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Student Voice(s) on the Enactment of the Research-Teaching Nexus

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The discussion of research-teaching links has received considerable attention in the higher education literature (e.g. Brew, 2006; Jenkins, Breen, & Lindsay, 2003), and it is not the purpose of this chapter to review that literature. Instead, we seek to offer views from students of the nature of the relationship between research and teaching. This is a relationship of which many undergraduates are functionally unaware or have a negative view, perceiving research to come at the expense of teaching (Kandiko & Mawer, 2013).

Research-intensive institutions often claim that they can offer students a distinctively excellent student experience because of the proximity of research (Zamorski, 2002). Often research is positioned as the desired pinnacle of undergraduate education in research-intensive settings (Garde-

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Hansen & Calvert, 2007; Kaartinen-Koutaniemi & Lindblom-Ylänne, 2008; Tight, 2012), but there is less concern on how it is done (Malcolm, 2014), or what it would look like to students. However, many studies of links between research and teaching show that there is little or no necessary relationship between high-quality research and excellent teaching (Creighton, 2009; Hattie & Marsh, 1996).

A Unified View of Academic Work

It has been argued that there would be no need to link teaching and research if they were not divided in the first place (Locke, 2004). Traditionally, 'teaching' has been considered in isolation from other aspects of academic practice (e.g. Åkerlind, 2011) with the result that much of the literature on research-teaching links starts with the presumption that the activities are in tension with each other (e.g. Healey, 2005; Kinchin & Hay, 2007; Verburgh, Elen, & Lindblom-Ylänne, 2007). It is also evident, that when 'teaching' is considered as a separate entity, it can initiate a different set of unconscious assumptions about learning in comparison with 'research' (Kinchin, Hatzipanagos, & Turner, 2009). Starting with a focus on 'disciplinary learning' may avoid setting up a destructive binary that needs to be overcome before connections between research and teaching activities can be made.

It is relatively easy to outline research-led teaching initiatives when research skills are a feature of the learning outcomes, especially with more advanced students (e.g. King, Bowe, Sprake, & Kinchin, 2011), but how it can be done is less obvious within the main body of the undergraduate curriculum. In this chapter, the focus is on students' investigations of their disciplinary curriculum as a step to investigate the potential of 'undergraduate research as the pedagogy for the twenty-first century' (Dotterer, 2002, p. 81); a pedagogy in which the engagement of students must, by default, be at a level where they contribute to the flow of instruction (e.g. Reeve, 2013).

Many scholars have explored the possible benefits of linking research and teaching, and the ways in which it can be done (Brew & Boud, 1995; Healey, 2005). Kaartinen-Koutaniemi and Lindblom-Ylänne (2008)

stress the central importance of this issue, claiming: 'The development of academic thinking and research skills in students should be considered as a main goal of academic studies in research-intensive universities' (p. 189). Garde-Hansen and Calvert (2007) advocate placing research at the heart of the curriculum and of students' processes of learning: '[research] needs to be promoted as the "flagship" activity of each discipline, not simply as a set of transferable skills. Students need to be made visible as research-active individuals and teams. They need to see that their research efforts are valued' (p. 115). Discussion of the research-teaching nexus is often diffuse, partly because a range of different assumptions are in play about the nature of the relationship (Tight, 2016). In their review, Robertson and Bond (2001) identified five qualitatively different relationships between research and teaching:

a. Research and teaching are mutually incompatible activities
b. Little or no connection exists between research and teaching at undergraduate level
c. Teaching is a means of transmitting new research knowledge
d. Teachers model and encourage a research/critical inquiry approach to learning
e. Teaching and research share a symbiotic relationship in a learning community.

