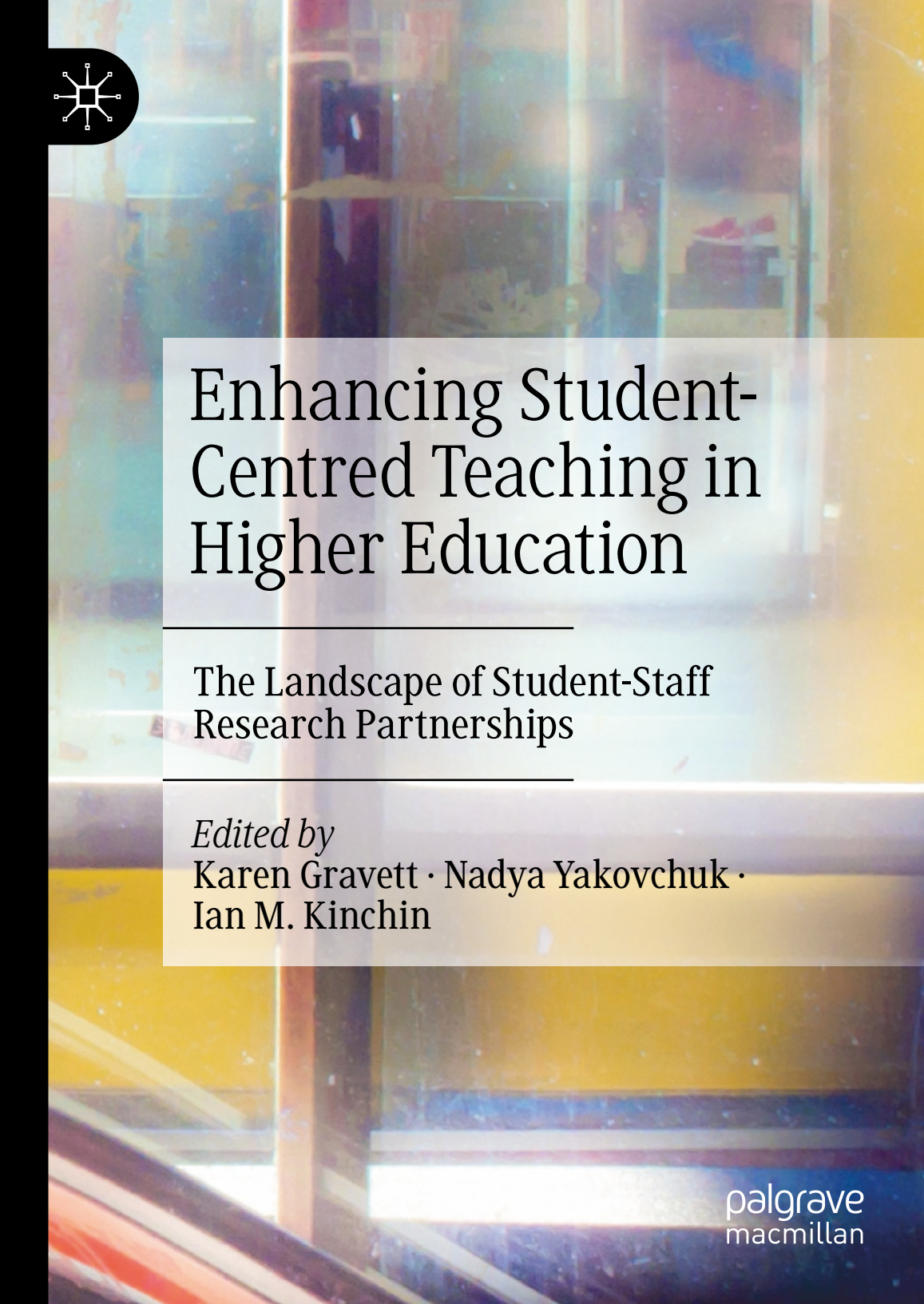

Enhancing Student-Centred Teaching in Higher Education

The Landscape of Student-Staff Research Partnerships

Edited by
Karen Gravett · Nadya Yakovchuk · Ian M. Kinchin

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Enhancing Student-Centred Teaching in Higher Education

"This book explores an innovative model of partnership between students, staff and academic developers in undertaking research into higher education practices and policies across an institution. By presenting a transformative vision of partnership in learning, teaching and research, which has the potential to change institutional culture, it addresses one of the most important issues facing higher education in the 21st century. I recommend it for readers in universities internationally."

—Mick Healey, *Higher Education Consultant and Researcher, UK*

"Born from a small group within a single institution, this book exemplifies how student-staff partnership in higher education can grow to permeate individual, institutional, disciplinary, and theoretical boundaries. Readers will find pages filled with practical examples, research findings, and thought-provoking ideas which zoom from the individual partnership relationship to the landscape of partnership across the sector. Whether new to the field or looking for developmental inspiration, there's something for everyone within this delightful anthology."

—Lucy Mercer-Mapstone, *University of Technology Sydney, Australia*

"This book has international relevance. It demonstrates the benefits of student-staff partnerships in capturing the diverse voices of both students and staff. The resulting text provides the reader with a multitude of examples of how to carry out partnership, and also allows for a deeper exploration of the theories behind the practice."

—Sam L. Dvorakova, *Ph.D. student, University of Edinburgh, UK*

Karen Gravett · Nadya Yakovchuk ·
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Foreword

The Power of Perspective

When surveying and also when shaping a landscape, it is helpful to have perspective—both a point of view and an attitude—that is informed. Student–staff partnerships draw on and afford particularly robust forms of perspective. Reflecting on his pedagogical partnership with a student, a staff member mused:

> I find it really fascinating how much [my student partner] is able to observe, which I cannot from my vantage point, and I mean this not only figuratively but also literally, as she has a line of sight into the space of the classroom which I do not have from where I stand. Her observations have helped to open up for me the space in the classroom in ways which I have not seen before.

This staff member's point about lines of sight, both literal and figurative, captures the unique potential of student–staff partnership. Staff and students create perspective by bringing together their necessarily different angles of vision. Literally, perspective is only possible when two different lines of sight operate in concert with one another—as with two eyes

looking out from the same head. Figuratively, though, it is the eyes in different heads, or the minds in different bodies, working to draw on different angles of perception, that make partnership so powerful, both in terms of point of view and in terms of attitude towards teaching and learning and the participants involved in those processes.

Such perspective-informed approaches are as important in research-focused student–staff partnerships as they are in classroom-focused partnerships, and student–staff research partnerships are proliferating around the globe. Examples include the Wabash-Provost Scholars program at North Carolina A&T State University in the United States (Cook-Sather, Bovill, & Felten, 2014), the Student Scholars Program at McMaster University in Canada (Marquis et al., 2016), the Student Fellow Scheme at the University of Winchester in the United Kingdom (Lowe, Shaw, Sims, King, & Paddison, 2017), and the Students as Change Agents programme at the University of Exeter (Dunne & Zandstra, 2011). In these and other models, student partners work with educators and/or take the lead in research projects focused on classroom and institutional, educational practices.

Shifting from research on to research with students calls upon both experienced researchers and students new to research to conceptualise themselves, to act, and to interact differently from what many are used to in more hierarchical and distanced research relationships (Cook-Sather, 2012, 2018). Cooper, Thorpe, and Alpay (Chapter 12) make these observations in their chapter about the perspective and contribution of the student partner in their research project: he had "experience of the module similar to those being surveyed, which the staff involved did not"; he could "offer explanations as to what the results of the surveys meant that were at least as valid as those contributed by the staff"; and, he could "ask his peers to participate", which might have increased participation. When students take an active role as researchers, they add not only their voices but also their interpretive frames to scholarly practice (Cook-Sather, 2018).

Staff–student partnerships do not entirely dissolve power dynamics, but they recognise and affirm not only the contributions of student partners but also the benefits to them. As student partner Julie Panzieri (Panzieri and Derham, Chapter 15) explains, she benefited from:

working collaboratively with an experienced researcher to advance her own journey in becoming a researcher; deepening her understanding of qualitative data collection and interpretation; and drawing on the findings of the research to inform her own practice. This set of benefits is a rich multiplying of perspectives for a student and contributes, in turn, to the research project.

These kinds of research partnerships that reposition research participants and their perspectives raise new ethical considerations. Bryson and colleagues (2015) have argued that partnership research is ethical when "all are granted equality of opportunity to participate and all voices, opinions and contributions are listened to and acknowledged with mutual respect and appreciation" (p. 5). Costello, Brennan, Loughlin, and Gallagher (Chapter 14) emphasise the importance of this attitude and these actions. As part of a heightened ethical sensibility, there have been increasing calls for including under-represented students in classroom-based research (Seale, 2010), in research on teaching and learning within faculty development (Cook-Sather & Agu, 2013), and within the Scholarship of Teaching and Learning (Felten et al., 2013). These are calls for inclusion for reasons of equity, for the particular insights marginalised students can offer, and for the ways that students positioned outside the mainstream can make all educational practices more informed and effective (Cook-Sather, 2018; de Bie, Marquis, Cook-Sather, & Luqueño, 2019).

This volume adds to this growing body of work that positions students alongside experienced researchers and both celebrates the benefits and wrestles with the challenges noted above. Whether considering actual space and how the teachers and learners are positioned in it (Hanratty and McNamara, Chapter 3), student perspectives on new technologies (Eslahi, Chadeesingh, Foreman, and Alpay, Chapter 7), mindfulness (Kilner-Johnson and Udofia, Chapter 19), or student experiences of a range of curricular and pedagogical innovations designed to engage students in their learning and development, these chapters illustrate the insights and practices that can emerge when staff and student perspectives work together to offer new and enriched perspective through the research process. Not only does having more than one perspective enrich the research, having more than one researcher makes

more manageable the "many unexpected hurdles that come with conducting a research project" (Cooper, Thorpe, and Alpay, Chapter 12). This cross-role camaraderie helps everyone involved keep and expand perspective.

Sometimes student perspectives can illuminate staff assumptions. For example, Evergeti and Garside (Chapter 8) write: "students seemed to be unfamiliar with the wide variety of [content capture] provided by lecturers and more importantly with the pedagogical benefits that could be gained by engaging with this material". Sometimes there is a coming together of different interests/perspectives. As staff partner Allan Kilner-Johnson (Kilner-Johnson and Udofia, Chapter 19): "Didi had a strong interest in student dialogue which aligned well with my interest in mindfulness meditation, and we saw the opportunity to investigate the relationship between these topics". Across projects there is an intentional making space for and supporting student expertise and contribution—students' essential perspectives—such as in projects "created by students for students" (Anthoney, Lowe, Gridley, and Ude, Chapter 5), alongside staff expertise and contribution.

Student and staff partners in the research projects reported here share the same apprehensions and excitements as student and staff partners in other contexts. These include the challenges and possibilities of sharing power (Hulton and Gapper, Chapter 17); working through uncertainty regarding "how the difference in the knowledge and experience levels [between the staff and student partner] would affect the development of this research project" (Flores and Elmenofy, Chapter 11); and ensuring that students' perspectives are valued because, as Katerina Ridge (Ridge and Islania, Chapter 18) notes, a student partner brings "new perspectives and fresh ideas to the interpretation of the findings of interviews and discussions". They also include finding the best balance between sharing responsibilities in research partnerships (Balloo and Vashakidze, Chapter 16; Foreman, Hilditch, Rockliff, and Clarke, Chapter 10; Pelea and Lunt, Chapter 9) and supporting students whilst also affording them autonomy (Evergeti and Garside, Chapter 8). Student and staff partners in this volume find, as in so many other examples of student–staff partnership work, that, through good communication and intentional collaboration, they can work through these complexities that are

endemic to all pedagogical partnership work (Cook-Sather, Bovill, & Felten, 2014; Healey, Flint, & Harrington, 2014).

Barnard-Jones and Rawlins (Chapter 4) model the kind of productive response to challenge that characterise the most successful partnerships: "The challenges we encountered when trying to discuss the experience of the particular project from the disparate view of the student/actor and the tutor/director led us to experiment with different forms of dialogue". Student partner Katrina Kwong (Kwong and Collins, Chapter 13) also notes "the development of courage" she experienced through the partnership work—a development that is fostered by her staff partner's "reliance on the support, expertise, and insight" Kwong offered. Working through challenges requires trust, as Barnard-Jones and Rawlins (Chapter 4) also point out. The kind of courage Kwong describes is both necessary for and developed through the dialogue of partnership.

There are also chapters in this collection that prompt more "meta" analyses of partnership as a research approach along with offering insights from the student–staff research itself. Chapter 6, focused on the potential of LEGO® SERIOUS PLAY® (LSP) in nursing education, highlights some of the central tenets of LSP, such as "everyone builds and everyone shares" and "allow plenty of time for exploring and reflection on models" (Stead, Dimitrova, Pourgoura, Roberts, and West, Chapter 6), which also illuminate productive processes of partnership. The penultimate chapter (Niculescu, Nagpal, and Rees, Chapter 20) offers helpful reminders about the importance of "creating space for new expertise" (the first part of the chapter title) and the importance of preparing for partnership. Likewise, the final chapter (Khan Sullivan and Heron, Chapter 21) revisits perennial complexities of student–staff partnerships—terminology; roles and identities; power dynamics; and inclusivity—linking up with these issues raised in the opening chapters (Ollis and Gravett, Chapter 2).

I respect and appreciate the honest ways in which the authors have wrestled with their own and each other's vulnerability, trust, and perspectives. Important about what these research-focused partnerships reveal is that students and staff do not always need to agree—to eliminate or reconcile their differences. Indeed, some of the most generative partnership work results from how student and staff partners navigate

differences and disagreements (Abbot & Cook-Sather, under review). These chapters reveal both the inevitable vulnerability of partnership and the potential of making partnerships "brave spaces" (Cook-Sather, 2016), and they offer an exciting set of insights and approaches that can come of engaged partnership work.

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List of Figures

List of Tables

1

Introduction: Context and Scope

Nadya Yakovchuk, Karen Gravett and Ian M. Kinchin

In recent years there has been considerable interest from the international higher education community in exploring how staff and students can work in partnership to carry out research, and to develop and enhance learning and teaching (Bovill, Cook-Sather, Felten, Millard, & Moore-Cherry, 2016; Cook-Sather, 2014; Cook-Sather, Bovill, & Felten, 2014; Healey, Flint, & Harrington, 2014; Little, 2011; Matthews et al., 2019; Mercer-Mapstone & Marie, 2019; Mercer-Mapstone et al., 2017; Moore-Cherry, Healey, Nicholson, & Andrews, 2016). In a key publication on student engagement through partnership, Healey et al.

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(2014) stated that "engaging students and staff effectively as partners in learning and teaching is arguably one of the most important issues facing higher education in the 21st century" (p. 7). From a student's point of view, the UK National Union of Students (NUS) (2014) emphasised that

> in order for universities to foster more inclusive learning environments, we believe that students must be empowered as active and participatory agents, not as mere consumers, so that they can articulate their own conceptions of what makes good learning environments, and work in partnership with academics and administrators to realise these conceptions. (p. 8)

The sector to date has articulated the multiple and significant benefits of partnership models; for example, Bovill (2017) argues that co-creation breaks down "the traditional barriers between students and staff'" and "opens up higher education learning and teaching to become a dialogue between staff and students" (p. 152). Healey et al. (2014) believe that partnership "represents a sophisticated and effective approach to student engagement because it offers the potential for a more authentic engagement with the nature of learning itself and the possibility for genuinely transformative learning experiences for all involved" (p. 7). Gravett, Kinchin, and Winstone (2019) contend that students as partners initiatives are emerging in universities as a means to offer a more participative agenda: to enable students to become "more than customers". At the same time, working in partnership brings some very particular challenges around, for example, status and power relations, reward and recognition, identity transformation, vulnerability and resistance to change (Healey et al., 2014), as well as recognising and respecting both student and staff voices (Cook-Sather, 2019).

This edited volume is our response, and contribution, to the expanding landscape of conversations about staff and students working in partnership. It explores the topic of student–staff partnerships through a collection of case studies in order to showcase and evaluate the ways in which students and staff can become effective co-researchers and co-creators. Covering a broad selection of interdisciplinary research projects,

this book seeks to highlight the diversity of routes that students and staff can take to work in partnership to explore ways of enhancing learning and teaching. Through exploring what such partnerships mean, and how they are realised in the context of one institution, the University of Surrey, UK, the authors consider the implications of these collaborations for a wide range of disciplines and the higher education sector as a whole. These case studies offer a variety of practical examples from different disciplines, whilst the book as a whole provides a critical, theoretical, examination of this significant area of higher education research, policy and practice.

The student–staff collaborations at the heart of this book stem from a Student–Staff Research Partnership Project—a university-wide initiative led by the Department of Higher Education at the University of Surrey. Launched in 2018, the project's aim was to establish and support student–staff research partnerships to enhance student-centred practice across the institution, and to develop an embedded culture of pedagogical research. This was in line with the institution's Education Strategy focusing on the key values of being "student-centred, co-developed with students, and inclusive" (University of Surrey, 2019).

This partnership work was supported by institutional funding allocated via an internal Teaching Quality working group through which a call was announced requesting invitations for tender from student–staff teams. Eighteen of these research projects form the core of this book (Chapters 3–21). Whilst staff did this work as part of their contracted workload, student partners received a small bursary based on an expectation that the project would take up no more than 25–30 hours of their time. The students were involved in formulating the details of the projects, collecting and analysing data, and contributing to the final write-up. Projects obtained ethical clearance through the institutional research ethics procedures.

Our role in this project was not only to act as editors of this publication, but also to form a project team to support the evolving partnerships. This involved providing ongoing developmental opportunities

to the participants throughout the life of the project. The project partners were encouraged to work within the framework of the values identified by Healey et al. (2014) as underpinning successful student engagement through partnership: authenticity, honesty, inclusivity, reciprocity, empowerment, trust, courage, plurality and responsibility. Workshops and guidance were provided for staff and student partners to support the development of appropriate research skills and to ensure consistency in the format of the final chapter, and we were available to provide additional support throughout the project. In addition, chapter author teams were paired up and had an opportunity to review and comment on one other chapter during the peer review stage and, likewise, receive feedback on their own draft from another project team. As such, the project involved a high level of collaboration on a number of levels: between student and staff partners, between the project team, between the project team and partners and between the partner teams themselves.

