Abstract

New learning spaces in tertiary institutions around the world are designed for learning that is active and collaborative. This may prove to be a challenge for teachers unprepared or even unwilling to change their existing teaching practice as they move their classes into new spaces.

Our academic advisory team wanted to review our provision of support for teachers in the ten collaborative learning spaces at our institution. This presentation identifies some of the key aspects in the literature in relation to pedagogical approaches to learning and teaching appropriate for new generational learning spaces. An overview of how the institution can work towards sound pedagogical practice is followed by suggestions for ways to support teachers more specifically, including having access to the experience of others, as well as input around and reflection on the possibilities and challenges of working in new spaces.

Introduction

Higher educational institutions around the world have invested considerably in creating new formal learning spaces over the last ten years. While much evaluation of these spaces focuses on design and characteristics of the space in terms of being fit for purpose, research has also explored how use of the space by students and their teachers impacts on the learning and teaching that occurs in new classrooms (Brooks, Baepler, & Walker, 2014b; Fraser, 2014; Hyun, Ediger, & Lee, 2017; L. E. Wilson & Sipe, 2014). As Ling and Fraser (2014) identify, ‘one of the key drivers of next generation learning spaces is their design for learning’. Equipped with flexible furniture and new technology, learning spaces are only as good as the teaching and learning that occurs in them (Lippincott, 2009).

In a meta-analysis of 225 papers (from 2005-2016) related to tertiary technology-supported physical learning spaces, Guiney (2016, p. 1) asserts that, ‘The major barriers to successful use of technology-supported physical learning spaces are: a lack of teacher and student capability; insufficient training, guidance, or support for teachers and students; and, inappropriate pedagogical approaches from teachers.’ Clearly, for teachers to be successful in embedding appropriate pedagogies for spaces, they need to be familiar with innovative approaches to learning and teaching (Ling & Fraser, 2014), as well as being aware of, and able to implement, the affordances for learning and teaching inherent in new spaces. Academic development teams are still identifying the best ways to support academic staff in understanding how to adapt their teaching appropriately to new spaces (Hall, 2013; Morrone, Ouimet, Siering, & Arthur, 2014; Steel & Andrews, 2012; G. Wilson & Randall, 2010).

The problem being addressed

Our interest in professional development that leads to effective teaching in new spaces
stems from the development of new collaborative learning spaces at our institution. As part of a strategic decision to reduce a sprawling campus and with the intention to build classrooms that are fit for purpose, Unitec developed two prototype learning spaces in 2015. The central academic advisory (Te Puna Ako) team had a significant role in the design (as suggested by Rook, Choi, & McDonald, 2015) and in the evaluation of these collaborative high-tech learning spaces, and worked with teachers to ensure they felt confident and competent to teach in new spaces.

Three years later, and with ten collaborative learning spaces now operational, teaching in new spaces is considered ‘business as usual’. A much larger number of academic staff from a wide range of disciplines are now teaching in new spaces and many do not see the need to engage with our training. Teachers may well not be changing their pedagogical approaches to suit the new space, but rather continuing to use existing strategies for teaching and to support learning as Brooks and Solheim (2014) observe. It is timely to review our provision of professional development, and also to undertake research into the kinds of learning and teaching that are occurring in rooms originally designed for active and collaborative learning.

Revisiting the literature is a first step to understanding how other institutions design and support effective professional learning around the kinds of pedagogies identified as being appropriate for these new spaces.

**Study design/Approach**

The literature detailed in this paper is limited to research into formal learning spaces at tertiary institutions. The focus on tertiary spaces is justified in that higher education differs from the compulsory sector in several ways. A wide range of subjects is taught at higher education institutions, and a high degree of student autonomy in relation to learning is generally assumed. Another aspect of tertiary teaching is that many staff in higher education, rather than having gained formal teacher qualifications, are discipline experts, often with research demands to meet (Carr & Fraser, 2014). With the lecture as the norm for efficient content delivery on campus, active or collaborative learning may be more challenging for academics to implement.

The starting point for this literature review was reading two significant books about learning spaces published in 2014 (Brooks et al., 2014b; Fraser, 2014). Guiney’s (2016) annotated bibliography also provided a useful overview of the field (2005-2016) and confirmed our decision to limit our search to literature from 2011 on. This date was a pragmatic choice given our limited resources and also the changing nature of technology available for classroom use. The very relevant online Journal of Learning Spaces (established in 2011) was used to test search terms. Based on our immediate need for supporting teachers in new classroom spaces, the most effective search terms used in relation to Guiney’s annotated bibliography and the Journal of Learning Spaces were ‘teacher development’ and ‘pedagogic approach’. However, in searching broader educational sources (specifically, Ebsco education databases, Taylor and Francis’ Education Collection and Google Scholar), including the term ‘active learning classroom’ proved most useful in finding relevant articles. The thirty-five sources listed in the bibliography represent the most useful literature in the field found in this review in relation to the development of teachers’ pedagogical approaches in active/collaborative learning spaces.

As providers of guidance and support for academic staff, our interest is in supporting teachers to develop appropriate pedagogical approaches for new spaces. The two questions that guided our reading were

1. What are appropriate pedagogical approaches for teachers in new collaborative learning spaces?
2. What professional development strategies have proved successful?

**Findings**

There is still discussion in the literature as to whether teachers do, in fact, change their practice through teaching in new spaces (Fraser, 2014), although Brooks (2012) asserts that space will impact on what teachers do and the kinds of activities they design. However, what is clear is that teachers need to adapt their pedagogical approaches in order to make the most of the affordances of new spaces (Brooks, 2012; Brooks & Solheim, 2014). Alt-
hough teachers may initially be concerned about learning to use technology in new spaces, Florman (2014) avers that this is actually a quicker and easier task than getting to grips with the educational philosophies that have informed the design of active learning classrooms.