Whilst it may seem removed from the nuts and bolts of course delivery, the role of research and its relationship with teaching activity is a fundamental aspect of a department, and the development of a curriculum that makes the best use of a research-rich environment requires a clear and shared view. Central to this chapter is the view of teaching, so well expressed by DiCarlo (2009, p. 260) when he stated: 'rather than telling students what we know, we should show students how we learn'. This comment is one of many that call for universities to adopt more research-like ways of teaching their students (exemplified by Fung, 2017) and embodies the view that teaching and research should not be viewed as polar opposites, but rather as complementary facets of academic practice. Research can have a positive impact on teaching if the conditions were right for it to do so, and if it were made explicit to students (Blackmore & Kandiko, 2012). Outcomes from

a Higher Education Funding Council for England (HEFCE)-supported project (King's Learning Institute, 2010) suggested that a binary tension could be avoided if teaching and research were thought of as two aspects of a more central concept, learning, which is at the core of university work. The project proposed that an evidence base for research-informed and student-centred curriculum enhancement should be developed at the level of disciplines and that students should be encouraged to become research partners in curriculum change, which allows the curriculum to act as a vehicle for student feedback on their learning experience.

Methodology and Approach

Based in a research-intensive university, a group of students investigated the ways in which research and teaching were perceived by academics to be connected in each of the component nine academic areas. Students conducted interviews in their own disciplinary area, constructing reports which represented their data collection and analysis (Kandiko & Kinchin, 2013), and to this end they are a valuable resource, providing a student perspective of staff approaches to a research-led curriculum. This offered the opportunity for multiple student voices to be part of the research, contextualised within their own disciplinary context.

This approach offers a number of distinctive features: its employment of students as researchers; its rejection of a research-teaching binary division; and its wish to go beyond the mere development of research 'skills'. The project was different to the majority of undergraduate research projects reviewed by Zimbardi and Myatt (2014) in that it was not directly embedded into any of the students' disciplinary curricula, and the students were all working beyond the boundaries of their 'home' disciplines in their research approach and as such were working with their supervisors outside the comfort of the 'commonly known' (Willison & O'Regan, 2007).

Student researchers were recruited for this study within nine academic schools, covering the breadth of fields of study and disciplines available within the institution. Students were then invited to apply for the post in a competitive process undertaken within each school. Successful applicants were paired with an academic mentor from within their own school (who

Table 17.1 Disciplines and authors represented in the special issue

Discipline	Author[a]
Arts and Humanities	Kwok (2013)
Biomedical Sciences	Cleary (2013)
Dentistry	Worton (2013)
Psychiatry	Lynch (2013)
Law	Walker (2013)
Medicine	Wickenden (2013)
Natural and Mathematical Sciences	Varambhia (2013)
Nursing and Midwifery	Hall (2013)
Social Sciences	Abrahamsson (2013)

[a]For papers, see Kandiko and Kinchin (2013)

helped to identify and approach suitable candidates to be interviewed) and with a mentor from the academic development team, who helped prepare the students for the process of interviewing and writing up a final report.

The students were part of a co-constructive development process, learning interview techniques from tutors within the academic development team through a series of seminars in which the students were engaged in discussions to identify key questions and ways to phrase them that would use language suitable for their own disciplinary settings. Outputs included student presentations (Abrahamsson et al., 2012) and final student reports were then collated through a special issue journal volume (Kandiko & Kinchin, 2013; see Table 17.1). The reports detail the findings of the students' research, and here we provide a synthesis of student voices in relation to the research-teaching nexus.

Students each conducted nine interviews within their own school: with three leading researchers, three graduate teaching assistants (GTAs) and three academic staff who have a leading teaching role (e.g. module or programme leads). The description of potential interviewees using these category headings was simply a way of highlighting the diversity of academic staff when discussing the research process with the student researchers. In discussion, it was clear that these categories are not mutually exclusive (i.e. some leading researchers are also programme leaders), and the use of these categories was more or less appropriate in the different academic departments. However, they provided a basis for discussion of the need to talk to academics that might hold varying perspectives of activities within their

departments. This was something that a few of the student researchers had not previously been aware of or considered.

Discussions with the student researchers considered the variety of staff who may be involved in teaching and/or research and factors such as age, seniority, gender and ethnicity were noted as variables to consider when inviting staff for interview. Whilst an interview sample of nine cannot fully represent a whole academic school, the students aimed to invite interviewees who were as representative as possible, within the limitations of the project. The students used anonymous quotes from their interviews to illustrate their reports on learning within their discipline and the relationship between learning in a research mode and the taught undergraduate curriculum. Not surprisingly, academic staff and students varied in their experience of such a research approach and the extent to which they felt at ease with it. Such a study cannot generate detailed quantitative data to describe a population of academic staff, but it does represent the co-construction of voices of 81 staff and the nine student researchers across an institution whose voices might not otherwise be heard. The study does not intend to extrapolate and generalise from the data, but simply represents the opinions of those who were interviewed, filtered through the students' voices. Some students also drew on wider resources, such as disciplinary literature, experiences in other institutions and wider perspectives from other students.