What resulted from this dedicated effort is the edited volume in front of you. All chapters, apart from the Introduction (this chapter) and Conclusion (Chapter 22), have been co-authored by the staff and student researchers. The book is organised into four thematic parts. These parts encompass different aspects of student–staff partnerships: creative and innovative partnership approaches; evaluating teaching approaches; partnership approaches to assessment, feedback, and student–staff dialogue; and reflections on the themes generated by student–staff partnerships. A distinctive feature of the book is the use of reflective vignettes at the end of each case study. Co-authored by students and staff, these vignettes provide insightful reflections upon the projects, outlining the benefits of individual collaborative partnerships and examining some of the challenges the partners faced. We hope that these vignettes have allowed both students and staff a further opportunity to "develop voices that both speak respectfully and are self-respecting" (Cook-Sather, 2019), and that this open sharing of experiences will inspire others to engage in similar projects, as well as inform their efforts in doing so.

In this introductory chapter, we present the rationale for this book, situate the student–staff partnership case studies that constitute its core within the institutional context of the University of Surrey and the wider

higher education agendas and debates, and outline the scope of this volume by providing a brief overview of each individual chapter. The literature review (Chapter 2) by Ollis and Gravett examines the growing literature on Students and Partners, considers the benefits of student–staff partnerships as an antidote to dominant consumerist visions of higher education and as a way of promoting and celebrating the potential of students and their voices, and explores a number of challenges to engaging in, and scaling up, successful student–staff partnerships. As such, the book itself does not only seek to present a straightforward vision of transformative partnership practices as a means to solve the many challenges experienced within higher education today, but it also examines the difficulties and barriers inherent in such collaborations.

Part I, *Collaboration and Creativity: Exploring Innovative Partnership Approaches*, encompasses five chapters that examine several innovative approaches and tools aimed at enhancing learning and teaching in, and across, a range of disciplines. Chapters 3 and 4 report on the collaborations within the University of Surrey's Guildford School of Acting. Hanratty and McNamara in Chapter 3 discuss, through comparing traditional university lecture theatre settings and more flexible acting studios, how space can facilitate dialogic and collaborative learning. In turn, Barnard-Jones and Rawlins in Chapter 4 explore, using a dialogue-based approach, how the relationship between the student and the tutor needs to adapt during the actor training process, and what student-centred learning means in that context. Chapter 5 by Anthoney, Lowe, Gridley and Ude reports on a unique collaboration between centrally based learning development staff and a group of high achieving students to collaboratively develop and pilot an educational Escape Room for incoming students, with student-designed puzzles focusing on raising new students' awareness of the support services available on the University campus. Stead, Dimitrova, Pourgoura and West in Chapter 6 examine the benefits of playful learning. They report on two collaborative action research case studies of final year Nursing students aimed at exploring how LEGO® SERIOUS PLAY® can be used for educational purposes to improve student engagement and enhance skills of critical analysis and reflection. Chapter 7 by Eslahi, Chadeesingh, Foreman and Alpay explores the value

of 3D printing in Engineering education through a review of the literature and a study of students' and recent graduates' experiences and perceptions of the benefits and potential uses of 3D printers in Engineering programmes.

The seven chapters in Part II, *Evaluating Teaching and Learning Approaches*, cover a range of disciplines from all three Faculties of the University of Surrey, and adopt a critical lens to examine and evaluate learning and teaching in various formats. Both Chapters 8 and 9 focus on exploring the benefits and challenges of using captured content (and, more specifically, lecture capture) in higher education from the perspectives of students and staff. Evergeti and Garside in Chapter 8 focus in particular on students' experiences of, and engagement with, lecture capture, as well as academics' views on, and practices around, using lecture capture, and captured content more broadly, in their teaching. Pelea and Lunt in Chapter 9 evaluate a "flipped classroom" approach to using lecture capture on one module in Event Management and discuss teacher-centred and student-centred learning with reference to Rancierian concepts of "police" and "politics". Chapter 10 by Foreman, Hilditch, Rockliff and Clarke examines the benefits and drawbacks of physical and virtual laboratory classes in Mechanical Engineering and explores whether remote laboratories and simulations are perceived as a viable substitution for physical laboratories. Flores and Elmenofy in Chapter 11 provide an overview of the transferrable and subject-specific economic skills developed by students on Professional Training Year Economics placements based on the analysis of these students' placement reports. Cooper, Thorpe and Alpay's focus in Chapter 12 is also on the development of transferable skills (namely leadership, communication and teamwork) within an undergraduate Chemical Engineering module that utilises pilot plant equipment through a project-based learning approach. Kwong and Collins in Chapter 13 offer an evaluation of an undergraduate Nutrition curriculum based on semi-structured focus group interviews with students, relating their findings to the five core professional competencies required for nutritionists. Finally in this part, Chapter 14 by Costello, Brennan, Loughlin and Gallagher explores students and staff perspectives on student engagement within a blended

learning ethics education component of a core module for first year healthcare students at the School of Health Sciences.

The five chapters in Part III, *Partnership Approaches to Assessment, Feedback, and Student–Staff Dialogue*, explore, and offer suggestions for, ways of enhancing institutional assessment and feedback practices, and maximising opportunities for dialogue between students, as well as between students and staff. Panzieri and Derham in Chapter 15 discuss student nurses' experiences and perceptions of verbal feedback. They also examine some of the challenges associated with developing sustainable feedback practices that would enhance their learning and professional practice, as well as student and mentor feedback literacy. Balloo and Vashakidze in Chapter 16 explore how feedback portfolios can potentially facilitate proactive recipience of feedback by students and what may be the barriers that students experience when engaging with the VLE feedback portfolio developed at the University of Surrey. The focus of Chapter 17 by Hulton and Gapper is on comparing the potential of and students' preferences between traditional (PowerPoint) and novel (Go!Animate) types of presentation software used for assessment purposes. The two remaining chapters in this part focus on facilitating dialogue. Whilst Ridge and Islania in Chapter 18 report on a study that sought to find practical ways of encouraging undergraduate Chemistry students to engage in dialogue during lectures and tutorials, Kilner-Johnson and Udofia in Chapter 19 report on their investigation amongst undergraduate English Literature students into whether, and how, mindfulness meditation techniques can facilitate peer-to-peer dialogue in seminars.

Finally, the Chapters in Part IV, *Staff–Student Partnerships: Reflections and Considerations*, offer a range of discussions of, reflections on and practical suggestions for establishing, developing and evaluating student–staff partnership initiatives. Niculescu, Nagpal and Rees in Chapter 20 provide an in-depth exploration of the experiences and perceptions of partnership work amongst students and staff previously engaged in partnership projects, and discuss the lessons that can be learnt from their experience. The focus of Chapter 21 by Khan Sullivan and Heron is on some contentious areas that pose challenges to successful student–staff initiatives, namely the multiple understandings of partnership, and

issues around identity construction, power relations and inclusivity. The authors argue for using the process-product/activity-approach framework to initiate, develop and evaluate partnership work. In the conclusion (Chapter 22), we present our reflections on the lessons learnt from the extensive partnership work presented in this volume, offer some suggestions for possible ways forward, and muse on some of the most pressing questions that come out of partnership experiences.

There is still much to learn about student–staff partnerships, both in the sharing of practical examples, as well as in the examination of partnership working and its impact on key concepts and considerations relating to learning and teaching in higher education. Not only does this edited volume seek to offer a range of models from across the disciplines for others to use as a guide, but it also endeavours to unpack the concept of a more "authentic" approach to engagement further, by examining a diversity of student–staff partnership projects in order to understand more about these transformative learning experiences. All this, we hope, will help us make a step forward towards both a fuller, and a more nuanced, understanding of the rich and varied landscape of student–staff partnerships, in order to help transform institutional cultures by incorporating a more participative and student-centred value orientation. As stated in the NUS Manifesto for Partnership: "at its roots partnership is about investing students with the power to co-create, not just knowledge or learning, but the higher education institution itself" (NUS, 2012, p. 8).

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2

The Emerging Landscape of Student–Staff Partnerships in Higher Education

Lucie Ollis and Karen Gravett

What Is a Student–Staff Partnership?

Within the context of higher education, students as partners is a way for students and staff to work together to enhance learning and teaching (Cook-Sather, Bovill, & Felten, 2014; Mercer-Mapstone et al., 2017). Healey, Flint, and Harrington (2014) offer this useful definition, where partnership is:

> staff and students learning and working together to foster engaged student learning and engaging learning and teaching enhancement…partnership is a relationship in which all participants are actively engaged in and stand to gain from the process. (p. 7)

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Of course, students may be "engaged" in a variety of different ways, including quality assurance, research strategies and even institutional governance (Healey, Flint, & Harrington, 2016). Deeley and Bovill (2017) argue that students should be involved with designing assessment and feedback processes to enhance their learning experience and assessment literacy. Students may take on a number of different roles such as consultant, co-researcher, pedagogical co-designer and representative (Bovill, Cook-Sather, Felten, Millard, & Moore-Cherry, 2016), and partnerships could be situated within a module, or across an entire programme of study, as well as outside or within course curricula (Mercer-Mapstone et al., 2017). Matthews (2016, pp. 2–3) explains that, crucially, this engagement is underpinned by a new mindset, that the:

> students as partners discourse focuses on student-academic partnerships as a process for engaging with rather than doing to or doing for students. The linchpin of partnership is a relational process between students and academics/staff underpinned by a mindset – and an institutional culture that values the collaborative interaction between all members of the university community.

In today's marketised higher education environment, universities are under increased pressure to engage their students (Carey, 2013). However, researchers have suggested that within this increasingly economically driven higher education context, including students in student–staff partnerships has the ability to offer space for an alternative institutional culture (Gravett, Kinchin, & Winstone, 2019; Kandiko Howson & Weller, 2016; Matthews, 2016).

Benefits of Student–Staff Partnerships for Students

In their systematic review, Mercer-Mapstone et al. (2017) reported that 92% of their reviewed papers reported positive outcomes for students as a result of partnership, and the authors found that over half of the papers mentioned increased student engagement or motivation. In

addition, students also reported having increased confidence and self-efficacy, increased understanding of staff and an enhanced relationship between students and staff. A literature search in this area has shown four main benefits for students including enhanced engagement and learning, personal development, positive relationships and skill development/employability.

Enhanced Engagement and Learning

Students have commented that engaging in partnerships can have many positive outcomes including enhancing others' learning, having a deeper understanding of their learning and the teaching they receive, as well as feeling more responsible for their learning (Jarvis, Dickerson, & Stockwell, 2013). Deeley and Bovill (2017) found that including students in assessment and feedback processes can have positive outcomes for students' engagement. The students in their research felt that they had a level of autonomy within their work, which led to responsibility, enhanced engagement and to the students adopting a deeper approach to learning and increased confidence. Partnerships may also allow students to feel empowered and to develop an increased sense of belonging (Moore-Cherry, Healey, Nicholson, & Andrews, 2016).

Personal Development

In their qualitative analysis, Curran (2017) found that personal development was one of the most prominent benefits of student–staff partnerships. Curran (2017) reported that students and staff felt that their self-knowledge had greatly improved, and that students and staff had gained new ways of thinking, new skills and increased confidence. In addition, students have reported that taking on a consultant role in a student–staff partnership increases their confidence and communication skills as well as enabling them to be more aware of the university's teaching and learning approaches (Jensen & Bennett, 2016). This is supported by Mihans, Long, and Felten (2008) who found that, through working with staff in partnership, students gain confidence in themselves which is transferred

to other areas of their lives. Likewise Bergmark and Westman (2016, p. 37) found that co-creating the curriculum enabled the "transformation of students' views on teaching and learning".

Positive Relationships

Although there is evidence that issues of power are still present in the relationships between staff and students working in partnership, research has shown that staff and students often report positive changes in these relationships. Maunder (2015) found students and staff valued the opportunity to work in a new collaborative way. Students have reported that working with staff in consultancy roles allowed them to feel more equal by creating a space where students and staff can work together outside of traditional roles (Jensen & Bennett, 2016). Students have also reported that working in partnership can reduce the barriers between staff and students and create a friendly and interactive environment (Curran, 2017). Staff also reported that partnership allowed them to get to know their students better (Maunder, 2015). From the perspective of the student, researchers have found that students also value the professional contacts they receive as part of working with established researchers (Ahmad et al., 2017).

Skills Development/Employability

Research skills and experience are often cited as important benefits of partaking in student–staff partnerships for students by learning through doing (Bovill et al., 2010; Diaz et al., 2015; Maunder, 2015). Maunder (2015) suggests that working in partnership with staff allows students to gain valuable research methods skills. These research skills are thought to be "valuable CV material" (Maunder, 2015, p. 4). In addition, Jarvis, Dickerson, and Stockwell (2013) suggest that engaging in a partnership can increase employability skills for both students and staff. This is shown by students' success in achieving interviews for new roles after taking part in a partnership project.

Benefits of Student–Staff Partnerships for Staff

Key benefits for staff, as cited by Mercer-Mapstone et al. (2017) are thought to be an enhanced relationship with students, development of new approaches to teaching and increased understanding of students' experience. This is echoed by Conner (2012), and Charkoudian, Bitners, Bloch, and Nawal (2015, p. 7) who describe partnership as leading to "mutual understanding and admiration". Gravett et al. (2019, p. 10) explain how partnership can lead to "a vibrant exchange of ideas" and a more "flexible pedagogic culture". Cook-Sather (2016) explains that opportunities for new academics to engage in dialogue with students outside of the standard teacher–student relationship can help staff to develop their academic identities. Notably, Gravett et al. state that the benefits of partnership for all go beyond individual practices: "partnership is not simply an individual practice but an ethos: a dialogic and values-based approach to learning and teaching" (2019, p. 13).

Challenges to a Successful Partnership

Although there is much evidence to suggest that student–staff partnerships are beneficial, there are of course also potential challenges to successful partnership practices. Our literature search has found a substantial amount of literature discussing the challenges, with the majority of research conducted from a staff perspective. It is possible that there is less published material reporting the more undesirable outcomes of student–staff partnerships from students' perspectives as they may feel unable to openly discuss these challenges. In Mercer-Mapstone et al.'s (2017) review of literature in this area, the authors found few students reporting negative outcomes such as issues relating to power, lack of improvement in the desired area and decreased motivation, engagement or ownership for learning. On the other hand, although also in the minority, some staff reported that partnerships caused feelings of vulnerability and increased stress, and reinforced the issues of power in the relationship.

Power Relations

Due to the nature of the traditional roles that students and staff occupy, a prominent theme in the literature is the difficulty of power relations. Deeley and Bovill (2017) argue that the roles students and teachers traditionally adhere to are socially constructed. These traditional roles may be reinforced by our interactions as well as our social practices, where the power is more often held by a lecturer rather than a student (Allin, 2014). Ultimately, staff wield power in terms of students' grades, and degree outcomes (Deeley & Bovill, 2017). Students have argued that the traditional student–teacher model in higher education is "rigid, hierarchical, and dismissive of student contributions and expertise about how teaching and learning should be conducted" (Matthews, Dwyer, Hine, & Turner, 2018, p. 961).

In Mercer-Mapstone et al.'s (2017) systematic review, the authors found that students suggested that partnerships reinforced existing hierarchical structures. Furthermore, staff were also concerned that partnership with students reinforced pre-existing inequalities. When involved in curriculum design meetings with staff, Carey (2013) found that students often felt outnumbered, uncomfortable and occasionally threatened as a result of intrinsic power imbalances, and that students needed further support to be able to successfully contribute to meetings. From the perspective of staff, Murphy, Nixon, Brooman, and Fearon (2017) found that handing over power to students challenged staff members' perception of their professional legitimacy. Academics could perceive student partnerships to be threatening and may be more reluctant to share power with students (Bell, 2016). Staff have also reported that working in partnership with students can make them feel overwhelmed and vulnerable (Cook-Sather, 2014a), perhaps due to the fact that they have to share aspects of their teaching and learning with students.

A further consideration is the differences that may arise in partnerships with postgraduate, rather than undergraduate students. For example, in case studies of student–staff partnerships in undergraduate and Master's programmes in geography, the students enrolled in a Master's programme had entirely different demands placed on them, perhaps due

to the assumption that their partnership possessed more merit than those including undergraduate students (Moore-Cherry et al., 2016).

Curriculum Design

Another emerging theme in the literature is the challenges of including students in the design of curriculum in higher education. Bovill and Woolmer (2018, p. 419) explain that the principles of partnership "provide a set of values that could guide co-creation *of* and *in* the curriculum". However, academic staff report that the idea of sharing control with students in terms of creating curriculum can be threatening, risky and nerve-wracking (Bovill, 2014). Staff may also be under pressure from institutions to deliver programmes within a specific time frame and budget, which could increase their reservations (Bovill, 2014).

Some staff have reported that students should not get involved in particular aspects of curriculum design, such as subject content, as students are not perceived to have the expertise to contribute (Murphy et al., 2017). Furthermore, researchers have suggested that students do not have the ability to gauge whether teaching is effective for their fellow students or whether the content of the course is correct (Kandiko Howson & Weller, 2016). However, Brooman, Darwent, and Pimor (2014) conducted a study with staff and students regarding the value of students' input in curriculum design and found that students' collaboration created tangible benefits such as improved mean marks and pass rates, improved perception of the module from students, increased attendance and more interest in pursuing a career in the course topic. Similarly, Bunnell and Bernstein (2014, p. 5) found that: "including undergraduates in the design conversation did not lower the level of discourse, but instead it illuminated aspects of the learning experience that were not visible to faculty members". Lubicz-Nawrocka's recent study (2018) suggests that co-creation of the curriculum can be a collaborative and rewarding form of teaching and learning that can benefit both staff and students.

Therefore, the literature shows that students can have a positive impact on curriculum design in higher education, depending on their level of knowledge in the specified area. It may also depend on the requirements

of professional bodies, for example, the British Psychological Society in Psychology requires universities to include certain course material and research methods in order for the course to be accredited. This is important for students when they are applying for jobs or postgraduate courses. Due to requirements from professional bodies, it may not always be appropriate for students and staff to work in partnership to co-create courses. Professional bodies may require institutions to teach students specific knowledge and skills which may hinder their ability to take part in co-creating curriculum (Woolmer et al., 2016). Staff may need to take the lead in certain areas to ensure that they adhere to regulatory bodies' guidelines and that their course will be accredited by the professional body (Bovill, 2014).