Much of the discussion around teachers developing appropriate pedagogical intentions suggests that teachers accustomed to lecture-style content delivery might find this way of teaching less successful in new flat floor spaces and will need to adapt activities to be more active (Baepler & Walker, 2014; Brooks, 2012; Cotner, Loper, Walker, & Brooks, 2013; Ling & Fraser, 2014). The framework in Figure 1 summarises the pedagogic principles that Ling and Fraser (2014) identify as underpinning learning and teaching design in new spaces.

<table>
<thead>
<tr>
<th>Learning Spaces Need to Provide</th>
<th>Learning Activities Need to Be</th>
<th>Learning Activities Need to Involve</th>
<th>Learning Activities Need to Facilitate</th>
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<tr>
<td>Rich learning environments that reflect the real world so are: • Authentic • Complex and use technology appropriately</td>
<td>Student-centred Focused and outcome oriented Connected Challenging and facilitate individual meaning making</td>
<td>Active learning Social interaction Provision of guidance and feedback</td>
<td>Selective engagement Critical engagement Application</td>
</tr>
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Figure 1. A pedagogic framework for use in next generational learning spaces (Ling & Fraser, 2014, p. 79)

Giving teachers agency in the learning process is crucial. Teachers’ beliefs about how students learn and what the teacher’s role looks like are fundamental to how they teach. Individual conceptualisations of how students learn will inform what teachers ask students to do in new spaces (Ge, Yiang, Liao, & Wolfe, 2013; Gebre, Saroyan, & Aulls, 2015; Ling & Fraser, 2014). Steel and Andrew’s (2012) seminal article identifies the value of supporting teachers to ‘re-imagine’ their classroom teaching, through a process of making their belief systems explicit and identifying pedagogical and technological possibilities afforded in new spaces and how these relate to their own disciplinary contexts. Crucial to teacher learning is having the time to explore their own practice and consider what might work for their learners (Ling & Fraser, 2014; Morrone et al., 2014). Teachers also need to be supported in establishing evaluation and feedback processes in relation to new space (Park & Choi, 2014).

Discussion and conclusion

As academic advisors in the institution, a central interest was on identifying ways in which other institutions supported teacher learning for new spaces.

Institutional management should support academics systematically and holistically to ensure pedagogical success (Carr & Fraser, 2014). The role of the academic development team is critical in supporting teachers moving into new learning spaces (Brooks & Solheim, 2014; Walker, Brooks, & Baepler, 2011; Whiteside, 2014). As well as demonstrating the physical and technological affordances of the room, teachers need to be supported to make informed and appropriate decisions around ‘course re-design, pedagogical transformation or technologically-enhanced learning’ (Brooks & Solheim, 2014, p. 60).
From a broader perspective, redesigning courses or creating active learning opportunities is a time-consuming process and institutions need to allow individuals time for this (Cotner et al., 2013; Fahlberg, Rice, Muehrer, & Brey, 2014; Van Horne et al., 2014; Wanless, 2016). Other initiatives can include encouraging all teachers at an institution to engage with general approaches to learning that will help them adapt quickly to new spaces, such as collaborative learning (Carr & Fraser, 2014) and active learning (Rands & Gansemer-Topf, 2017). Identifying specific teachers as champions of teaching in new spaces (Carr & Fraser, 2014; Ertmer & Ottenbreit-Leftwich, 2010) means they can advocate for good practice within their departments.

**From a broader perspective, redesigning courses or creating active learning opportunities is a time-consuming process and institutions need to allow individuals time for this.**

Specific strategies suggested in the literature for professional development can be identified as a) learning from the experiences of others and b) receiving input around what active and/or collaborative learning might involve.

Direct observations of others teaching in the space before teachers work in new spaces is ideal (Fahlberg et al., 2014), and Morrone et al. (2014) suggest building a library of ‘video-based faculty spotlights’. Case studies help teachers understand how varying pedagogical intentions might look in the same space (Brooks, Baepler, & Walker, 2014a; Langley & Guzey, 2014). One way of encouraging these understandings was through sharing personal experiences of re-configuring spaces through visuals (Ramsay, Guo, & Pursel, 2017). Team teaching, especially in large spaces, with reflection together on experience is invaluable development (Metzger, 2015).

Academic developers who have observed teachers (or who have experience teaching in the spaces themselves) can create appropriate materials describing classroom activities or management techniques for teachers to access (Fahlberg et al., 2014; McNeil et al., 2017; Van Horne et al., 2014). Research articles similarly can offer descriptions of specific challenges and strategies to address these (e.g. Petersen & Gorman, 2014). Finally, establishing communities of teacher users allows teachers to share their experiences and continue to explore possibilities (Fahlberg et al., 2014; Morrone et al., 2014; L. E. Wilson & Sipe, 2014).

More traditional workshop sessions can include some of the above aspects, but focus more directly on pedagogical principles behind what teachers do. In-class team-based learning, peer instruction and inquiry guided learning were the strategies that informed teacher development at the University of Iowa and made up the ‘Essential’ experience that teachers had to work through before they would be allowed to teach in a new TILE space (Florman, 2014; Van Horne, Murniati, Gaffney, & Jesse, 2012; Van Horne et al., 2014).

To conclude, this literature review gave our team insights into how we could improve design and content of professional development to support teachers into new spaces. It also helped to ground the specific areas we planned to investigate in our research with teachers, namely: how teachers adapt their teaching practice to the new space, and a frame to help identify good pedagogical practice in order to provide examples of effective teaching and learning practices in our new collaborative learning spaces.

**References**


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