teaching: The Experience in Higher Education*. London: Open University Press.

Ramsden, P. (2003). *Learning to Teach in Higher Education* (2nd ed.). London: RoutledgeFalmer.

Sharpe, R., & Oliver, M. (2007). Designing courses for e-learning. In H. Beetham & R. Sharpe (Eds.), *Rethinking Pedagogy for a Digital Age*. London: Routledge.

Stake, R. (1995). *The art of case study research*. London: Sage Publications.

Stark, J. S. (2000). Planning introductory college courses: Content, context and form. *Instructional Science, 28*(5), 413-438.

Yin, R. (2009). *Case Study Research: Design and Methods* (4th ed. Vol. 5). London: Sage Publications.