

Learning Designs: A pre-service teacher perspective

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Novice teachers are often looking for good learning designs on which to model their own teaching and learning environments. Additionally, they need the opportunity to discuss and reflect on their original designs and the designs of others to gain confidence and skills in teaching (Cameron, 2006; Kearney, 2007). However, as the research this paper describes found, our pre-service teachers are not been given this opportunity in their practicum schools. Encouraging these pre-service teachers to share and discuss their learning designs will facilitate these inexperienced teachers' evaluation of the efficiencies, value and limitations of the individual learning designs and their experience in using them. If given this opportunity, these teachers would then take these insights with them into their professional lives.

Keywords: pre-service teachers, sharing, learning design, reuse, generic templates

Introduction

When an inexperienced teacher wants to attempt to introduce a new teaching strategy into their own classroom, it can be a daunting prospect. Yet the utilization of a well tested teaching strategy that provides students with the opportunity to gain theory, content knowledge and comprehension in an innovative way should be encouraged. For these teachers, 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 discussion and of good teaching methods and exemplary learning designs should be encouraged and promoted.

What is learning design?

The field of learning design holds the promise of providing teachers with a framework that will enable them to design high quality, effective and innovative learning experiences for their students. By creating the possibility of deconstructing their existing teaching strategies; aiding reflection on their own practice; documenting and scaffolding innovative learning activities; and sharing and reusing expert practice, learning design has the potential to improve the quality of teaching.

Learning design as a broad general concept (the process)

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 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). However, Goodyear (2009) dislikes the term 'learning design' because he feels it subtly suggests that designers are helping learners abdicate their responsibility for learning so he prefers the term 'educational design'. He also emphasises the iterative and cyclical nature of the design process (Goodyear,

2005). Goodyear's point is an important caution to the use of learning design to ensure it does not undervalue the role of an active learner.

The term 'design for learning' coined by Beetham & Sharpe (2007) overlaps in meaning with 'learning design' in that it focuses on activity-centred learning, activity sequences and shareability. 'Design for learning' focuses primarily on the activities undertaken by learners, only secondarily on the tools or materials that support them (Beetham, 2007). Therefore, in terms of process, 'design for learning' restricts itself to "the process by which teachers – and others involved in the support of learning – arrive at a plan or structure or design for a learning situation" (Beetham & Sharpe, 2007 p. 11).

Learning designs as a product of designing learning

Koper (2005) uses the phrase 'the learning design' when describing the result of the learning design activity by teachers. The documentation of learning designs has been implemented by classroom teachers for many years. Commonly known as "lesson plans", they are regularly produced by teachers, often as a requirement of the formal accreditation documentation process. JISC (2006, 1) define a learning design as, "an outcome of the process of designing, planning and orchestrating learning activities as part of a learning session or programme".

We will adopt a more comprehensive definition provided by Donald (2009, p. 179):

"A learning design documents and describes a learning activity in such a way that other teachers can understand it and use it in their own context. Typically it includes descriptions of learning tasks, resources and supports."

A learning design can communicate more than just the sequence of activities; it can also express the relationship between the activities. This relationship reflects the pedagogic intent of the design and communicates why these particular activities are to be delivered in this way (Falconer & Littlejohn, 2009).

Methodology

This case study is a comparison and analysis of the teaching practices of pre-service education teachers and the teachers at their practicum schools. The following discussion draws on data gathered from three online surveys that were administered to 190 pre-service education students (91% of the various cohorts). Taking an action research approach to support ongoing reflection, the authors addressed the following questions:

- What learning designs, teaching methods and teaching activities do pre-service teachers use in the classroom?
- What learning designs, teaching methods and teaching activities are MOST COMMONLY USED by other teachers in their school placement?
- Do they discuss and share learning designs, teaching methods and teaching activities with their supervising teacher or other teachers?

What learning designs are the pre-service teachers using in their classrooms?