Students as Researchers

This work builds on published research on the development of student consultants as change agents—which have shown positive results (e.g. Bovill, Cook-Sather, & Felten, 2011; Butcher & Maunder, 2014; Cook-Sather & Alter, 2011; Dunne & Zandstra, 2011; Feldman, Divoll, & Rogan-Klyve, 2013). The recruitment of students as researchers is intended to provide a valuable insider perspective which has been previously overlooked by many studies (Partridge & Sandover, 2010).

The intention of this project was to include the students in the research process as much as possible as agentic learners (Reeve, 2013) rather than simply using students as 'data points' in a study on student voice. The

established model provided by Brew (2013) offers a useful structure to guide a review of the development of the process undertaken with the student researchers (modified and redrawn in Fig. 17.1). The topic for this research was chosen by staff, and the task structure and the research outputs were also dictated by staff rather than students. Beyond that the inquiry was open-ended in that there was no clear answer to be achieved, and the questions used in the interviews were co-constructed between staff and students, allowing an opportunity for students to voice questions not normally raised. The sectors of Fig. 17.1 which lean most towards the outer rings of the model are those concerned with originality and knowledge. There was the potential to develop understanding that was new, not just to the students, but also to the wider discipline (i.e. the 'unknown'; described by Willison & O'Regan, 2007). There was no formal assessment tied to this activity in terms of credits or scores, but a 'successful outcome' would be achieved by gaining a published report. We feel that this profile is quite typical of an academic research activity.

Students at the Centre

This work also provides an opportunity to evaluate Brew's model in practice and to offer some constructive amendments based on our experiences working with the students. We offer two suggestions: changing the central focus and adding the notion of liminality. Firstly, Brew (2013) places students at the centre of the model. Whilst we would not disagree that students are at the centre of learning, we are not convinced that placing students at the centre of this model enhances its utility in terms of decision-making, particularly if students are party to decision-making processes. The implication of placing students at the centre of the model is that it suggests a student-centred teaching approach. Recently, researchers have called for a more nuanced discussion of teaching in higher education that overcomes the deficiencies of the broad categories (student-centred and teacher-centred) that are considered to be inadequate in capturing the essence of teaching practices. Neumann (2013, p. 161) offers the view that student-centred learning is a 'complicated and messy idea that has encompassed a wide range of meanings'. Unlike student-centred contexts
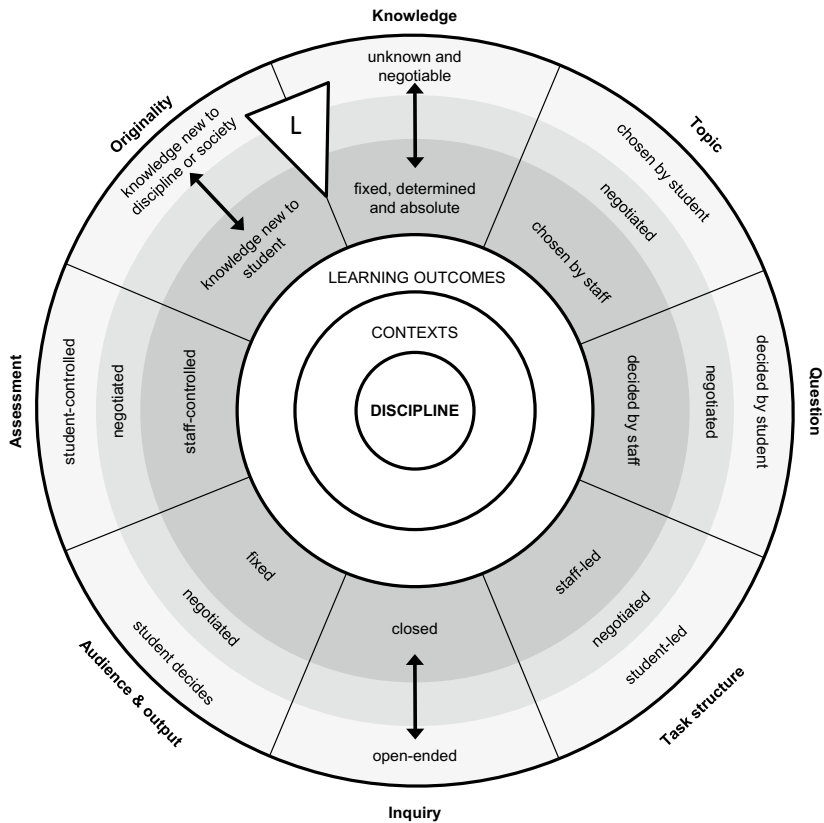
Fig. 17.1 A wholistic model for research-based learning decision-making (modified and redrawn from Brew, 2013)