Transience/Time

Some research has suggested that time is regarded as a key barrier (Bovill, 2014; Murphy et al., 2017). For example, Marquis, Black, and Healey (2017) suggest that funding and time are two of the biggest challenges of a successful partnership as the project is likely to consume substantial time and energy, partly due to the fact that it takes time to build a relationship between staff and students. Students mention that trying to find a good balance between spending time on their studies and taking part in partnership opportunities, such as co-developing curricula, are a challenge to partaking in partnership activities (Woolmer et al., 2016). Students may have other responsibilities such as family commitments and paid work which may limit the amount of time they have available to spend on extra projects (Huxham, Hunter, Mcintyre, Shilland, & Mcarthur, 2015). In addition, Little (2016) suggests that a number of the issues relating to successful development of student–staff partnerships can be attributed to the issue of transience. As students are only enrolled in a University course for a limited amount of time, it is likely that some projects will not be completed by students by the time they leave, which could cause some frustration from both the students and staff (Little, 2016).

Students may also take more time to become comfortable enough within the student–staff relationship to engage with partnership activities. Bovill, Cook-Sather, and Felten (2011) suggest that if staff view a partnership as too time-consuming, they should start with smaller, more manageable projects and increase their level of involvement to a point where they feel comfortable. Furthermore, researchers have argued that to undertake an inclusive partnership, it requires staff and students to work differently rather than consuming more time (Moore-Cherry et al., 2016).

Capability

A recurring theme in the literature is that students may lack confidence when working with staff, which could be attributed to their view of staff as an authority figure (Little, 2016). However, students have reported that working with staff and being given responsibility, such as organising a conference, had increased their confidence year on year (Little, 2016). Furthermore, Bovill (2014) found that when students and staff co-create course curriculum, students' performance increases due to improved motivation and confidence.

Students being included in higher education teaching practice and pedagogical conversations contradicts norms and prevailing notions that students do not have the experience, nor understanding to inform decisions (Cook-Sather, 2014b). Cook-Sather (2014b) suggests that as a result of the preconceived ideas of students' capability, the partnership may become threatening, disappointing and even disruptive. A few students enrolled in an institutional bursary scheme expressed that they felt staff talked down to them and under-estimated their competence (Maunder, 2015). Maunder (2015) also reported that some students felt as if their capabilities had been over-estimated by staff and therefore questioned whether the level of guidance provided could result in dissatisfaction with the student's contribution. In contrast, Ahmad et al. (2017) raise an important point with regard to students' capability of working with staff on research projects. The researchers suggest that staff should raise their expectations of students; in their particular programme, it was

found that staff were surprised by the students' level of competence. This research suggests that it is important for staff to gauge students' capabilities and provide them with opportunities which are manageable but challenging. Students should also take some responsibility in terms of their capability and ensure they are honest about their abilities before commencing a partnership.

Although some of the literature around students' capability is negative, other research has found that staff are very positive about the value of students' contributions, due to their lack of disciplinary and pedagogic expertise, perceived naivety, jargon-free insights and non-expert views (Kandiko Howson & Weller, 2016). Kandiko Howson and Weller (2016) discuss how the unique perspective of the student enabled the staff to understand the students' learning experience in more depth and in this way, they were seen as an "expert" in this area.

Authorship

Authorship is often a source of tension when staff and students are working in partnership with the aim of publication. Power dynamics are often present within discussions about who should be given authorship and at what level (Ahmad et al., 2017). To highlight this issue, Mercer-Mapstone et al. (2017) found that although students and staff may work collaboratively on a project, this does not always result in co-authorship. They found only a third of the papers in their systematic review included students as authors, with the majority of first authors being staff. This questions the perceived value of students' contributions.

Representation

Another issue highlighted in the literature is how representative the students selected to take part in partnerships are of the student population. Frequently, those chosen to participate in partnerships are top of their class, are from a privileged background and take part in similar activities more regularly than other students, biasing the representation of these students of their fellow students (Marquis et al., 2017). Furthermore,

students nearing particular milestones (e.g. final degree year) may be less likely to engage in student–staff partnership projects due to their focus on their results, grades and portfolios rather than gaining skills and creativity through time-consuming projects (Moore-Cherry et al., 2016). The partnership could also simply end when the student finishes their degree programme (Marquis et al., 2017).

Bovill et al. (2016) discuss the importance of a transparent selection criteria in establishing and maintaining trust in these relationships to ensure that the partnership is effective and the views of the whole class or cohort of students are heard. Bovill (2014) suggests that clear criteria for selection of students for partnerships need to be adhered to, to ensure that there is limited impact upon those students who are not selected. A solution could be to include all the students the collaboration could have consequences for, but this is not always possible and is logistically challenging (Bovill et al., 2016).

Another challenge which often faces partnerships in education is funding. Although students may have the opportunity to be paid for their work with staff, volunteer positions may cause disparity in students' ability to complete the partnership. Some students may not be in a financial position to work on a project without getting paid, thus giving certain students an advantage and creating a partnership which may not be representative of the student population. This is especially important when students are involved in projects involving curriculum design, as they are representing the views of the rest of the enrolled students.

However, although the above evidence discusses the negative aspects of including a limited number of students, some research suggests that partnerships create a "ripple effect" which describes the effect students have on other students after working with staff (Curran, 2017, p. 8). It is thought that engaging in these relationships could increase other students' attendance, engagement and participation in the classroom due to the influence of staff through students (Curran, 2017).

Implications for Future Practice of Partnerships

Little (2016) has suggested that a key contributor to the success of student–staff partnerships is an "educational developer", who acts as a constant anchor point for staff and students and helps to deal with any issues relating to student transience. In addition, Murphy et al. (2017) suggest that to diffuse any potential issues related to power in student–staff partnerships, a student facilitator is key to a positive outcome. This research highlights the importance of an impartial party in the success of student–staff partnerships where issues can be raised that students or staff may not want to raise directly with each other.

Authors have also suggested that in order for a successful partnership to develop and reduce students' concerns in assessment processes, both students and staff should be open and honest and the staff member should be clear about the intentions of the partnership from the very beginning (Deeley & Bovill, 2017). In relation to this suggestion, Woolmer et al. (2016) have also suggested that staff and students should explicitly discuss their expectations of both the partnership process and final product before embarking on the relationship to ensure a successful partnership. To summarise, Marie and Mcgowan (2017) suggest that uncertainty about staff and student roles in a partnership can be paralysing, leading to staff feeling uncomfortable about trying to redirect the project and students feeling unable to challenge staff on the path they take with the project. Before entering into a partnership, staff and students should work together to create a project plan to ensure that the project runs smoothly (Bovill et al., 2010).

Reflective Vignette

Lucie

Having been an undergraduate, Master's and now PhD student, I can see how my relationships with staff have become more collaborative since beginning my academic career in Psychology. Working collaboratively with Karen

and other members of staff in the Department of Higher Education on this project has been great experience for me. From the very beginning, I knew exactly what was expected of me for the project which enabled me to utilise my time and skills to our advantage. Throughout my time working on the project, Karen always treated me as her equal and our meetings were always more of a conversation, rather than Karen taking the lead as the staff member. When I felt behind where I wanted to be with the project, Karen was supportive and encouraged me to keep going. Her feedback was always positive and made me feel more confident in my ability to write a good book chapter.

Karen

Working with Lucie has enabled me to benefit from her insight as a recent student, together with the skills she has amassed during her studies, and she has brought great expertise to the project. We have worked collaboratively, and shared responsibility to write and edit this chapter. Lucie has brought perspectives that I would not have considered to the work. This experience has inspired me to seek more partnership opportunities with students in my work due to the value that a plurality of perspectives and a more recent higher education student experience can offer. One significant challenge of our partnership was time as it would have been great to have spent longer working more closely with Lucie. This challenge reminds us of the practical difficulties that can occur with short-term partnership projects, as we have explored in this chapter.

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Part I

Collaboration and Creativity: Exploring Innovative Partnership Approaches

3

Student Experience: Perspectives on Learning in the University and the Conservatoire

Seán Hanratty and Anna McNamara

Introduction

The Guildford School of Acting (GSA) is ranked amongst the UK's most highly rated institutions for student satisfaction for its vocational courses, for example via the National Student Survey (Office for Students, 2018). GSA offers professional training at foundation, undergraduate and postgraduate levels in Acting, Actor Musicianship, Musical Theatre and Theatre Production, as well as academic courses in Dance and Theatre, delivered on site and via online and distance learning. Since its merger in 2010, GSA has been part of the University of Surrey, where (at the time of writing) the authors are a second-year undergraduate student on the BA (Hons) Acting programme, and the school's Director of Learning and Teaching. The observations and reflections that follow arise from a student's experience in both a traditional university setting as well as in a contemporary UK actor training conservatoire, with the commentary

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to offer additional voices to add criticality and authenticity. This chapter proposes that pedagogic lessons may be drawn from the learning and teaching practices of the acting studio (the main learning space of the training actor) and applied more generally within higher education to the benefit of the wider student experience. Reflections of the authors are triangulated with the views of key figures in the conservatoire (Dominic, a programme lead, and Anna, a movement tutor) who were interviewed by the student co-author and who chose to revoke their anonymity and be identified by name in the chapter as active contributors to the teaching environment under discussion.

Teaching Spaces: Traditional Actor Training Conservatoire Settings

The spaces we teach in affect not only the mode of delivery, but also the way in which information is received and then subsequently processed (Byers, Imms, & Hartnell-Young, 2014). Although the field of research into this area of pedagogy is still growing (Beery, Shell, Gillespie, & Werdman, 2013), it is becoming evident that a mere change of configuration of space is insufficient to make a demonstrable impact upon learning (ibid.). A considered and reflective response to the strategic employment of learning and teaching spaces as pedagogic tools is required. Where pedagogy interplays with the space, student outcomes and engagement can be found to respond positively (Byers et al., 2014).

Within the context of this small-scale reflective study at a UK actor training conservatoire, the majority of interaction takes the form of workshops held in acting studios. These spaces are large and clear of any furniture, with natural light, double height ceilings, sprung floors, integrated sound systems and a mirrored wall for use in dance classes that can be covered by a curtain if required. These spaces, referred to in this chapter as studios, are designed to accommodate practical work including, but not limited to, dance, movement and acting. The space in which these classes are held is carefully considered, from the levels of lighting, the ceiling height, natural light, to the acoustics of the space. Together they all play a role in how a student learns to behave and interact in a

professional acting environment. These types of classes require a space in which the participants and tutors can move around freely with little impediment and little requirement for fixed projection. In this way there is no set "front" to the studio, enabling its arrangement as a truly flexible teaching space.

The twenty-first-century higher education landscape is currently dominated by the challenges of competition, economic sustainability and student satisfaction (Wong & Chiu, 2017). Flexible learning spaces are not seen as the most efficient use of space in terms of maximising occupancy as they limit the class sizes for delivery, often resulting in multiple taught sessions, which are not financially optimal modes of delivery. The measure of utilisation, "which is defined as the percentage of available 'seat-hours' that are employed" (Beyroughy et al., 2009, p. 130) where "a utilization of 100% corresponds to every seat being occupied at all available times" (ibid., p. 130), would identify the most efficient way of using space, if the objective is passive knowledge delivery, as the lecture hall, which is the most efficient way of communicating with a maximum number of students face to face at any one time. Lectures, by their performative nature as outlined above, also lend themselves to lecture capture by filming the session and posting to a virtual learning environment, as the majority of the focus is centred on the static tutor.

The lack of writing surfaces inevitably means that these studio spaces are inappropriate for students engaging in lengthy periods of extended writing. Instead, studios open possibilities for active group work through its free use of space and ease of movement in the room. A learning and teaching environment that requires lengthy writing to take place beyond the formal contact time, yet optimises group practical work within the teaching space would be facilitated by the flipped classroom (for example, see Sams & Bergmann, 2012). The flipped classroom enables higher order learning processes such as evaluation, analysis and, importantly, creativity to take place during lesson-based contact time. This approach ensures that the teacher is available to provide hands-on scaffolding (Tharp & Gallimore, 1998) in an environment that is truly student-centred in terms of both attention and physical orientation.

For learning to be explorative and experimental in nature, the teaching must facilitate a creative setting through inventive strategies (Beery et al.,

2013). A flexible teaching space can greatly reduce boundaries between learner and teacher as the physical barriers normally provided by laptops, tables and presenter lecterns are removed. In the traditional acting studio, a more equitable ownership of space can be enjoyed, promoting a democratic approach to learning and teaching. This approach can be empowering for the learners and the tutors, removing the notion of the tutor as the all-controlling guru, leading followers in a didactic fashion. In a space that has no front, but places all occupiers centrally and equitably, all may be empowered with permission to explore, create, reflect, feedback and improve through further exploration as they collaboratively lead in the democratic dialogic space (Hatano & Inagaki, 1991).

Within this context, Dominic, programme leader of the BA (Hons) Acting, considers his role in the classroom as a coordinator of students' learning experiences. He states:

> I would define my role as a facilitator, obviously as a teacher, but the way that functions is as a facilitator; to facilitate peoples questioning around their process in relation to process that I have either been taught or experienced.
>
> (Dominic, interview)

Here Dominic explains that his role is not simply to provide information. Instead he adopts an exploratory teaching and learning style. Similarly, GSA Movement tutor, Anna, concurs with Dominic in considering herself as a facilitator rather than a tutor.

> I would use the term 'facilitator' when I am working with GSA students – it carries with it the implication that a) there is no right or wrong outcome that I wish to see, and b) I do not 'own' the outcome or result of the teaching, the students do.
>
> (Anna, interview)

Teaching Spaces: Traditional Lecture Halls

In the traditional lecture hall, the lecturer often occupies a podium, or at least holds an area with a few feet of space between the tutor and the

students, removed and elevated from the students in status. Other physical barriers, as mentioned above, might include tables, laptops, writing materials and at least, the backs of the chairs of the other learners. Whilst it is possible in such spaces to engage learners with their peers who are in close proximity, the movements in a space full of fixed furniture will be severely limited, with all bodies forced to centre on the activity of the tutor, as primary focus in the learning and teaching space. Therefore any opportunities for the students to lead the learning in a truly dialogic way are curtailed by the limitations of the space.

In the traditional lecture hall, the role of the tutor is clearly denoted by their physical dominance of the space. With the tutor placed front and centre stage, there is a clear delineation of the roles within the space. The tutor is, by virtue of their position, required to take on a performative role. This necessarily leads to high expectations of the tutor to deliver their role as the subject expert with the qualities of the actor in front of their audience (Wong & Chiu, 2017). In Seán's experience as a student, by shifting the centre of the space to the tutor, the students' role is reduced to an audience member, passively receiving the information as an observer, rather than as a participant of their learning who can be engaged both physically and creatively. If, however, the tutor were to be placed in amongst the learners in a shared creative space, the learning itself may become the primary focus of the lesson. Thus, the dominant presence of the tutor as expert/guru may become neutralised, as participants may be more democratically engaged in the learning process. The pedagogic possibilities are enhanced by a space that prioritises freedom of communication and interaction. Anna states:

> Where I place myself in the room has an impact on how the student learns. If I place myself in the [space], they focus less on why they are doing something and get on with it – unconscious learning. If I place myself in the circle but lead the [work], they learn they all have an equal role in the outcome. If I place myself around the edge of the room and offer vocal guidance only, their learning is experiential and individual, and does not require the student to 'do it like this/me'. If I place myself in front of them, they learn that there is a desired aesthetic outcome for movement to look a certain and specific way.
>
> (Anna, interview)

From the perspective of the conservatoire student, the learning within the studio, just like the lecture hall, has a role in the way information is communicated. However, the way this information is delivered is vastly different. The difference lies in how the person teaching the session utilises the learning space, and how the student and teacher relate to each other within the space.

When investigating the impact of learning spaces, Ramsden (2011, p. 453) discovered that harnessing popular social media technology could improve student engagement with their learning and interaction with one another, stating that tools such as Twitter enable "easy communication through every day, familiar methods harnessed in the teaching space". However, although such tools may be useful alongside personal interaction, it seems an unnecessarily convoluted loop of communication to introduce an online social media tool to engage students with their peers and teachers within the same shared physical space.

There is an advantage to increased interpersonal interaction within teaching spaces. However, it can be exposing and daunting in a lecture hall to question the material that is being taught, in part because of the high student-to-staff ratio. It is not unusual for lectures within the UK university sector to be delivered in a lecture hall with 150 students and above listening to a single tutor. To accept and explore questions from each individual in this setting is impractical and so the student must attempt to digest the material provided. If the student becomes lost in a part of the material, it can be almost impossible to get back in and understand the rest of the class and often questions are only to be raised at certain points within the sessions, as predetermined by the teacher, rather than as required by the learner. Time is often very tightly organised in the lecture hall and questions from multiple students would take up much of that time. Importantly, there may be a student perception that their question and subsequent discussion may not even be of value to the other people in the room. Discussing the utilisation of space to enable greater student confidence when participating in learning activities, Anna highlights that:

> When teaching actor's movement, there is a need to open up the student actor's body in the space – to feel safe in it, to feel confident to share it

> with the others in the room, to feel that it is theirs in which to explore, and most importantly – but not always explicitly outlined – their relationship to it both as a practical 'space', and a conceptual performance 'space' which they use, manipulate, and move within.
>
> (Anna, interview)

Parallels and Dichotomies

Traditionally configured lecture theatres mirror the theatrical spaces employed throughout history, with the performers holding attention at the front of the space and the audience radiating beyond. In Ancient Greek theatres the seating areas in the immense amphitheatres were called "the theatron", which translates as the viewing space (Storey & Allen, 2013). The alternative nomenclature is auditorium, which means the listening space. For the Ancient Greeks, and as replicated throughout the Western World, the audience viewed and listened to the action. The actors occupied the orchestra, or dancing place. By replicating this traditional oratory configuration within our modern lecture theatres, higher education continues to hark back to an oratory tradition of knowledge transfer, where the quality of the spoken word and its performative delivery were a measurement of the value of the information (Storey & Allen, 2013). The focus is on the delivery of the material, rather than how knowledge is being co-constructed by learner and teacher. In these traditional lecture settings, any work prepared prior to the lecture is completed by the lecture facilitator and presented in a singular way to the students. This tutor-led and teacher-centred environment risks creating a potentially negative space for the learner. In this proposed scenario the student, focussed on the tutor and the information being communicated, may become passive to their own learning journey, reduced to the non-interactive activities of listening and taking notes meaning that the social aspects of learning are sidelined.