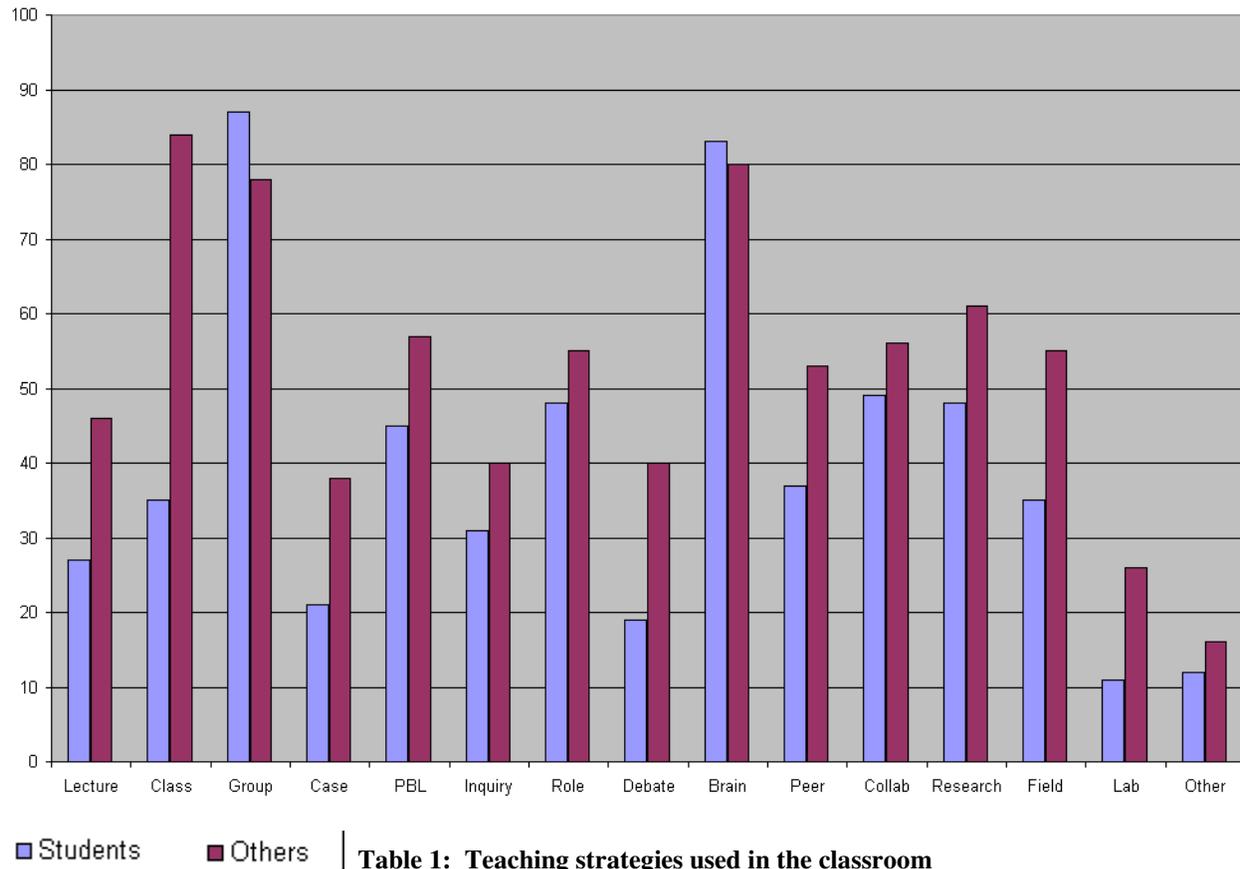
The pre-service teachers reported they predominantly used three learning designs (refer Table 1):

Whole class discussion: This involves the teacher orchestrating a general discussion with the whole class group. The most common reasons for using a discussion are to help students solve a problem or to encourage them to explore an open-ended question. To be successful all the participants need to be ready to share their ideas with the rest of the class and there needs to be a high level of student participation (Whitton et al., 2010). Whole class discussion can encourage students to contribute to the process and content of the lesson which encourages their interest and motivation in the content.

Small group discussion: This requires two or more students to work together without direction supervision or intervention by the teacher, for at least part of the time. It requires the teacher to structure the learning environment so that the students can interact productively with only indirect guidance (Killen, 2009). Small group

discussion provides more opportunity for individual students to voice their opinions in the available time. It is common to conclude the lesson with some form of sharing or debriefing that involves the whole class.

Brainstorming: This encourages students to think about the problem to be solved by contributing ideas. The two principles of brainstorming are that judgement should be deferred and quantity breeds quality (Whitton, 2010). the most important reason for using students’ ideas is that it enables the teacher to build explicitly on the students’ prior knowledge (Killen, 2009). It provides the teacher with insight into the attitudes, understandings and misconceptions that the students bring to the lesson.



What the pre-service teachers report the other teachers are using in their classrooms?

The pre-service teachers reported the other teachers in their practicum school used a much wider variety of learning designs (refer Table 1). As with the pre-service teachers themselves, whole class discussion, group discussion and brainstorming were widely used, but the following teaching strategies were also commonly employed:

Problem-based learning: The starting point for learning in problem-based learning is a complex problem, query or puzzle that the learner wishes to solve (Boud, 1995) rather than with exposition of disciplinary knowledge. With PBL, acquired knowledge arises from work on the problem rather than the normal approach where it is assumed that students have to have the knowledge required before they can start work on the problem (Ross, 1998). Students are moved towards the acquisition of knowledge and skills through a staged sequence presented in an authentic context, together with associated learning materials and support from tutors (Boud & Feletti, 1998).