that centre *on* students, or centre *in* students, those that centre *with* students are seen by Neumann to emphasise partnership between teachers and students in a reciprocal learning relationship and allow for multiple student voices. If we centre *with* students, then staff and students share a focus and that has to be the discipline. Guzmán-Valenzuela (2013) develops this to consider that the intellectual practice and field provides the ground on which complex pedagogical interactions are enacted.

Arguments in favour of discipline-centred approaches have been supported by commentators from a variety of sources. Palmer (1998, p. 116)

stated that 'the classroom should be neither teacher-centred nor student-centred, but subject-centred'. Hobson and Morrison-Saunders (2013, p. 781) conclude that 'taking a subject-centred approach is a gentle and effective way to manage power differences', whilst Winch (2013, p. 138) states that to guide students to gain subject expertise student-initiated procedures are insufficient, and that it 'needs teachers with a clear conceptual map related to appropriate ways of learning the relevant subject matter'.

If we are considering 'research as pedagogy' (Dotterer, 2002; Kinchin, Kingsbury, & Buhmann, 2018), then we have to consider the authentic research experience in which the discipline would occupy centre stage in the decision-making process, with students and teachers contributing to the contexts in which the subsequent decisions have to be made. For these reasons, we have opted to place 'The Discipline' at the centre of the decision-making model and would locate students within the 'context' ring. In addition, placing the discipline at the centre of the model overcomes the visual literacy issue generated by the original figure. Putting 'students' in the centre of the three inner rings contradicts the pattern in the outer three rings in which moving from the centre towards the edge indicating greater student focus.

Secondly, adopting a 'students-as-researchers' stance changes the traditional dynamics of the relationship between the student as passive receiver of information and the teacher as active transmitter. The student starts to occupy the space of 'student as producer', and this 'catalyses a revision of students' relationships to their teachers and their responsibilities within their learning' (Cook-Sather & Alter, 2011, p. 37). Where research leads students into a space where they have to let go of some prior conceptions, they may enter a state of liminality where progress feels difficult and they may feel temporarily stuck between the familiarity of rote learning and the goal of expert understanding (e.g. Meyer & Land, 2006). This liminal space is acknowledged in our redrawing of Brew's model (Fig. 17.1) and is represented by the triangle labelled 'L'. The triangular shape indicates that the further one moves into the outer ring of the model, the larger the liminal space. Where research is generating knowledge that is new to discipline or society, the students will share the liminal space with their academic supervisors. Part of the supervisors' role may be seen to sup-

port students with the uncertainties that come with this situation (see also Chapter 15).

Discussion

Working with students as researchers into issues of curriculum and pedagogy raised issues about power relations and the roles of academics and students. Although comfortable being interviewed by students, some academics expressed negative views about students being able to understand research or to have sufficient capability to participate in research within their disciplines. In terms of research, most academics positioned themselves as experts and students as novices or even future novices. However, in terms of teaching, there was more openness to the place of research in the curriculum.