For many lectures, it is routine for PowerPoint slides to be uploaded to an online resource for the students to access before or after the lecture, often accompanied by video footage of the lecture. Although the availability of lecture capture and online access to slides can improve access to the lecture itself, the passivity of the students' role in the lecture may

be reinforced. This lack of interaction and engagement with the delivery method can serve to distance the student from their learning and their lecturer, and potentially may lead to an increase in the level of student absence from the class. Knowing that the information will be available online to read and watch could be a motivation amongst students to not attend their lectures (e.g. Edwards & Clinton, 2018).

In many cases, the value of the tutor no longer lies in how knowledgeable they are. The power and impact of the modern higher education tutor lies in their ability to effectively facilitate the students' access to the information and to their journey towards higher order learning (Krathwohl, 2002). Students are not required to merely engage with and remember the information presented to them. The demands of higher education programmes of study require them to move beyond these lower order processes towards creativity.

In the conservatoire acting studio, as with the chemistry student in the lab, or the nursing student in the hospital ward, the processes of knowledge co-construction are not didactic, but experiential and active. The student learns new information whilst exploring and experiencing the lesson facilitated by the teacher. The student becomes active in the space, and is not able to receive the information passively, but instead is pushed to understand through active engagement with tasks and objectives. However, whilst the chemist needs to occupy a space dictated by laboratory equipment and the nurse needs to occupy a space dictated by the needs of the patient, the acting student's tools are his/her body and voice. Here they need to be able to dominate the learning space. Lessons in the studio are not transferrable to PowerPoint slides and physical attendance is necessary to gain a positive student learning outcome. Dominic explains:

> As the person holding the space, or teacher, you have a power that you need to negotiate. And my process is about finding ways to hold the space, but to debunk the unhelpful implications of that power. This encourages an equilibrium of communication and observation.
>
> (Dominic, interview)

A way in which this is done is through the way both student and facilitator are positioned in the space. A regular configuration used in a conservatoire lesson is the circle. Students and the facilitator will sit together in a circle, rather than all the students in rows facing the teacher, who faces back at them. Dominic explains:

> We sit in a circle to begin because it has all of the classic resonances of what that is. There is an equality inside it, it gives us a clear structure to work from, and we know the circle can hold us, so we can be fluid and dynamic within it or away from it but we always have somewhere we can return to that is a baseline, and gives a very inclusive sensation.
>
> (Dominic, interview)

This is also made possible by the low student-to-staff ratio in GSA. This inclusive and relatively intimate grouping (of usually less than twenty people) creates opportunity for questioning and interaction. Within the circle, there are always opportunities in every lesson for reflection. There are opportunities to articulate and share experiences and learning through group discussion. There are also moments of learning through observation, where the circle is broken and the edges of the room are used. Dominic uses this to

> emphasise and energise the centre of the space, which becomes a much more observed process for the learner in the space, and that does something to the training environment. It indirectly increases the stakes of what is happening inside the space, which then allows the person who is experiencing and working on the exercise to feel the quality of observation, but to also feel the space being held by those at the side.
>
> (Dominic, interview)

This is evidence of the adaptability and flexibility of the studio space to facilitate learning. What is evident from all of this is how the space is used as a tool for learning at the conservatoire. It is not just a space for teaching. It is thought out in practice for the benefit of the learner. As Dominic explains:

> To sit in a circle is a choice. To sit in a line is a choice. To have our bags scattered around is a choice. To have everything packed away behind the curtain and have an empty space is a choice.
>
> (Dominic, interview)

Space is a tool that must be utilised with consideration. Flexible learning spaces should be able to support both traditional learning and teaching approaches, as well as promote more non-traditional, interactive and experiential approaches to learning and teaching. Teaching spaces that facilitate activity-centred tasks, accessed via group work and collaborative practices, can effectively promote participation and deepened levels of understanding via enquiry-based learning (Deignan, 2009). The focus of the programmes of study should be on the learning activity, rather than teaching tasks:

> If your focus is on learning, you measure success by assessing the student. If your focus is on teaching, you measure success by evaluating teaching. However, these two are not so easy to separate. Student learning and good teaching are inextricably bound. (Beery et al., 2013, p. 383)

Conclusions

Space has a considerable impact on the way students learn. From a student's early days in education right up to university level, spaces directly and indirectly influence how the student learns. The way space is utilised by the tutor or facilitator is key to the learning outcomes. An important paradigm shift that arises with the development and effectiveness of space utilisation as a pedagogic tool, is whether the space in question is viewed as a learning space or a teaching space. An increasingly creative approach to delivery, stimulated and enabled by a flexible learning and teaching space, can enable the twenty-first-century learner (Kay & Greenhill, 2012). Where traditional learning and teaching spaces can focus on "feeding" students the information to engage in critical thinking, flexible spaces, drawing from the lessons that can be learned from the acting studio, can grow to develop not only the critical thinker, but also

the collaborative, communicative and creative thinker, that is so highly prized in the twenty-first employment market.

Equally, the active engagement required by sessions that have been effectively adapted to the flexible learning space enables experiential learning. This requires physical attendance, as these classes translate poorly into lecture capture. Further research into this area, we suggest, may increase student satisfaction with the learning experience, as the student develops a direct personal relationship with their learning, their peers, their tutors and their learning community and environment. Placing the student at the centre of the university learning and teaching experience is more befitting the twenty-first-century learner. Key to this is the investigative partnership between student and teacher:

> students can be very articulate in discussing specific strengths and shortcomings of designed spaces…understanding students' perspectives in researching the use and meaning of space is crucially important.
>
> (Ellis & Goodyear, 2016, p. 153)

Reflective Vignette

The process of researching and writing this chapter as a collaborative partnership has served to explore the belief held by the tutor that truly collaborative student–staff partnerships are essential to further enhancing the student experience in higher education. The ease with which the shared perspectives on process, planning, research and writing came together testify to the values and experiences commonly held by both student and tutor. The sole challenge perceived by the tutor as author was the desire to not dominate the process, but to enable the student to co-lead and facilitate the progression of the investigation. It came as no surprise to the tutor that the student was highly invested in establishing and communicating the student perspective on this area of study.

In the early stages of the collaborative partnership, the student's fear was being unable to bring an equal level of knowledge and skill to the partnership. However, it quickly became evident that this was not required, and

that by collaborating with the tutor, the student's skills would only grow. The student accepted the responsibility not just to establish the early concept of the study but to be fully involved in decisions regarding its development and direction. This included giving perspective and experience relating to the study and doing exciting and relevant research. As well as this, the student also relished the opportunity to collaborate on the writing of the chapter, going back and forth with the tutor, expanding each other's ideas, and developing skills in writing by learning from the experience of the tutor.

The processes of both teaching and learning can be positive collaborative endeavours, resulting in valuable experiences for all partners. Acknowledging the co-construction of environments through the use of space also means an awareness of the issues and challenges with such a non-traditional approach. The same applies to the process of co-conducting research. Creative pursuits can be a personal undertaking, but that does not have to mean that it is a solitary process. Working in isolation can result in a greater sense of control but could limit the growth of the ideas under consideration.

Working in productive partnerships can inspire the creative process, but it requires negotiation of boundaries, definition of responsibility and commitment to the process. The most interesting element to the process of writing this chapter has been that is has produced more possibilities than defined answers. The student–staff partnership enhanced the consideration of the topic through the exploration of a shared experience. The spirit of this partnership provided essential insight and was core to this result. Both writers entered into the project in the spirit of curiosity, rather than expertise, which may have levelled the perceived playfield somewhat.

Initial discussions were fruitful and communicative. There was so much common experience to cover, which generated material that overlapped, but from dual perspectives. Positive, respectful and ready communication was essential to this project and the constant back-and-forth refining of the work proved to be much like the creative process of the acting studio: rewarding, challenging, constructive and collaborative. As a consequence, the working relationship between the co-authors was strengthened.

One area of challenge was defining the voice of the writing. Both authors were writing from within the same educational context but from very different positions. Interestingly, it was through co-editing the material that both authors found an alignment of viewpoints. By sharing ideas and insights on

the draft materials, both authors took on the role of learner, making constructive feedback both easier to give and to receive. This resulted in a shared understanding and articulation of a desired standard of output. This collaborative voice arose from discussion and agreement. It was labour intensive, but ultimately equitable in ownership. This approach necessitated personal reflection on the authors' own practices within their setting as respective learner and teacher, as well as co-authors.

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4

Exploring the Actor–Director Relationship in the Drama School Through a Student–Tutor Dialogue

Darrell Barnard-Jones and Trevor Rawlins

Introduction

In this chapter, we will discuss a specific project that forms part of a second-year module of the BA Acting training at Guildford School of Acting (GSA). We will be using a dialogue-based research methodology, based on the work of Plamondon, Bottorff, and Cole (2015), to interrogate the student-centred approach to learning, as defined by Neumann (2013), within a drama school. The challenges we encountered when trying to discuss the experience of the particular project from the disparate view of the student/actor and the tutor/director led us to experiment with different forms of dialogue.

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Background

Actor training in the UK is a process that (in the contemporary era) traces its traditions and methodologies back to the work of Constantin Stanislavsky (1863–1938) and his seminal work *An Actor Prepares* originally published in 1936. There are also many other influences that stretch back through the traceable history of Western drama via the theatres of (amongst many others) Shakespeare, Moliere, the Commedia Del'Arte, and right back to antiquity in both Rome and Athens. Stanislavsky's well-known work on 'emotion memory' (Stanislavsky, 1980), famously reinvented as 'The Method' by Lee Strasberg (Lewis, 1958), can also be traced back to the theatre of ancient Greece, where the actor Polus carried an urn containing the ashes of his own dead son on stage to help him connect with the emotional content of a scene from Sophocles' *Electra* (Cole & Krich Chinoy, 1970).

Until the last hundred or so years, actor training has been a process of apprenticeship. In the UK, the gradual rise of the drama school that started towards the end of the nineteenth century and saw something of an explosion in the post-World War II era, has formalised the training process to the extent that today many of the most prestigious schools offer undergraduate and postgraduate degrees in Acting and a whole range of related areas. The processes and approaches, however, still have their roots in the 'on the job' training of the artisan. The formality of contemporary higher educational practice, as it exists in UK universities, has been an important provocation to those approaches in recent years (as summarised by McNamara, 2018).

Acting is a personal art form. There are key concepts in acting, of which the previous example of Polus is just one, that link actors back through the centuries. However, almost no two actors will ever feel quite the same about those concepts. One actor's most important concept will be another's bête noire. In line with other 'new' disciplines, some concepts will mean subtly different things to differing actors, leading to a variety of terminology to describe the same concept(s). An example of this is the Stanislavskian concept of the character's 'objective' (Stanislavsky, 1980, p. 114). This can be described as the character's

'want' or 'intention' or 'need', and so on, almost ad infinitum. A further level of complication for the Anglophone world is that Stanislavsky wrote in his native Russian language, so something is also lost in the translation from source, as acknowledged by (amongst others) Carnicke (2009), Adler (2000), and Whyman (2008). The crucial point is that each actor (and therefore each actor-trainer) will need to find an embodied understanding of a key concept like this; embodied because acting is a practical activity. Having an intellectual understanding of a concept is not even a small fraction of the learning required to actually be an actor. From Trevor's experience of training to be an actor thirty years ago, he struggled with fully understanding the importance of the 'objective', and later realised that this was largely because of the word. To him it sounded too clinical and remote. He could not connect to the concept and, therefore, struggled to come to an embodied understanding. The word 'intention' feels much more useful to him, personally. He is fully aware that the reverse may be true for others. Later in this chapter we will see that Trevor's use of the word 'trust', and Darrell's reception of that word, operated on this project in a similar way.

There are two important questions here for actor training. First, how do we communicate key concepts when language itself is often inadequate and can even create a block? Second, how do we assist student-actors to embody and experience key concepts so that they can build their own full understanding and their personal process? This is, therefore, a necessarily slippery and messy learning environment, in line with other forms of student-centred learning (Neumann, 2013). In any class or rehearsal, the student is really being asked to engage with the personal process of the tutor (as each of us only have our own understanding to work with). The student is asked to experience acting through that lens, and then, via a process of trial and error and reflection over three years (and beyond), move towards their own embodied understanding of acting and their own personal process. All this operates alongside an artisanal way of learning and teaching that sees classroom practice operating through a rehearsal process. It is one particular rehearsal process that forms the object of this study which, in turn, echoes the work of Shulman (2005) into 'signature pedagogies'.

The Rehearsal Project

The first rehearsal project of the second year of the BA (Hons) Acting programme at GSA is to work on a scene from a play by Shakespeare. Taught in a cohort of 15, each student will (typically) work on one scene with a partner. On this project, Darrell was working on Act II Scene iv of *Measure for Measure*, playing the role of Angelo. The scene follows Angelo (the temporary proxy ruler of Vienna) gradually explaining to Isabella, a Nun, that although he has sentenced her brother to death for having a sexual relationship outside marriage, if she agrees to sleep with him, Angelo will lift the sentence on her brother. Trevor was the tutor/director.

The approach we took in rehearsal/class was fundamentally Stanislavskian. Trevor's approach has been influenced most by the theatre director and teacher Mike Alfreds. A major figure in actor training in his own right, Alfreds' book *Different Every Night* (2007) has become a staple on the reading lists of many Acting programmes. The way we approached the scenes was focused on the Stanislavskian principles of 'action' and 'objective', but using ways of working developed by Alfreds (2007). The main principle behind these concepts is that by focusing on what the character does (the 'action') in pursuit of what the character wants (the 'objective'), the actor can be present in the moment and deliver the scene in the most immediate and lively way possible.

By employing a dialogue-based methodology in our approach, we hope to bring the differing perspectives of student and tutor together:

> Dialogue-based research methods bring people together to engage in purposeful, guided conversations in a systematic way. These purposeful conversations focus on a particular topic and often involve using some synthesis of evidence. (Plamondon et al., 2015)

We started this process with Darrell writing a reflection on the process from his point of view. For Trevor, that suggested two distinct themes that Darrell seemed to find important. Those themes were 'vulnerability' and 'trust'. Both could be expected to be key issues for any actor (or student/actor) in any rehearsal process. Trevor was also aware that in

his teaching, he had made trust a theme himself. Trevor's intention is to encourage student/actors to trust themselves, within a planned process, to see what they can learn from that process in its entirety. On reading Darrell's reflection, it seemed to Trevor that Darrell had a slightly different view of the nature of 'trust' and that had led Darrell into a discussion of 'vulnerability'. There was then an exchange of written pieces between both writers in an attempt to understand and interpret their differing views, which became increasingly unproductive. We found we were going around in circles, rather than moving towards a joint understanding of what we thought the process had meant, and of what the learning experience was. We then decided to take a step back from a written dialogue and sit together to talk through the key issues that had been raised. This seemed to be a clearer and more productive response to Plamondon et al.'s (2015) description of dialogue-based research methods. That second, more direct dialogue is what follows.

Dialogue

Trevor: Darrell, at the stage of the dialogue we have now reached, what is your attitude to the nature of 'trust' in a rehearsal process where the tutor is also the director, and the student is also the actor?

Darrell: My attitude is such that I feel a level of trust in the tutor/director is important for the student/actor, even when it is the case that a student/actor is being asked to trust themselves more. In order that a student/actor trust themselves more, they must trust in the judgement of the person asking them to do so, for them to know that to do so is useful.

Trevor: The process I asked you to follow is challenging and the material we were working on was technically difficult. What issues did that suggest for you that may have led you to question whether you could have that trust in me?

Darrell: The material certainly was difficult, and I found this early on. I took the decision to share the difficulties I was encountering with the class, and felt that this was met with an indifference towards how I could look to access the material more readily, aside from sitting in the confusion that I was finding unhelpful. Subsequently, in the absence of

a readiness to discuss how this process could work for me, my level of trust in your judgement declined.

Trevor: This is where it gets interesting. I remember this moment in rehearsals well. What I was trying to say was that the time to step back and critically reflect on the process would be after having experienced it. That in order to have the tools to try and understand it, one needs to actually do it for an extended period. That is why I stress trusting yourself within that process. It is, at times, scary and difficult, and I know that. I would certainly never want to appear indifferent. But I actually cannot advise an actor how they can better engage with a process until I have worked with them practically on it, because we are all different. Until we have worked practically together, I could only advise in a generalised way as I simply do not yet know what your response to the process will be.

Darrell: I would argue that a great portion of the process I was set to learn about concerned the interpretation and translation of Shakespeare's text. At the stage we are talking about, the whole class had looked closely at how the text might be interpreted, and it was from my observation of people working practically that my own personal difficulties came to emerge. The difficulties I was facing were to do with this precise moment in the process, and I did not consider them previous to anything I had yet to explore with you. They were to do with what had already been done, rather than in anticipation of what was to come. I agree with you in that there is great value in reflecting on a process in its entirety, but in the case that one feels they cannot access it at all, from the off, I question how efficient it is to submit to this notion, in place of asking 'why is this not working for you?', and looking to see how a process can grow/change for a particular individual.

Trevor: Is that what led to feelings of vulnerability for you?

Darrell: I think so, yes. And that is not to say I did not value this vulnerability. As part of my own practice, I recognise that vulnerability is an enormously useful tool in ensuring I remain open to new ideas, and new ways of working, or indeed looking at how my own understandings can grow and change. However, I did not feel that there was the same vulnerability in your way of working, Trevor, which made it hard for me to negotiate this vulnerability myself, and make sure I was able to make value of it. It felt it was difficult to be vulnerable when working with someone who did not appear to submit to it themselves, when their process was being questioned or challenged.

Trevor: I certainly understand that acting, as a process, often makes the actor feel vulnerable, potentially in a whole host of ways. I hope I am never insensitive to that. I try to remain extremely sensitive to the way all actors are responding. It is often a messy and confused set of disparate reactions though. Some actors may find particular material challenging. Some may be surprised by that. Some may not know why they feel vulnerable. Some may be in denial about it. And on we could go. What I find tricky about this particular reflection is where my vulnerability should sit. If I were an actor in the process, then my own vulnerabilities would be there for sure. But I am not in that role. I would also not use the word 'submit' for either student or tutor, actor or director. Could you clarify what kind of vulnerability you felt was lacking?