Role play; Peer tutoring; Collaborative learning; Research; and Field trip/excursion were also widely used.

As students perceive and gain knowledge, form ideas and think differently, and have different background knowledge, skills and dispositions, a one size fits all approach to teaching is unlikely to be very successful (Killen,

2009). Using a variety of teaching techniques is also recommended to avoid the student boredom that arises when they are required to do the same thing for too long. This is especially true if they are inactive, such as simply sitting passively in the classroom. Variety can positively influence student achievement (Brophy & Good, 1986), facilitate classroom management (Evertson et al., 1984), increase student attention (Lysakaowski & Walberg, 1981) and maintain students' motivation and engagement in learning (Kindsvatter, Wilen & Ishler, 2000). These are all factors that contribute to a high quality learning environment (Killen, 2009). For this reason our pre-service teachers need to be able to employ a wide range of teaching strategies as soon as possible.

Benefits of Discussing and Sharing Learning Designs

A majority of our students agreed there are benefits for teachers having access to a range of learning designs from which they can trial and modify for their own contexts. The most common advantage mentioned was that they provided a variety of exemplary designs which could be easily adapted. The benefits of sharing learning designs are:

- 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 – 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. (from Philip & Cameron, 2008).

The issues relating to sharing learning designs as reported by the students

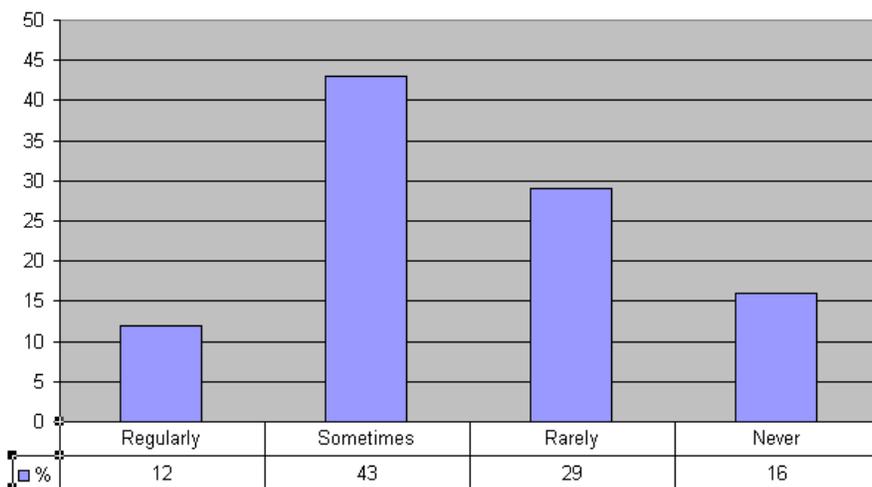


Table 2: Do you discuss learning designs, teaching methods and teaching activities with your Supervising Teacher or other teachers?

Willingness to Share One's Own Designs

There is an acknowledged gap between teachers' professed positive attitudes towards sharing teaching and learning resources, including learning designs, and the actual practice of reuse (Walker & Masterman, 2006; Woo, Gosper, Gibbs, Hand, Kerr & Rich, 2004). The factors are complex surrounding the sharing and reuse of resources. 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). Lloyd and Butcher (2006), reporting on their experience of reuse 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 reuse project.

Factors Contributing to an Environment that Fosters Sharing and Reuse

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. When teachers and support staff work together collaboratively on the development of learning designs 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 mentoring 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. Where our pre-service teachers' skills and understanding of pedagogical models were concerned, this mentoring and scaffolding role was not happening to their satisfaction in their practicum schools. They wanted more dialogue with their supervising teacher and other practicing teachers.

Conclusion

In terms of our research questions, students saw benefits in discussing and sharing learning designs and were willing to share their own experiences. 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. Undoubtedly the collaborative approach to creating and refining learning designs was considered beneficial. Those students shared their learning designs commented that the need to explain, justify and defend their pedagogical decisions strengthened the design development.

The students' willingness to share and constructively critique the work of others was in marked contrast to the reported attitude of some supervising teachers. The more conservative attitude of these teachers indicates their awareness of and concern with issues relating to ownership, standards and licensing. While teaching staff may be affected by the many socio-cultural barriers that impact on the discussion and sharing of learning designs, this study shows that progress needs to be made towards changing the prevailing culture, at least from the point of view of our pre-service students. Encouraging discussion and sharing of good teaching practice early in a novice teacher's career, and modeling it as everyday practice, may encourage them to be more open to this practice in their professional lives, and encourage others in the wider community to contribute in the same way.

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