Ownership and Empowerment

The issue of 'ownership' appeared in a number of the case studies. This was given centre stage within the title of the report given by Wickenden (2013) who describes the tensions between the 'rigid' learning experiences of the lecture theatre and the experiences that are available within the 'gold standard' of bedside clinical teaching. He asks, 'Could this experience be used as an educational model to strengthen research-teaching links and promote student ownership?' (p. 73). Hall (2013, p. 84) considers the same issue from the nursing perspective, in which an interviewee expresses the need for students to be more empowered so that they do not justify their actions by saying that 'the doctor told me to do it'. This disempowerment is explored by Wheelahan (2010) in terms of students being denied access to powerful knowledge.

Ability

The teachers' perceptions of student ability and knowledge are seen to be critical determinants in granting students access to a research-rich teach-

ing experience, with academics split between the ideas that students must either have the knowledge first before engaging in research or might gain the knowledge through a process of research. Wickenden (2013, p. 71) highlighted the comment that 'undergraduates don't tend to be in a position of knowledge to be able to influence what you're doing', whilst Abrahamsson (2013, p. 94) was told by one academic that 'first year undergrads are not theoretical enough'. However, it is clear that this 'knowledge first' perspective is not universal, and to highlight this, Abrahamsson (2013, p. 94) was also told by another academic from the same department, that: 'the lower the level of the students the better the questions, because they make me think what I am doing', whilst Walker (2013, p. 55) referred to an academic who 'stated that they gave students a draft of "scholarly material" in order to hear their comments'.

The 'knowledge-first' versus the 'knowledge through research' perspective may represent a reflection of the academics' conceptions of teaching, with the more positivist colleagues requiring the students to be given the facts in advance and the more constructivist teachers allowing for the understanding to emerge. Alternatively, it may reflect the academics' primary interests: either promoting their own research at an individual level (Fig. 17.1) with the students seen as only useful if they help to uncover that which is totally unknown, against a view in which the 'collective good' is seen as more important through the development of a research-embedded curriculum that has a much longer-term aim.

Purpose of Research

Maton (2013, p. 8) describes a widespread assumption that the goal of university education is to equip students with understanding that transcends the immediate context of the teaching when he states that 'Almost everyone in education shares a desire for cumulative knowledge-building. Researchers typically aim to generate ideas that have utility or appeal beyond the specificities of their originating contexts'. This view is complemented by policymakers proclaiming that education must prepare students for living and working in fast-changing societies by providing knowledge and skills that can build throughout 'lifelong learning'. However, for

academics to be able to take a wider perspective of their own focussed research is quite difficult for many—particularly where they may feel that their research field is so cutting-edge that it may not yet have clear application.

While there was an emerging feeling throughout many of the interviews that teaching is for the good of someone else, research was seen by some as a vehicle for their own professional development. Cleary (2013, p. 21) quotes an academic who stated, 'To do research well I think you have got to be incredibly selfish … the motivational drive for any researcher has to be themselves … ultimately it's their own progression up the research hierarchy (that motivates them) … that doesn't necessarily come across in teaching, where the rewards don't come from their progression, but from the progression of others'.

Conclusion

Engaging students as researchers brings unique insights into how both students and academics consider research in relation to the curriculum. There was a noted dichotomy of teaching as a collective endeavour, both amongst academics and for a group of students, contrasted with the individualism of research, for the academic toiling away and for a student to understand. Students-as-researchers offer a way for students to be empowered in the research process, but are largely divorced from disciplinary research. Reconceptualising research-teaching links as 'research as pedagogy' may offer a bridge to bring academics and students together in the context of disciplinary learning. This view also brings together the individualistic side of research with the collectivist view of teaching. Repositioning the curriculum as a place for staff and students to co-construct 'disciplinary learning' and place it at the centre of the academic endeavour can be the foundation for an ethos of research-led student engagement.

From the reports constructed by the students, it is clear that they are not only reporting on the research-teaching nexus as described by the academics in their institution, but they are also developing their own voice(s). The freedom afforded by the research activity allowed them to reflect upon their data and interpret it from their own contextual starting

point and showcases the heterogeneity of multiple student voices. As this group of students had a more formalised and coherent view of the range of opinions and perceptions about the research-teaching nexus across their disciplinary areas, their voices were supported by evidence and so gained authority. This then challenges notions of power and of powerful knowledge and confers an element of expertise to, and value of student voices (Kinchin, 2016).

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