Darrell: When I talk of vulnerability, what I mean is an openness in relation to the processes we have come to feel are our own. From a director, I would hope to see a sense of this vulnerability in relation to what it is they are teaching; openness that allows us to see where space for change might exist in our methods. Since embarking upon my drama school training, there have been a number of projects where the director/tutor has made it really clear that although they have a plan to deliver something predetermined, they remain open and ready to interpret questions or challenges that the process they represent might come across, as part of an ongoing conversation about how the work they know to be theirs could change and develop and grow.

Trevor: Yes, I see that. What I think I say throughout rehearsal is that this process is mine. It is what I have developed over the years as a way of teaching an approach to acting. I say that it is, therefore, unique. No other tutor/actor will teach exactly the same process because no two tutor/actors can. Acting is a personal process and we all only have our own lens through which it can be reflected. I say that you may find that you reject much of what I cover with you eventually, or you may find you retain a lot of it. But none of us can know how that will work out until we have tried it fully. For me the time for questions on a fundamental level needs to come after the experience, which is why reflection on practice is such an important element of the programme. To start analysing what is not working during the process and look for alternative processes (or elements of processes) at that time risks not actually experiencing the process fully, and (potentially) missing out on the learning experience.

Darrell: I totally concur that individuality between tutors exists, and that that is a good thing. My point concerns less the methods or practices that a tutor may have, and rather, how their relationship with them effects the extent to which they are accessible to the student. From my experiences, the most effective tutors are those who are able to present clearly their own understandings and practices, whilst exposing them to the scrutiny of the students who wish to learn from them, whilst simultaneously integrating an ongoing conversation about how students are coming into contact with their work. For me, it is this step that defines a tutor from a director, the step from protecting a certain way of working, and using it in spite of how students might respond, but opening it up, exposing its many elements, and questioning why some parts work well, and why some parts might not work for the student, and how steps can be taken to move forward, to ensure the learning process is as lucrative as possible.

Trevor: Yes, I think that is right. There is always a tension in this work between the fear of the unknown (the new approach or process that a tutor might bring), and the need for the student to experience the process in order to be able to reflect. I would always tend to resist a conversation that deconstructs a process before it has been fully experienced. That is also an important function of the stage of the training at which this project occurs—the beginning of the second year. In the first year, we will tend to take things more slowly and steadily, discussing much more along the way—in part because the fear factor is likely to be higher. In second year, we will be much more likely to ask students to take a creative risk for themselves, whilst asking them to engage with new processes and ideas. The issue here, it seems to me, is the relationship between the doing and the reflecting. I think the use of the word scrutiny is important here. Students should absolutely not feel that there can be no challenge to a process. Equally, the most valuable time to scrutinise a process is likely to be after it has been experienced. The challenge in these rehearsal/classes is to separate out what is a question of clarification of what is being asked of the student, and a scrutinising of the value of the process. The latter can really only be useful once the process has been explored fully. That may not happen if the student keeps stepping outside to scrutinise the process when they need to engage with it. There is a danger that the student's desire to scrutinise is actually a (subconscious) avoidance strategy. However, in the messy environment

that is student-centred learning, that is an extremely difficult thing to unpack.

Darrell: I am in total agreement that reflection post-process is a useful exercise, however, I think there is still space within the rehearsal timeline to check-in with problems that are coming to the surface. Admittedly, I have struggled in the past to allow myself the opportunity to 'sit-in' a process, and (rather) separate myself from it in an attempt to analyse and understand it in order to better support my combating of any fears. I think this may be what you mean by 'avoidance', a tendency to want to analyse why something is difficult, rather than committing to working through it. It is this, perhaps, that sets artistic training aside from more academic streams of education; that the need to understand and analyse (though a useful function of the learning process) can actually, at times, hinder experiential learning that bares equivalent importance. In this instance, I would ask how better could a tutor/director draw awareness to this contradiction in training, so that the student/actor is able to trust themselves more when stepping into those fears; making that jump between first- and second-year training.

This question of Darrell's is something that I am going to be reflecting on with staff and is an example of the benefits of this kind of dialogue. Darrell and I then wrote some concluding thoughts separately so that we could have some space and time to reflect. We wrote in the same room and exchanged those paragraphs so that we remained in dialogue, but in order to reach a conclusion to the dialogue it felt necessary to move away from a direct conversation.

Trevor: Just moving towards some conclusions now, what I have found most useful and interesting about this research project has been the process of moving through a written dialogue that was leading Darrell and I towards conflict, into a more direct dialogue that has led to, I think, a greater mutual understanding. I found that the first reflection that we did separately was tending to not make progress. Although we were in dialogue in the sense that one of us was writing a reflection and the other was reading and responding to what they read, we were not always able to communicate particularly well. The written reflections that we came up with became cyclical and we could not move beyond them to any point of agreement. In the end, we had a meeting during which we both wondered if we could usefully complete the work. The result of that conversation was a decision to effectively reflect on our reflection. We decided to use the initial work as a source, distill it into

a list of key themes that had emerged and then reflect on those themes to try and gain some perspective. This does seem, to both of us, to have been successful.

For my part, this second dialogue—which we wrote in the same room—allowed for a more immediate response that seemed to allow more consensus to build. That, in turn, has allowed me to reflect on the different point of view that Darrell has a student/actor. For me, as tutor/director, I know what learning outcomes I am attempting to guide my students to. Given the nature of Acting as a subject, I know that for most (probably, at some time, all) that will lead to feelings of vulnerability and, sometimes, fear. I certainly try never to lose sight of that. However, it is not possible to know exactly how those feelings will manifest themselves for each individual student/actor, and it is not possible to know (in the messy process of student-centred learning) what connections each student/actor might make with what I am saying or what the work is bringing up. I think an example in this case is the issue of trust. That is a word that I use, but for me I see a clear distinction between the student trusting him/herself as s/he explores the work and the notion that the student needs to trust me as tutor. I want the student to experience the entire process, but once they have I want them to feel free to accept or reject all or part of that process. Making that clear during class/rehearsal is challenging, but it was also challenging in this dialogue.

Darrell: It certainly feels right to move towards a more conclusive part of this dialogue. After the long process that Trevor outlines, explored hitherto, this dialogue has taken a far more productive and considerate form, that has ensured our conversation has been focused, and guided.

At my current stage in training, I am subject to assessing many different ways of working, and (as Trevor explains), rejecting or accepting them in relation to how I want to move forward as an actor, selecting those methods of working that serve me best. I do worry, though, that those decisions I arrive at now and those things that I find value in exploring may sometimes be negated in light of a feeling that, actually, the learning I am yet to undergo may change my current thinking. I would suggest that there is certainly space for this current thinking to change. However, I am not certain that it is necessary to assume that it will. Here, things become confused; what of a student's understanding at a particular time in training is to do with their own personal, long term decisions about their craft, and what might change in line with

new experiences, and new explorations? I would hold that this question can also be applied to those particular positions of the director/tutor.

What has also been interesting is how mine and Trevor's current positions have posed challenges in the coming to this final putting down of a discussion. As an undergraduate student, to express my opinions clearly has been an undoubted challenge, and one that, at times, has left me feeling intimidated by Trevor's experiences of postgraduate study, as well as his understanding of how to write for this medium. Subsequently, the first stage to this writing process felt unbalanced, and I felt ill-equipped to argue my own point. Now, however, having moved forwards from that, I have felt much better prepared to discuss with Trevor the ideas and themes that, together, we recognised as discrepancies in our working processes. I am glad that we found a way to discuss efficiently and productively, and one that has allowed us both time to reflect on our own, and each other's, processes.

Trevor: Finally, for me, that last paragraph of Darrell's is important. There simply is a disparity in our current levels of experience, both in our understanding of Acting and our understanding of academic writing. This does, in many ways, bring us full circle to the personal nature of Acting. My views today are, inevitably, coloured by thirty plus years of acting, directing, writing and teaching. It is those experiences that inform my views of process and of how to try and teach it. Part of the reason that no two actors or teachers have the exact same view is that we are all at different stages of our own development. This dialogue-based approach certainly seems to me to be helpful in contextualising my further understanding of this phenomenon.

Darrell: My final thoughts are in accordance with Trevor's. The disparity in our experiences is something that both sets us apart, and brings us together. It highlights that although we are at different stages of our own personal development (and will likely go on to develop/consolidate relatively different approaches to Acting), it is possible that our personal aims to connect to artistic training (be it through teaching, or learning) can provide space for continued reflection and growth in our positions, respectively. That my years are fewer, and that Trevor's are more, need not breed cause to disparage one person's ideas over the other's. They both belong to different times and stages of two different careers. That they both have found expression through this constructive dialogue is something I find very exciting.

Conclusion

What is in evidence here is the deeply messy learning process. For Darrell this is exemplified as the confusion of trying to unpick a process or way of approaching a piece of acting, and translate that into his own way of working, at a time when his own way of working is still evolving. From Trevor's perspective, that means that some priorities are changed or confused with other issues. Part of the messiness of the learning process is in the way the student responds to the learning. In the case of a piece of acting, that can literally be connected to emotional responses to the material and/or the work, which can easily create confusion.

Although we both initially experienced some trepidation about the approach, we have both found this a useful exercise. Once we became familiar with the dialogic approach, we both found it a useful and positive experience and would be interested to see how, as an approach, it may be possible to incorporate into the way assessment and feedback is perceived in the drama school.

We both feel that we found our way eventually to what Plamondon et al. (2015) term a 'systematic' approach. What has been most useful is to move the personal reflection on practice, that is a central part of the BA Acting programme at GSA, on to a systematic, dialogue-based approach. That was, on this occasion, for research purposes, but there are clear opportunities here for this approach to potentially be part of an assessment and feedback strategy. The tension seems to be in negotiating the messiness of student-centred learning and finding a systematic way of reflecting on that without the one negatively impacting the other.

Reflective Vignette

The initial idea for this chapter was Darrell's, who was interested in exploring the learning and teaching experience within what is simultaneously an artistic enterprise. That led to some conversations about whether what we do in a drama school is, perhaps, unique at all. Further, that led us to explore some literature on 'student-centred learning', where we found a number of similarities to learning and teaching strategies in other disciplines. When it

came to how to explore our source material, we found our way almost instinctively to 'dialogue-based research'. This was the really big area of revelation for Trevor as an actor/trainer.

We spend at least some of any teaching session/rehearsal in some form of plenary session; in a rehearsal this is often called a 'notes' session. In a really open and productive rehearsal room, 'notes' will be a two-way (or more) process. A director will have things that they want actors to change, but often there will be discussion of a moment or an action and the 'notes' will go from director to actor, actor to actor, stage-manager to actor, actor to stage-manager, and then all of them (potentially) back to the director. The whole company will be in dialogue as they attempt to make sense of the piece they are working on, the production taking the place of a research project.

Then, in the drama school context, we have a post-project formal assessment and feedback process. The pressures of time often mean that we never put the two things together in a full and considered way. The dialogue that we have been able to have here has quite definitely helped the learning experience for the student, but has also helped the tutor's thoughts on learning and teaching to develop. What the tutor will be taking from this research project is the need to increase the dialogic approach to reflecting on learning and teaching as part of our assessment and feedback strategies.

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5

Escaping the Norm of Student–Staff Partnerships

Julia Anthoney, Julie Lowe, Samantha Gridley and Chidera Ude

Introduction

The Academic Skills and Development team (AS&D), located within the University of Surrey Library and Learning Centre, supports the learning development of undergraduate and postgraduate students. Within this remit, the team offers additional and bespoke development opportunities to second- and final-year high achieving students (Surrey Top Achievers Recognised and Supported [STARS]) in order to meet these students' differentiated learning needs (Dickinson & Dickinson, 2015). This chapter explores the development of an educational Escape Room; building on the success of two previous Escape Rooms within the library, one a Welcome Week Escape Room (Wise, Lowe, Hill, Barnett, & Barton, 2018), the other a STARS Escape Room, a trial for this study. The educational

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resource discussed in this chapter involved STARS students as creators, designers, developers, and the subsequent deliverers of an Escape Room, fully supported by some members of the AS&D team, with the inclusion of a student from a trial study fulfilling a researcher's role.

The aim of the study was to provide a safe space (Connelly, Burbach, Kennedy, & Walters, 2018; Koster, 2005) for STARS students to develop their graduate attributes (e.g. teamwork, problem-solving, and critical thinking) through collaborative development with staff. STARS students were familiar with the typical teacher–student relationship within a workshop setting. However, workshops do not always offer students the opportunity to fully develop attributes. Holmes (2006) states that universities should provide learning environments where students can develop graduate identities more fully. This project would provide the STARS with the opportunity to collaborate and co-create new student-informed resources, which in turn, would help them to develop attributes whilst creating the resource.

It was hoped that this work would provide meaningful evidence and information on how learning development can work in student–staff partnerships for the future creation of educational resources. If successful, this model could be further developed to create a robust framework from which future student–staff partnerships could be formed, as recommended by Mercer-Mapstone and Marie (2019).

Student Needs and Developing Opportunities

Each academic year, STARS students complete a heuristic needs analysis, the results of which enable members of AS&D to develop a range of bespoke developmental opportunities to meet these needs. The latest analysis highlighted a desire to be involved in more challenging projects and develop in leadership, teamwork, and resilience. The students' needs analysis recognises the skills required for their future employment, with the CBI/Pearson Education and Skills Survey (2017) reporting that:

> Young people need skills and qualities that go beyond formal qualifications…businesses are clear that the biggest drivers of success for young

> people are attitudes and attributes such as resilience, enthusiasm, and creativity. (p. 25)

It was believed that this student–staff partnership and the development of an Escape Room would provide students with the unique opportunity to develop these attributes. However, our research project differs from the majority of existing research into student–staff partnerships as the staff involved are Learning Developers situated within a central services department rather than academic staff. Mercer-Mapstone et al. (2017) report that only 25% of "students as partners" initiatives involved professional staff supporting teaching (p. 9). Our student–staff collaboration is therefore in relatively new territory and provided interesting results, which will be discussed in the findings. Additionally, our research project partnered with students across disciplines and levels, whereas Mercer-Mapstone et al. (2017) only identified 6% of "students as partners" within multidisciplinary collaborations (p. 7). Interestingly, our students' feedback suggests that this aspect of the project was particularly beneficial and this will also be discussed.

High Achieving Students

Increasingly, students have started looking to add value to their degrees by completing extracurricular activities that enhance their "experience" (Maunder, Cunliffe, Galvin, Mjali, & Rogers, 2013, p. 141). Evidence suggests that the majority of top-achieving students are also starting to actively contribute to their degree and gain experience via involvement in student–staff partnerships (Bovill & Felten, 2016; Dollinger, Lodge, & Coates, 2018; Healey, Flint, & Harrington, 2014).

Top-achieving students may recognise the challenges of the global working environment, whereby hundreds of graduates with the same degree classification apply for one position (Tomlinson, 2008). Arguably, students have evolved into consumers of education, seeking additional skills that will meet these new demands (Neary & Joss, 2009). Killen and Chatterton (2015) point out that offering a degree programme that

follows a "traditional education model" is no longer suitable to meet students' needs. The traditional degree was to provide graduate attributes that would enable students to prepare for employment; however, Daniels and Brooker (2014, p. 68) argue that "with the fast changes to the global working environment universities cannot predict what attributes make the students work-ready". Universities need to look at non-traditional learning, allowing students to gain attributes that are different from those achieved through more traditional student engagement (Dollinger et al., 2018).

To meet these changing requirements, the UK higher education sector needs to add value to a degree programme; Neary & Joss (2009) have proposed that student–staff partnership models can enable problem-based and inquiry-based learning, providing students with skills to critically evaluate situations, problem solve, and learn how to be adaptable. Similarly, Dollinger et al. (2018, p. 224) explain that quality interactions within partnerships can make students "satisfied and gain graduate capabilities". By offering partnership learning to STARS students we are responding to students' requirements and creating opportunities that will develop their self-identified needs, albeit outside of their core curriculum.

The Educational Escape Room

An Escape Room is typically a room that is "locked", from which participants can only escape if they successfully resolve a range of puzzles and challenges within a predetermined time-period (Walsh, 2017). Within higher education the puzzles are designed by educational developers/tutors with intentions to provide deep learning of core subject knowledge (Novak, Lozos, & Spear, 2019). Evidence suggests that this puzzle sequence is utilised in single disciplines, i.e. pharmacy and nursing, enabling a practical procedure or core lesson for the subject to be explored (Connelly et al., 2018). The solving of the puzzles and moving through the sequence provide the learner with thought-provoking information on how to deal with situations, i.e. illness in nursing (Novak et al., 2019).

Walsh (2017, p. 3) acknowledges that by participating and attempting to escape key skills are learnt, including team working, social interaction, negotiation, and problem-solving. However, this outcome is recorded for participants and not for the creators of the puzzles. Evidence that outlines the learning and experience of creating an Escape Room appears to be minimal. One exception to this is Wise et al. (2018) who document how the creation of an Escape Room enabled colleagues to share different perspectives and experiences, which increased their collegiality (p. 90).

How We Set up the Project

Firstly, participating STARS students chose which sub-team they wished to be a part of, the Design and Create team or the Marketing team. The Design and Create team elected a final-year student to be their team leader (Jenny) due to her previous experience in Events Management. Others wanted to try something new, such as a Bioscience student who took on the role of leading the Marketing team. Other roles included "puzzle masters", "filmmaker", "actor", and "resource manager", all of which the teams agreed amongst themselves. Having a larger team created this opportunity to develop a broader range of skills. The Design and Create team then decided to focus the puzzles on services available across campus. From their own experiences, the students felt raising awareness of the library, security, Centre for Wellbeing, and the Students' Union would be beneficial for all students. This holistic approach created an Escape Room that was entirely unique for the students. A successful Escape Room event took place in December 2018. The event was managed by the students with minimal staff involvement, available only when needed.

Our Escape Room

Through discussion, debate, and the sharing of ideas and experiences, the students developed an Escape Room which would enhance students' knowledge of the services available across campus. It was agreed that each service area would be represented by a present under a Christmas tree.

The participants were required to work out the clues and puzzles that allowed them to open the present and retrieve the code for the final Escape Room box, and escape the room.

Figure 5.1 is the original sketch showing the outcome reached by the Creator team (encompassing both the Design and Create and Marketing teams), following their first planning workshop. It shows the sequence of how the puzzles had to be solved, to "Save Steve the Stag" (The University of Surrey's mascot) in time for Christmas:

During the development phase, the Creator team implemented the following learning objectives for the participants of the puzzles:

- Gain more knowledge to ensure a broader understanding of the range of services available and how to access them;
- Provide an opportunity for participants to work as a team and meet new people.

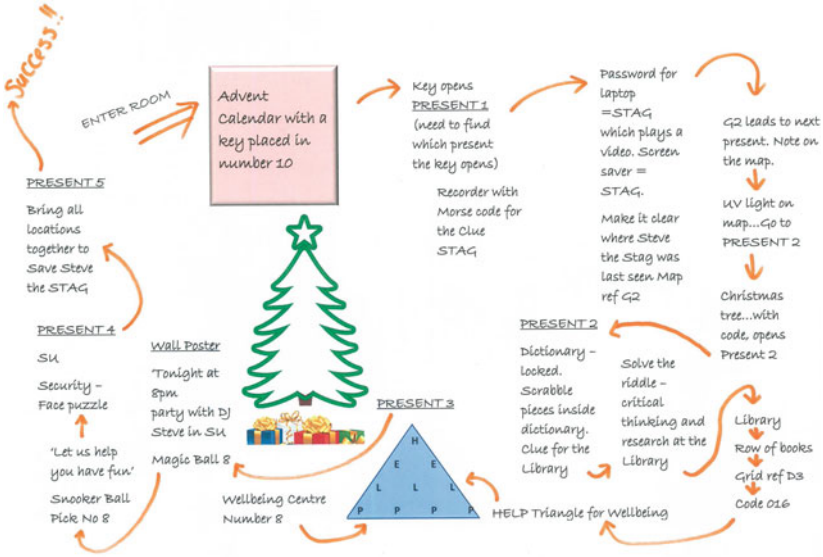

Fig. 5.1 The sequence of puzzles for the Escape Room

Although little evidence emerged that these learning objectives were met by those taking part, it appeared that the Creator team themselves gained knowledge, as one student commented: "we didn't know much about the library beforehand" and another: "it was nice to know what the campus has to offer".

There were four groups involved at different stages of the project:

- Three Learning Development Advisers from AS&D;
- Creator team (responsibility for designing, creating, marketing and delivery);
- Student Researcher (Chidera);
- Participants of the live Escape Room.

Created by Students for Students

It became apparent that there was the opportunity to learn from the students about their own unique experiences, something reported by Cook-Sather, Bovill, and Felten (2014):

> while students are not disciplinary experts, they are experts at being students, and therefore have the ability and knowledge frame necessary to contribute meaningfully to advancement of practice. (p. 214)

The members of staff involved in the project, do not have recent experience of being students, and may be out of date with some of the students' current concerns and experiences. Working with students complimented their own knowledge, resulting in a more fully considered, student-centred resource.

Research Design

The data gathered throughout the project utilised an action-research approach, incorporating observations, focus group discussions, and questionnaires. This provided the opportunity to triangulate results and to identify recurring themes from across the data. Creating an educational

Escape Room takes time for planning, testing, and refining to make it into a workable solution (Wise et al., 2018) and in order to achieve this, the STARS students committed a significant amount of their own personal time to the project. Following completion of the live Escape Room, a focus group discussion was carried out with the Creator team. The focus group was comprised of two elements: an activity which required students to sort attributes gained, and a discussion prompted by semi-structured questions which were recorded and then transcribed. To develop an environment where the Creator team felt confident about sharing their experiences and to encourage honest feedback (Hennink, 2007), Chidera, the student researcher, volunteered to be the moderator and made an active contribution to the development of the research questions to be asked within the focus group. A questionnaire was also created for the participants of the Escape Room to complete, which was facilitated by the Creator team. Students completed the questionnaire at the end of the activity which was analysed to establish whether participants met the learning outcomes of the Escape Room.

Findings and Discussion

Reflecting on this project, it became apparent that although the Escape Room began as one student–staff partnership, it evolved into multiple partnerships. These are discussed below.

The Student/Staff Partnership

The partnership between AS&D and Chidera began the previous academic year with the trial Escape Room. This meant that a dynamic, working relationship evolved quickly. Chidera developed from the position of someone sharing experiences and information (from the trial) to more of a leadership and facilitator role, which she felt empowered to do and helped alleviate some of the staff's responsibilities.

Chidera exceeded the amount of hours she had originally planned to commit to the project. This was attributed to the fun, enjoyment, and

keenness to remain involved to the end. She also reported a sense of achievement and pride from her involvement in the project. This outcome has also been observed by Welikala and Atkin (2014) who explain that: "the excitement about being an active researcher…is a palpable positive motivator" (p. 404). However, to ensure fairness, future projects will require a more rigid framework for the student so as not to impinge on their studies or other commitments. From a staff perspective, we all enjoyed the development of this partnership and without the trust that emerged, we would not have been able to take a step back and "leave the students to it".

A further partnership existed between AS&D and the Creators. Here, some interesting observations were made by the students. They had initial reservations about working collaboratively with staff and were unsure of the formality of the relationship. This appears to be based on existing relationships with their tutors/academics (see quotes below). As the project progressed, this became less of a concern as the students became more comfortable and were able to ask for resources and advice confidently. This could be attributed to the amount of time spent together, with relationships developing over the course of the project. Some students observed that this type of partnership was something they felt they would be unable to replicate within their own course and indeed were less likely to approach faculty staff to ask for support.

Our data clearly suggested the value of this partnership with participants commenting:

> In a workshop…we just get told, you should be doing this, you should be working towards this…working with members of staff, collaborating, was more enjoyable and more relaxed…felt like a better way to do things.
>
> It would be nice to break down the barriers that exist between students and lecturers…I think we did it well with AS&D…I wouldn't have any problems emailing them asking them for support, but sending an email to my lecturer, very daunting.
>
> Working with members of staff more collaboratively was quite enjoyable and it was more relaxed…that's a better way to do things…it would be nice to take down the barriers with lecturers.
>
> It worked really well in terms of getting things done, I personally want to continue developing relationships with staff.

Similarly, another student also spoke about experiencing a barrier in their relations with staff, and the format of lectures:

> just being lectured at…not really absorbing the information…if you had a workshop where you felt more engaged, be a part of it, then you'd probably retain a lot more information…it would be great to work like [we did] with the AS&D team in my course.

Partnerships Across Disciplines

The qualitative data from the focus group demonstrated that the Creator team were able to overcome challenges by working together as a team, adopting different roles, being organised, having team leaders, and being creative. The team leader of the Creator team (Jenny) received positive feedback: "what I liked about you, you organised us every week, we knew exactly what to do…it was nice to be so organised". At the same time, Jenny reported that she found it challenging to manage the diversity of knowledge within the group of students: "I faced the challenge of trying to keep my cool in certain group sessions…I am not creative, at all…just wanted to get on with things…although letting other people do things that you're not so good at is good". Another member of the Creator team reported the struggle to keep up: "there were so many ideas…it was going so fast…difficult for me to process. I know I need more time to process information. But it was all good". They also reported the benefits of continuous communication, which took place outside of their meetings.

As mentioned previously, this project was multidisciplinary and across university levels, and participants appreciated this environment which enabled them to learn from each other:

> Really interesting to interact with people from different disciplines…bring all our ideas together…when I first started I thought I don't know how this is going to work…then we were able to put it out there…it was quite interesting to see.
>
> I really enjoyed getting to know people from different courses…nice to see the different ways of thinking and their different perspectives…you are mostly limited to contact within your school.

> I really enjoyed getting to know other people from other courses…nice to see the different ways and perspectives on their assignments and their lectures.

Other research has corroborated the benefits observed by Woolmer et al. (2016) who recognise the value of a diversity of participant backgrounds as being "one of the highlights of the project" (p. 20) and comment that "since the students each had their own specialties, they could effectively take the lead on different topics" (p. 21).

This project provided opportunities for students to get involved in something outside of their core curriculum experience. Jenny observed that although she had experience of organising events, they were quite different from this type of activity: "despite not being a creative person, I enjoyed the creative element of the project and seeing it come together". Chidera observed that Jenny was able to use patience and organisational skills, which allowed the team to freely express their opinions and ideas whilst still keeping things under control. Chidera said:

> I noticed sometimes how Jenny seemed overwhelmed when there were too many ideas being expressed and she lost her control of the group, but she handled this really well. The team was also very receptive to her forwardness but still challenged her when they had a different way of achieving a similar result.

To establish whether the students felt that they had developed their graduate attributes we incorporated a group activity within the focus groups, facilitated by Chidera. As a group, they were asked to select ten attributes from 30 + and then rate from one (highest) to ten (least) those they felt that they developed through participation in this project. The results were as follows:

1. Teamwork
2. Time management
3. Sharing ideas
4. Listening
5. Creative thinking
6. Negotiation skills

7. Learning from others
8. Verbal Communication
9. Resilience
10. Project Management

Teamwork scored highly in this activity, followed closely by sharing ideas and listening. When the students completed the activity individually, there were slightly different results: teamwork, creative thinking, listening, resilience, and sharing of ideas were the most common attributes selected, with more emphasis on resilience and little mention of time management. Unsurprisingly, both team leaders scored project management highly (1 and 2), followed by delegation.

The main challenges which the focus group participants reported were managing expectations and being realistic (unrealistic puzzles due to the resources required to develop them), limited time available, and no previous experience of developing or participating in an Escape Room (so they felt it was difficult to envisage the end activity). Because of this, the students recognised their lack of experience and the challenge this posed: "we definitely made mistakes as we have not done this before, if we were to do it again we would do it differently".

Both Chidera's and our own observations revealed that everyone showed commitment to the project (all but 1 student contributed approximately 15 hours over a period of 2 months). Everyone also had fun, was professional, and had respect for each other. They were also very quick to recognise the range of skills available within the team and were able to allocate responsibilities (e.g. the chemistry and bioscience students were keen to be the "puzzle masters"). They were able to overcome challenges through practice and discussion: "at times it was frustrating, finding the balance for the puzzles, not too difficult, not too easy, but we got it right through practice". As the project progressed it became obvious that they were a cohesive unit and as one student said "it helped to know that we're a team, there are other people to support you".

Partnership Between Chidera and the Creator Team

The Creator team reported that they were able to learn from Chidera's previous experience in the trial study. Chidera described how she developed from an advisory role to more of a leadership/facilitator role. She explained that she was able to trust the team and to let them learn themselves without interfering in the process whilst gaining more confidence in her ability to facilitate the meetings, providing advice as and when required. Chidera felt comfortable enough to challenge some of their decisions: for example, the "puzzle masters" found it easy to design a range of puzzles but at times lost focus for the puzzle (the learning outcome). It was noted, and likewise observed by staff, that the team quickly integrated; this could be that they all had the same goal for participating—to get involved in a successful, challenging project.

Mercer-Mapstone et al. (2017) reports that only 12% of other student–staff partnership initiatives have included a similar number of students to ours (between 10 and 20). We found that this larger group created more opportunities for students to develop attributes for their lifelong learning. The findings presented here may have been less likely in a smaller group.

Conclusion

This project proved to be a very positive experience, with demonstrable learning gains for all, as suggested by this quote from one of the Creator team members:

> The highlight of the first semester and the time spent with these wonderful people made an impact on me. I feel more confident in expressing myself and sharing my ideas…It is one of the best experiences in Surrey.

It was immensely rewarding for members of staff to receive this feedback. This is reassuring and, in fact, replicates previous experiences of working with STARS students. However, the main difference between

other STARS projects and this one is that we wanted to "tap into" students' knowledge and experiences with the aim of sharing and helping others.

However, in some ways it is too soon to tell what the full learning gains have been for those who participated. It is hoped that students will reflect further on their involvement. One piece of reflective feedback has been received from Jenny, who, three months after the event, provided this insight:

> I definitely gained more confidence as I could apply everything that I've learnt and studied so far. Also within my course we've done a lot of group assignments but the Escape Room was different as everyone has such different backgrounds compared to other events…, so I see teamwork a bit differently now.

As members of staff, whilst writing this chapter, we continue to reflect on the project and what it means to us personally and in our role as Learning Developers.

Research from Mercer-Mapstone et al. (2017, p. 19) concluded that previous projects were "predominantly framed as occurring between students and academic staff". She recommends "further exploration of where and how partnerships are occurring among…students and other students…students and professional staff" (p. 19). This project was able to build on the existing body of research into the benefits of the different partnerships, specifically due to its multidisciplinary nature and its location within central services. Partnerships are a growing reality at Surrey (as evidenced by this book), yet in order to have a broader, sustained impact, it is important to consider the reality of replicating and upscaling such projects. As recommended by Mercer-Mapstone and Marie (2019), having a robust framework would create an environment which would facilitate this growth. An important consideration for future projects is the time and commitment required by all. There are elements which could be either replicated or downscaled, for example using an "Escape Box" or "Solve the Puzzle" approach. Indeed AS&D have since developed a workshop titled "Escape the PTY maze" based on some of the lessons

learned from this project, to prepare second-year students for their PTY (Professional Training Year) experience.

Reflective Vignette

An early concern was whether those involved would be motivated and had the appropriate level of ability to commit to the entire project. We had a preconceived notion that the majority of the staffing workload would be focused on the coordination of the STARS creators and keeping them on track, as well as making sure they were responsible for the delivery of the Escape Room. As the project progressed we found this preconception altered as the majority of the workload became concerned with the administrative support of the Escape Room, with sourcing materials, setting up activities and creating resources taking up much more time than was expected. This required a change of mindset and expectation through empowering the students to take on full responsibility for the creation, delivery and running of the Escape Room.

On reflection, contributors to the success included the Creator team's ability to quickly and honestly identify their strengths. They agreed on which tasks would best suit their skills and allocated tasks to one another. Based on previous experiences, it was expected that working with students from different disciplines would have been somewhat difficult as there are usually conflicting schedules that could have made planning events and meeting problematic, but this did not cause a problem. Additionally, the sharing of skills and knowledge from different perspectives facilitated deeper learning for all. Through commitment, experiences that complemented each other, and various perspectives brought by all partnerships, the project was a great success.

The partnership Chidera had with members of staff was very beneficial to her as it helped to breakdown the "barrier" between staff and students. This made her feel more comfortable relating with members of staff on her course as well. They were very attentive to her concerns and took on board her feedback, they gave her the freedom to make her own decisions whilst simultaneously being available when needed. This autonomy resulted in increased self-confidence.

We all feel that the success of the project was made possible through the development of trust between all of us. It was really interesting to observe how

all the relationships evolved and it was enjoyable to watch the students grow in confidence. One piece of surprising feedback was how some students were initially reticent about working collaboratively with staff, yet the feedback suggests it was an enjoyable experience. Participants wished that it could be replicated in other areas of university learning.

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6

Building Knowledge and Learning Communities Using LEGO® in Nursing

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Introduction

This chapter explores the potential of LEGO® and adapted LEGO® SERIOUS PLAY® (LSP) activities to deepen critical engagement and encourage inclusive classroom-based activities. Two case studies are presented here involving final-year undergraduate nursing students. Both are examples of collaborative action research projects. The first, within Child Nursing, utilises a care scenario for holistic care planning in preparation for a written exam. The second, within Adult Nursing, uses the Personal Tutor Group (PTG) setting to explore feelings around preparing to embark upon the final year of study and, in particular, the undergraduate dissertation. Both case studies address anxieties around transitioning to higher level academic and professional work beyond university.

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The two co-enquiry teams for these case studies were composed of Nursing Teaching Fellows, a faculty Learning Developer, and a student research partner. We also view the student participants in the workshops as partners in the co-construction of knowledge and of communities of learning through their participation and valuable insights. The chapter is co-authored by the staff and student research partners from the co-enquiry teams, who worked closely in their analysis of the findings and their reflections on both the learning approaches and the partnership. We adopt the Healey, Flint, and Harrington (2014) principles as a model on which to base our student–staff partnership.

LEGO® SERIOUS PLAY®

LSP has its roots in the corporate sector as a strategic and creative thinking tool (Frick, Tardini, & Cantoni, 2013). It is gaining increasing attention within higher education (HE) as an innovative approach to unlocking and building knowledge. It is through the construction of LEGO® models, and the subsequent discussion and deep critical reflection, that new knowledge is created (Gauntlett, 2013). LSP is underpinned by psychological theories of learning, and draws on constructionism, play theory, imagination and the hand–mind connection (Frick et al., 2013). A constructionist philosophy of learning (Papert & Harel, 1991) expounds that we learn best by making physical representations or stories of our abstract ideas, and then examining, discussing and reflecting upon them. This creative process, sometimes referred to as "concrete thinking", reveals the interplay between the hands and brain in guiding a wide range of cognitive and emotional, as well as physical processes (Wilson, 1999). LSP draws on our tacit knowledge, or as in Jung's (in Gauntlett, 2007) terms, our "creative unconscious" and the "significant truths" that lie within it. Jung argued that it is engagement in creative activities, which provides opportunities to draw out these "significant truths" from the depths of the unconscious mind, and through this to gain fresh insights leading to the construction of new knowledge.

Whilst traditional epistemology tends to treat abstract knowledge as somehow superior in form (Papert & Harel, 1991), a fundamental principle of constructionism by contrast is the complementary nature of concrete and abstract thinking, or what Sotto (2007) terms holistic thinking, in the building of knowledge. This has a deep resonance with Maton's (2013) notion of knowledge building in semantic waves and, in particular, what he terms "semantic gravity": the extent to which information is dependent on a specific context. Good teaching allows students to move up and down between concrete and highly contextualised examples to more abstract, conceptual, ideas, which are independent of context in order to build cumulative knowledge, enabling students to build on their previous knowledge and understanding and transfer this to future contexts. Maton (2014) sees the mastery of semantic gravity, the ability to move between these types of knowledge, as key to success in meaningful learning.

LSP has been shown to encourage lateral thinking amongst students through a systematic process of building, sharing and deep critical reflection (James & Brookfield, 2014; Peabody & Noyes, 2017). According to Barton and James (2017), due to the fluid, incremental and generative nature of the approach, whereby participants both build upon existing and construct new ideas, LSP and other LEGO® building activities can enable learning to occur in more agile and spontaneous ways. The LSP methodology is suited to exploring a wide variety of complex issues, or "wicked problems", in multiple educational contexts (James, 2018). A number of examples of LSP being used to explore personal identities and aspects of personal and professional development in HE can be found in the literature (Gauntlett, 2007; James, 2013), as well as engaging with key learning skills such as critical reflection (Cavaliero, 2017; Peabody & Noyes, 2017). More recently, studies have begun to explore the benefits of LSP for subject learning gain (McNamara, 2018) and conceptual understanding of disciplinary threshold concepts (Barton & James, 2017).

A growing body of evidence strongly advocates playful learning approaches across the learning lifecycle, because of the wide range of cognitive, emotional and social benefits (Holliday, Statler, & Flanders, 2005; Kane, 2004). LEGO® is particularly useful as a learning tool,

according to McCusker (2014, p. 34), because it is an "easily manipulated mediating artefact", which actively invites people to engage in play. The higher order cognitive processes of analysing, evaluating and creating new knowledge (see Bloom's revised taxonomy in Krathwohl, 2002) are activated during play through having the freedom to take risks, to test out new scenarios and to explore different ways of working (Holliday et al., 2005; James, 2015). LSP appeals not only to the cognitive but also to the affective domains of learning, enabling reflection upon values, beliefs, relationships and self-awareness (Valiga, 2014). This is enabled via the social and emotional activities of closely working in teams for the purposes of co-construction, which requires active listening, dialogue and receptiveness to the perspectives of others. This, according to both Hayes (2016) and Nerantzi, Moravej, and Johnson (2015), helps to build strong learning communities. Hayes (2016) sums up the key benefits of using LSP in her teaching with Health Care Assistants as enabling students to move from superficial engagement to deeper levels of engagement with their learning. She argues that LSP encourages the development of active meaning-making, at the same time as discouraging passive learning approaches (Hayes, 2016).

Ensuring Pedagogic Value

Some academics may be wary of engaging with LSP because the activities cannot be designed with a prescribed set of outcomes (Barton & James, 2017; James, 2018) as has become apparent from our observations. However, there was careful consideration of programme outcomes during the collaborative design stages to ensure pedagogic value, and appropriate levels of "complexity and robustness" (James & Nerantzi, 2019) to ensure meaningful learning. Gauntlett (2013) sets out the key guiding principles of LSP:

- Challenges should have no obvious or expected answer
- Individuals should respond to challenges before groups
- Everyone should build and share
- There are no right and wrong ways to build

- Models are what the builder says they are
- The focus of the discussion should always be the model and not the builder
- What counts is the meaning assigned to the model by the builder, so allow plenty of time for sharing and reflection.

Contexts and Rationale for Using an Adapted LSP Approach

The setting for the first case study is a Child Nursing module focusing on the challenges of working with children and young people with complex illness, in partnership with their families. The students are assessed formatively and summatively via an exam consisting of unseen questions relating to a seen scenario. One sought after consequence of effective nurse education is the ability to link theory to practice, often referred to as "application to practice" (Allan, Smith, & O'Driscoll, 2011). Rolfe (1993) identifies that a theory/practice gap is felt most keenly by student nurses who are faced with clinical scenarios but may lack experience to apply theory accurately. This may result in knowledge remaining abstract. It was felt that the use of LEGO® activities would allow students to engage with and make sense of the scenario as a more holistic and three-dimensional proposition (James, 2015).

To meet the learning outcomes, the scenario needed to be multifaceted, including issues around both physical health and the psychosocial aspects of care. Research has shown that LSP can add real value in inquiry-based learning, particularly for encouraging deeper critical engagement with case-based scenarios (Hayes, 2016). Anecdotal evidence from similar workshops suggests improvements in criticality and a reduction in support required by the cohort for their exam, a possible indicator of increased confidence in their learning. Other important benefits of embedding such playful practice in HE learning environments include allowing students to explore their own and others' perspectives on key elements of practice, to both reflect on the value of what they and others do, and experience transformations in their thinking (James, 2018).

These benefits are also key to rationale behind the second case study with two PTGs of final-year Adult Nursing students. Making the transition to the final year of a nursing degree can present numerous challenges. These may include feelings of anxiety and stress (Chernomas & Shapiro, 2013), as well as uncertainties about life after graduation, or what Gale and Parker (2014) have termed "transition as becoming". These feelings, coupled with a lack of confidence in undertaking a dissertation, mean that the PTGs are intended to be a source of support for and discussion around the diversity of issues students experience. However, the staff report a lack of engagement and the unwillingness of some students to bring ideas for discussion to the groups, leaving a gap in which students often expect more teaching.

Building LEGO® models about students' perceptions of their identities or anxieties can be useful for discussion and reflection (Gauntlett, 2007). A trial of this approach in 2017, using LEGO® modelling to stimulate dialogue within the Adult Nursing PTGs, generated positive feedback from students and tutors, and suggested enrichment of discussions around shared anxieties about the final year and tackling a dissertation. Both these case studies share a focus on engaging students in their learning and addressing anxieties, and in both we explore the role of adapted LSP activities in engaging students in playful activities to deal with serious issues. Using LSP has been described as a "paradox of intentionality" by Statler, Heracleous, and Jacobs (2011, p. 237), which means deliberate engagement in an activity which is not only fun and intrinsically motivating but has serious work objectives that are of extrinsic value to those participating. Serious Play techniques work particularly well, according to James (2015), in contexts where players are mutually invested in their learning with a strong, shared sense of purpose, resonating with Csikszentmihalyi's (2000) notion that only artificial boundaries exist between work and play. The Child Nursing cohort used this approach as an aid to critical engagement with health care scenarios in preparation for their exam, and the Adult Nurses explored the way in which LSP can facilitate engagement with the PTG system.

An additional shared focus is the value of building learning communities. The students in both groups did not know each other well, so building group cohesion and facilitating lines of communication was also key

to the sessions. Evidence from Peabody and Noyes (2017) suggests that positioning this type of session early in the semester, as with ours, can aid the building of communities of learning for the year ahead. Anecdotal evidence from workshops at Surrey, and published studies have shown that activities of this nature can help to foster a sense of community; for example, Nerantzi et al. (2015) showed a strengthening of learning relationships, both with peers and tutors, as well as fostering a sense of belonging amongst students. These factors, according to Lear, Ansorge, and Steckelberg (2010) and Zhao and Kuh (2004), can have a positive effect on student engagement in learning.

The Workshops

Child Nursing

After a short individual skills-building task (Gauntlett, 2013), a multi-faceted scenario centred around an adolescent male with epilepsy and his parents was introduced to the students as the basis for the main activity. In small groups, the students were tasked with building a model representing the complexities of the care needs of the child and his family (see Fig. 6.1). During a 15-minute building stage, the student–staff partnership team facilitated and observed the building process of unpacking the scenario to bring it to life. The process is not dissimilar to the process of using semantic waves (Maton, 2013), in which a teacher will move from a specific scenario to less context-dependent but highly relevant concepts and theories, and then return to the scenario to give these more meaning.

Groups shared with the room the factors they had included in their models and were encouraged to reflect on both the concepts and underpinning theory. Discussions also centred around which particular ideas had been afforded significance in consideration of colour, positioning and metaphor. In the final stage of the workshop, each student was given an action planning template, based on Driscol's reflective model. It was intended that the final reflection and revision planning stage would allow the students to make sense of their models, link clearly to the scenario, and help them formulate a meaningful revision plan.

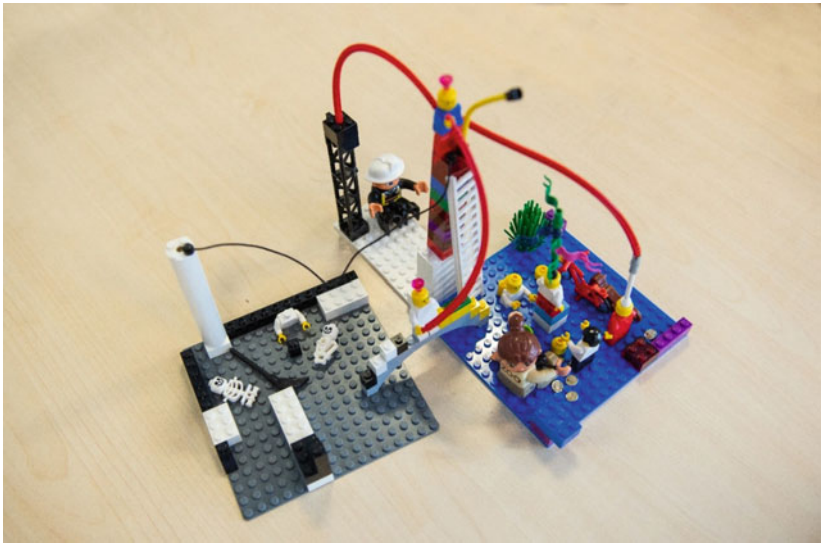

Fig. 6.1 An example of a Child Nursing group model showing clear distinctions between child (colourful, fun, better resourced, nurturing—on the right) and adult (black and white, scary—on the left) care services—an outcome that emerged through the building process showing emotions related to making the transition

During the session, the students engaged readily with the LEGO® and in lively, collaborative discussion. A minority of the students lacked confidence in building but engaged regardless. Students used LEGO® bricks to represent the child, family, healthcare professionals and the environment in which they felt they existed. There were some consistent themes between groups such as transition to adult services and the complexity of epilepsy as a condition, but the groups addressed the scenario differently, meaning that each group had something to add at the feedback stage, effectively layering their ideas in increments using the interpretation of their peers, in a way that is consistent with the generative nature of LSP (Barton & James, 2017) and is reflected in individual feedback comments.

The whole cohort of 41 students attended the session, all reporting feeling fully engaged in their learning and valuing the collaborative

nature of the activity. Assessments are often the most pressing consideration for a student embarking on a new module, so it was reassuring that we received multiple responses relating directly to the way in which our session scaffolded their learning and revision for their exam. Responses included, "I have a better understanding of what is required for the scenario exam", "it was a creative approach to getting us to discuss issues for our exam" and "it was both group work and assignment help – very engaging". 32 out of 41 students reported that there was nothing about the session they did not enjoy. Of the nine who mentioned dislikes, these related to anxiety around speaking in class despite knowing it was good for their development, wanting more information about the exam, or not fully understanding the relevance of the activities.

Adult Nursing

Two groups of Adult Nursing students were invited by their personal tutors to their first PTGs of the year. The workshop was designed around students engaging in two individual building activities: the first to build their ideal dissertation supervisor (see Fig. 6.2) and the second, a model

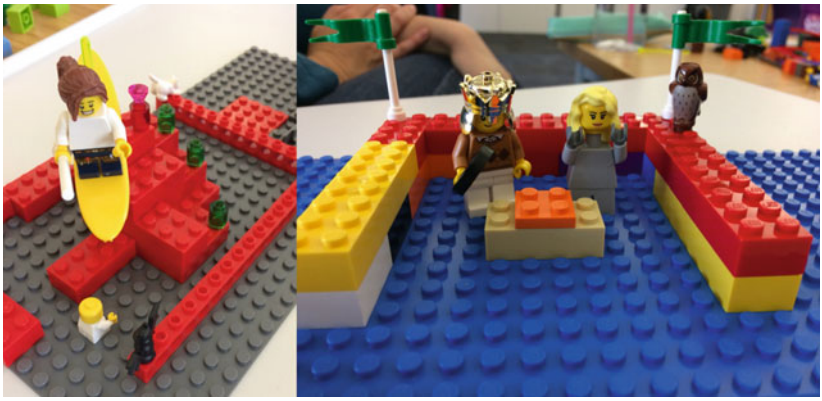

Fig. 6.2 Examples of models from two Adult Nursing students depicting disparate perceptions of the role of the dissertation supervisor. On the left, supervisor as "super surfer" and student as LEGO® baby looking up at her. On the right, supervisor wearing a crown but in partnership with the student

representing their feelings about embarking upon their final year. Again, our role was to circulate throughout the activities and talk to the students about their models. As the groups were small, everyone agreed to feedback individually to the whole group.

Minor apprehension was noted amongst a few students at the beginning of the session. However, in the main, students were enthusiastic and willing to discuss ideas and feelings openly. Some creative metaphors for the supervisor relationship were revealed. Examples include supervisor as "font of all knowledge", as a "superhero", with "buckets of knowledge", having a "clear head". These were often presented as either physically larger or positioned higher than the student. A few students depicted the notion of being guided, or "steered". Less common in the models was the notion of true partnership. A total of 22 students attended in two PTGs, all of whom stated in feedback that they felt the LEGO® had a positive impact on their learning. The vast majority of challenges identified for the year ahead related to undertaking a dissertation. However, the models also proved a useful conduit to discussions around accessing support. The tutors from the faculty reported finding it significantly more engaging than their usual PTG format.

Written evaluations were collected from all participants immediately following the workshops in both case studies, and individual semi-structured interviews with volunteers were conducted a week later.

Findings

Besides the high self-reported levels of engagement in both these studies, clear shared ideas emerged from our analysis of student responses around the construction of knowledge and collaborative learning. It is clear from the themes below that our activities enabled the more tacit elements of knowledge to come to the fore, emphasising the seriousness of the learning which can be enabled through play. Connecting and sharing was another core theme running through the findings. Interestingly, whether the students were building individually or collaboratively, the sharing of knowledge and perspectives and anxieties with others was central to the sense of enjoyment and engagement with their learning.

"*Without the LEGO®, I think we would have just presented our grown-up, adult self*"

One student observed that the use of LEGO® removed the assumptions about the purpose of the group, that utilising a non-verbal technique bypassed the cognitive part of her that would give the automatic responses that may be expected. Some of the comments from interviews and evaluations from both case studies suggest that the LEGO® activities were able to access the more tacit aspects of the students' knowledge and experience, their "significant truths", as supported by the work of Schwind (2003, p. 25) who found that encouraging creative self-expression amongst nursing students can "elicit the depths of our being unreachable by words". Responses included, for example "It brought out things that I didn't know I knew". The students often commented on not initially considering the significance behind their models: the creative process occurring first, then the meaning emerging during the building process, as previous similar studies have found (e.g. Stead, 2019).

This was supported by other comments stating that the models enabled the students to think about issues they had not previously considered, allowing "honest and authentic feelings to come out". Another student remarked that when she was building individually, she was thinking about what she wanted rather than being influenced by the thoughts of others, which can happen in open discussions, enabling "a thought-through rather than automatic response". This took her in more directions when discussing other students' models and highlights the importance of individual building and reflection time (Gauntlett, 2013).

Two student models of their ideal supervisor (see Fig. 6.2) reflected polarised expectations, but significantly they were also the opposite of that which they would have expected themselves to construct. One student's model reflected that she would like the relationship to be a supportive partnership and a sharing of ideas. However, when questioned about this afterwards, she stated that she had been surprised by her model, because if asked verbally, she would have expressed the desire for someone to "mother" her and look after her. Conversely, the other student expressed that her "adult-self" would have responded to a direct question about her ideal supervisor by saying that she wanted it to be an equal partnership, when her model reflected the opposite. The model

suggested that the supervisor was a font of all knowledge, a "superhero", and was of a higher status than her, who she had portrayed as a baby. The use of LEGO® enabled feelings to be expressed that the students were not aware of (Schwind, 2003).

"*Using something as simple as LEGO® to represent more complex ideas*"
Reflecting the inherently paradoxical nature of LSP, as discussed in Statler et al. (2011) and Peabody and Noyes (2017), insightful comments such as the above suggest the depth of meaning that can be built from simple tools. Indeed, one student in her interview commented that her group were "still relating to certain bricks" after the session, which not only highlights the memorable nature of modelling approaches such as LSP (James, 2013) but the deep meanings which can be assigned to individual LEGO® bricks. Related to this is the idea of generative knowledge building and meaning-making (Barton & James, 2017), reflected in comments such as, "being able to … watch each issue spring off of the previous".

Many responses revolved around notions of depth of thought, with students commenting on the complex nature of the scenario. This suggests that a deeper level of critical engagement, necessary for final-year academic and professional practice, was involved in addressing the building challenge, or as one student termed it, "unpicking what you're thinking". Other comments included, for example: "it stimulated thinking and encouraged breaking down of the scenario" and "it has allowed me to…view it as a complex piece". The high volume of responses we received linked to the ideas in this theme are reflective of the literature.

"*Everybody had a chance to express their opinion*"
Inclusion was a strong theme within the students' feedback. It was clear that they felt the LEGO® activities played a key role in encouraging the full participation of everyone in the session, with multiple responses to support this such as: "everyone added a building block to the final model", "each given a chance to speak and communicate ideas" and "all added our thoughts to the scenario". Inclusion is explored by Peabody and Noyes (2017), and McCusker (2019), and is key to the underpinning philosophy of LSP in its ability to address what Kristiansen and Rasmussen (2014) refer to as 20-80 syndrome where 80% of ideas tend

to come from only the more assertive and confident 20% of the room. It is clear that LEGO® works well at levelling the playing field and enabling quieter students to participate in discussions.

One student shared in her interview that:

> we usually tend to be quiet as a group. The LEGO® was a fun way to interact with each other and get to know each other in a less mainstream way. LEGO® made the lecture less formal, so I had the confidence to discuss in my group.

Interestingly, all students in these activities appreciated being asked to explain the meanings behind their models, despite some initial anxieties around speaking, which support previous studies in terms of inclusion and the enabling of quieter students' participation (McCusker, 2019).

"*Everyone got that opportunity to open up and show their concerns, but it wasn't daunting*"

Many of the students suggested that the use of a fun LEGO® activity allowed them to explore their fears and anxieties, mirroring the literature that discusses LSP's paradoxical quality (Peabody & Noyes, 2017; Statler et al., 2011). The students commented on the ease of being able to open up and discuss each other's models in a relaxed way, "tak[ing] the discussion in directions that [they] may not have felt able to in a more formal group discussion", which also supports findings from earlier studies (Stead, 2019).

The few concerns expressed by students, and which echo previous studies (see Peabody & Noyes, 2017; Stead, 2019), relate to feelings of discomfort and challenge felt by some students. This chimes with Mezirow's (1991) notion of a disorienting dilemma, which is so fundamental to transformation in learning. As seen from the evidence above, however, even those students with initial concerns felt more comfortable once they began building. One student remarked that she was not normally proficient at expressing her feelings but found it easier to explain them visually. Another student observed that using an object as a discussion point helped them to express themselves: "you can distance yourself from it like in creative therapy", supporting one of LSP's key principles of focussing on the model not the person (Gauntlett, 2013).

What was also evident from the findings is the students' discovery that many of their fears were shared. Comments included: "nice to hear that I'm not the only one feeling overwhelmed", "we could share common feelings such as fears and expectations" and "everyone got that opportunity to open up and show their concerns, but it wasn't daunting". One student reported that the process actually helped her to "come to terms with [her] thoughts and feelings". They also appreciated the chance to interact with both peers and tutors, strengthening learning relationships and fostering a sense of community as previously reported by Nerantzi et al. (2015).

"*We built a model that everyone agreed on*"

Notably, when revealing what they had enjoyed most, 75% of students in the Child Nursing workshop highlighted their enjoyment of the interaction within their group, despite this not being directly asked in the evaluations. Listening to everyone's ideas and building models that everyone agreed on were also cited, as well as gaining insights into the thought processes of others. Previous research by both Peabody and Noyes (2017) and Nerantzi et al. (2015) found that LSP had a positive effect on group cohesion, helping to build strong learning communities. Students also reported enjoying working with peers that they would not normally work with, explaining that, "after the session, we carried on talking about our model", indicating both deep cognitive engagement with the activities themselves and group cohesion beyond the session.

"*When you built it, it became a real person…makes you realise how complicated a life is*"

Another significant finding which emerged from the Child Nurses' feedback on their modelling of scenarios is that of linking theory to practice. In the individual interviews, students identified that using LEGO® to build the scenario allowed clear linking of the theory underpinning the care of a young person with epilepsy with all the practical aspects of care which this might involve, a clear indication of connections being formed in their thinking processes and of addressing the theory practice gap in nurse education (Allan et al., 2011). This backs up Cavaliero's (2017) study in which students made a working model of their practice using LEGO® as a tool for thinking. Another student particularly valued using

the LEGO® as an opportunity to provoke critical and creative thinking about holistic care. Schwind et al. (2014) argue strongly for creating such opportunities that foster reflection, critical thinking and personal knowing as these are key to the development of person-centred and holistic care.

One legitimate concern raised was that building models which involve exploring unconscious issues may become very personal very quickly. One student expressed that when using creative activities, individuals may be fast-forwarded into intensely unexpected personal feelings, which may not be appropriate to share in a PTG setting. We have noted the importance of applying boundaries to the tutor group session, such as limiting the discussion to the course, and to signpost students to support following the group if any personal issues need further discussion individually.

Conclusions

LEGO® SERIOUS PLAY® encourages effective, collaborative, knowledge building and enables the visualisation of ideas which may otherwise have remained unexplored and their potential untapped. It is also an excellent medium through which student nurses can connect theory with its practical application. LEGO® can empower students to connect and share their ideas, feelings and perspectives in a non-threatening, inclusive environment. Using models to represent personal or professional practice allows individuals to explore and critically reflect upon their meanings objectively, and thus upon their own and others' practice. Such playful pedagogies not only promote deeper engagement with classroom-based learning, but also allow students to gain a better understanding of the shared experiences of their peers in order to feel more supported through the potential challenges of their final year.

Reflective Vignette

The Student Perspective

We believe that student–staff partnerships are successful when all members communicate effectively and are honest about how much they can contribute to the partnership. One of the biggest challenges of being in a student role in this type of partnership is the perceived conventional hierarchy of power, especially at the early stages. So effective communication is key to be able to break down the wall created by these conventional relationships and ensure that the power is distributed appropriately.

At the beginning of this process we were not aware of what to expect. It took some time to feel secure and express our opinions, which is not surprising. However, staff having confidence in us was empowering and encouraged us to be more active partners. It is very important that everyone feels included and fairly treated. We felt that these concepts were present within our research team and overall that it was a safe environment to share thoughts and feelings, which motivated us to work harder and succeed. The most important thing is that everyone benefits in some way and learns something new. For example, it has helped in our understanding of the process of conducting a piece of research, particularly applying taught knowledge of qualitative methods. This experience and the transferable skills we learned will help us both, for one of us in our dissertation next year and for both of us in our futures beyond university.

Staff Perspective

It is evident, looking back on the projects, that we did not set clear enough expectations of the partnership at the start. This has been a new experience for all involved, and, therefore, some valuable lessons have been learned for future partnerships. These mainly revolve around establishing clear roles and trying to break down cultural and disciplinary barriers and power relations. Some parts of the project more than others have clearly reflected the partnership principles identified by Healey et al. (2014), particularly in facilitating the workshops and analysing and discussing the data we collected, and in

planning and co-delivering two conference presentations of our project. These aspects felt truly collaborative.

It was clear at times, but unsurprising, that the students did not see themselves as equal partners. However, we can see now that equal partnerships are not realistic, and we should be seeking equitable ones instead, where roles are distributed fairly, but not necessarily equally. This would be a more inclusive approach to partnership. Whilst we did not foresee the level of support the students might need in some situations, we have also been extremely impressed in others with their willingness to make suggestions inspired by their own disciplines. It was interesting to be at the receiving end of student-led challenges, in a significant shift in the balance of power, moving us temporarily out of our comfort zones: a sensation often experienced by our own students.

One revelation through this project is the extent to which LSP, and the adapted LSP activities we created for this research, shares a set of common values with student–staff partnership. The key principles and participant etiquette map closely to Healey et al.'s (2014) student partnership principles of inclusivity, community, trust, responsibility, reciprocity, empowerment, authenticity and challenge.

Inclusivity in LSP is about levelling the playing field for all participants, and as discussed, evidence strongly points to its ability to draw in inputs from quieter participants. Community and trust represent sharing, listening to others and accepting meanings, building honest dialogue in a safe environment and embracing the perspectives and experiences of all parties, who all feel a sense of belonging to and ownership of the process of building. Ownership of the learning process links closely with the notions of responsibility and reciprocity: LSP is wholly person-centred and requires full investment in the activities in a truly learner-centric way, but also requires equal investment which is necessary for the success of LSP activities (James, 2015). LSP embodies the principle of empowerment by rejecting the notion of external experts and beginning with the assumption that the answers are already in the room (Gauntlett, 2013). This closely ties in with the principles of authenticity, through both the authentic reasons to strive to improve practice, and the honest responses which LSP is able to elicit. In partnership, all parties are encouraged to constructively critique practice, in the same way that LSP allows freedom to take risks in a safe environment—in our context exploring

both scenarios and relationships to enable clearer, holistic perspectives and to question how things could be done better, to enable new ways of working.

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7

3D Printers in Engineering Education

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Introduction

The world is moving towards simpler, faster and more effective methods of chemical, component and material production, fuelled by the technological transformations of Industry 4.0 (see Lu, 2017). Accurate and precise approaches in manufacturing are revolutionising the design and operation of industry processes, with wide impact across product sectors (Despeisse et al., 2017). Within this transformation, the emergence of

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3D printing (3DP), and more generally additive manufacturing (Additive Manufacturing UK, 2017; Dickens, Reeves, & Hague, 2012; European Commission, 2014; U.A.M.S. Group, 2016), has played an important role, significantly improving design (prototyping) and efficient component production (Simpson, Williams, & Hripko, 2017). Accordingly, a need has arisen for training in the use of 3DP as a design, development and manufacturing tool.

Such printers are becoming increasingly common in education, as exemplified by the UK's Department for Education report on their use in schools for "enriching the teaching of STEM and design subjects" (Department for Education, 2013). Likewise, high-impact initiatives are being reported in higher education (HE) contexts, including prototype development, design exploration and component/molecular/process visualisation. Although initial HE applications have had a natural affinity towards mechanical and structural engineering programmes, diverse and cross-discipline applications in areas such as medical and bio-engineering (e.g. tissue scaffolds), food processing (e.g. food printing) and more generally chemical product engineering are rapidly emerging. Moreover, the integration of 3DP into engineering curricula is leading to an interest in pedagogy, and specifically innovative approaches to enhance teaching quality and the student learning experience. How the technology can be used effectively in teaching and learning contexts, whilst maintaining its accessibility to students and teachers that do not have rigorous knowledge of computer-aided design (CAD) software, remains a challenge.

The focus of the research reported in this chapter is to explore literature, evidence and student perspectives on the value of 3DP in engineering education. Specifically, the following research question is being considered: what benefits do students perceive of 3DP in engineering education? A novelty of the work has been to consider 3DP use in engineering education contexts outside that of the mechanical/structural disciplines, i.e. a move away from the usual *printing of a design prototype* common in mechanical engineering design. As such, the study should be of broad relevance to educators across the disciplines.

Educational Use of 3D Printers

An extensive literature review on the use of 3D printers in education has been recently published by Ford and Minshall (2019). In addition to school and university classroom/laboratory settings, the authors also identify their growing use within library and special education settings. For example, libraries are "a logical choice to house technology that has many potential users…[and offer]…a valuable service to their organisations while raising awareness of the other services they offer as well" (Hoy, 2013). Across education levels, 3DP is allowing students to discover new interests in technology, and is similarly providing educators with new methods of engaging students. It has also provided a medium to facilitate student creativity (Bøhn, 1997; Horowitz & Schultz, 2014; Paio, Eloy, Rato, Resende, & de Oliveira, 2012; Stamper & Dekker, 2000), and empower pupils to physically create objects that aid their understanding. At the early stages of education, 3DP is also exposing children to technology, potentially changing attitudes towards study and work in science and engineering. As importantly, and valid across the education sector, 3DP can provide opportunities for low-cost component production for teaching purposes (Blikstein, 2013; Bull, Chiu, Berry, Lipson, & Xie, 2014; Bull, Haj-Hariri, Atkins, & Moran,2015; Chery, Mburu, Ward, & Fontecchio, 2015; Dumond et al., 2014; Eisenberg, 2013; Jacobs et al., 2016), providing effective replacement to real (e.g. industrial, medical, laboratory) components/equipment for demonstration and study purposes.

In response to educational needs, leading 3D printer manufacturers have developed specialised machines for such use. Nevertheless, the first step is for both teachers and students to acquire the skills needed for printing, e.g. how to convert a drawing/object into a digital format for printing, and the manipulation (modelling) of such digital formats for novel constructions. In doing so, students are also being introduced to (computer-aided) design principles, material properties and testing and developing skills in spatial awareness and visualisation (Corum & Garofalo, 2015; Huleihil, 2017). However, programme changes may be needed to accommodate the skill base necessary for projects involving

3DP and the library approach mentioned above may provide some technical support here.

Not surprisingly, the STEM disciplines are at the forefront of 3DP use (see Ford & Minshall, 2019). Success within these disciplines often requires a genuine interest in technological advancement, and there is an onus on educators to foster such enthusiasm through engaging and stimulating methods. 3DP provides one such example of stimulating technological engagement, with tangible design outputs. In engineering this has predominantly focused on design projects (Abreu et al., 2014; Bilen, Wheeler, & Bock, 2015; Butkus, Starke, Dacunto, & Quell, 2016; Carpenter, Yakmyshyn, Micher, & Locke, 2016; Reggia, Calabro, & Albrecht, 2015; Serdar, 2016). More generally, engineering concepts can be taught through physical analogues, allowing students to better grasp such knowledge through deeper engagement with the theoretical principles (c.f. problem-based learning, Chiu, Lai, Fan, & Cheng, 2015; Williams & Seepersad, 2012). Indeed, engineering students are often motivated in turning ideas to real-life objects that can be inspected, analysed and used as a springboard for further design improvement.

In the engineering disciplines, the ability to print parts for testing and as visual aids can be highly advantageous for engineering students. The relative ease of production allows rapid prototyping and modelling. Visual aids are powerful in explaining concepts and encouraging problem solving through spotting flaws, to be able to improve the designs to overcome a design flaw. This develops the students' skills in research and development in product design, but also, more fundamentally, serves as an introduction to the critical area of digital manufacturing, i.e. the use of an integrated, computer-based system comprising 3D visualisation and collaboration tools to create a product and manufacturing process (Go & Hart, 2016).

3DP brings new opportunities for a new style of learning. Studies show that students do not all respond to the same style of teaching, but rather, based on their educational needs, respond positively to several different styles of learning (Fernandes & Simoes, 2016; Minetola, Iuliano, Bassoli, & Gatto, 2015). 3DP can give rise to new and more interactive approaches to learning where it includes developmental learning, allowing students to draw their own conclusions and lessons learned, rather

than theoretically teaching the concepts. This is already evident in teaching methods at university level where engineering students must carry out lab experiments and write reports on their findings. It is through designing and carrying out their own experiments that students really grasp theories and make leaps in their understanding (Loy, 2014). The use of a 3D printer can take experiments a step further where students print their own parts and carry out tests to elucidate theories and engineering laws. Furthermore, students can develop creative presentational skills through physical visualisation methods. In a related way, 3D technology can be extensively used in artistic ways (Chiu et al., 2015; de Sampaio et al., 2013), through the creation of unique and engaging pieces as a possible means of, for example, public engagement (and outreach) in STEM through an artistic (and visual) expression of underlying scientific and engineering principles.

3DP is extensively used in industry for rapid development of parts and tools. Predominant use is made in the car (and general transport) industry for rapid prototyping of mechanical and other functional components (Cunningham, 2019). Personal communication with manufacturing experts in BMW (UK) has made it apparent that 3DP technology has been revolutionary for their predevelopment models, helping to readily modify old parts for performance enhancement, and offering greater flexibility in manufacturing options. For example, one of the main issues with parts is the angles that allow a part to be made and fitted onto the vehicles and 3DP has solved this issue altogether. 3DP has also overcome tooling requirements, i.e. the tools required to fix specific parts onto vehicles can be directly printed for that specific application, opening a wide spectrum of new manufacturing possibilities. In addition, in precise-layer-by layer 3DP, the amount of waste in product manufacturing is reduced. The nature of such industrial use is of much relevance to general engineering education, related to, for example, material science, digital modelling, 3D visualisation and the "conceive, design, implement and operate" (CDIO) teaching and learning ethos that dominates in the mechanical/structural engineering disciplines (see CDIO, 2019), but much less so in the chemical and biological engineering fields.

Methodology

3DP in engineering education is a relatively new area that requires further research to explore its broad and potential uses. In this work, the research design focused on student, work placement and recent graduate attitudes towards 3DP in education (taken together as two main participant groups: students, and work placement students and recent graduates). For participants in employment, the study was conducted at BMW Group Plant (Oxford, UK), i.e. the current work-placement location of the student research partner in this study. Although the industrial location is automobile manufacturing-focused, the participants had broad disciplinary backgrounds (see below), and the study thus allowed reflection upon university education and employment preparation in the context of a sector where 3DP is being used extensively.

For university participants, the study was conducted in the Department of Chemical and Process Engineering at the University of Surrey. Similar to other chemical engineering departments, 3DP does not feature within the undergraduate curriculum, although it is anticipated that most students will have some basic awareness of the technology. The study thus allowed investigation of student attitudes on the potential use and benefits of 3DP in an engineering discipline not conventionally associated with the technology.

With reference to Table 7.1, a questionnaire was designed to explore the level of awareness and experience of 3DP (Q2–Q6) and perceptions of the value of 3DP in disciplinary knowledge and skills support (Q8–Q10). As indicated in the table, several questions employed a 4-point Likert scale to gauge perceived benefit. A qualitative response for one question (Q8) provided the main student input on potential learning value of 3DP. The questionnaire was administered electronically using SurveyMonkey. A general email with the survey link was sent to all students (FHEQ levels 4–7) across the undergraduate programmes in Chemical Engineering, i.e. an approximate cohort size of 350 students. Direct emails were also sent to relevant industry-based participants, i.e. approximately 40 individuals. The placement students are all in their penultimate year of study and thus fairly knowledgeable about their discipline.

Table 7.1 Summary of the 3DP Awareness and Benefits Questionnaire

Question	Response options
1. Choose your university degree from the options below. If it's not on the option list, please state your degree in the comment box.	
2. What's the extent of your knowledge of how 3D printing works?	4-point scale: {I know the technical details as well as applications; I do not know how it works but know the applications; I have a rough idea of how it works and general applications; I have no idea}
3. Which of the following 3D printing types do you know?	Multiple selection: {fused deposition modelling; stereo-lithograph; digital light processing; selective laser sintering; selective laser melting; laminated object manufacturing; digital beam melting; none of the above}
4. In which of these sectors do you think 3D printing is used?	Multiple selection: {automotive; medical; infrastructure and architecture; chemical; education; art; film and entertainment}
5. Have you used 3D printers at University?	{yes; no}
6. Have you used 3D printers on work placement (where relevant)?	{yes; no; not relevant}
7. Have you used computer aided design (CAD) software in your degree or elsewhere?	{yes; no}
8. Would you like to be trained on the uses of 3D printing as part of the degree curriculum? If so, please explain how 3D printing could be used to help your learning.	{yes; no; comment box}
9. How do you think the use of 3D printers might benefit the following aspects of your degree? {lecture-based modules; laboratory work; design work; computing and simulation}	4-point scale: {not beneficial; could be beneficial; beneficial; very beneficial}
10. How do you think the use of 3D printers might benefit the following skills? {team work; problem solving; analysis; creativity; technical skills; leadership}	4-point scale: {not beneficial; could be beneficial; beneficial; very beneficial}

Results and Discussion

80 participants completed the survey, 48 based at the University of Surrey and 32 at BMW. 15% of the participants were from a mechanical engineering background, 60% from chemical engineering (all university-based) and the remainder distributed across a broad range of disciplines including electrical engineering, aerospace and aeronautical engineering, industrial engineering, computer science, mathematics and sport science, product design engineering, economics, international business management and international events management. Discipline and university/employment cohort variations in response were tested for questions 4, 8, 9 and 10 in the questionnaire; however, no significant differences were noted, suggesting general positive acceptance of the value and relevance of 3DP.

80% of respondents had some awareness of 3D printers, with half reporting a "rough idea of how 3D printing works". Technical knowledge dominated amongst the mechanical engineering cohort of participants. 64% of the respondents did not recognise any specific type of 3DP. Where knowledge existed, fused deposition modelling (29%) and selective laser sintering (16%) dominated. Interestingly, sintering is a topic that most engineering students encounter in modules related to materials science/engineering, often in the early years of the degree programme. The topic could therefore act as a first (and natural) bridge to 3DP technology. Similarly, module theory could also be extended to materials analysis and stress testing on printed components. There was recognition of wide use of 3DP across different sectors (Q4), with 47% selecting all the listed sectors. The selection ranking of specific sectors (highest to lowest) was recorded as: medical (55.4%), automotive (selected by 54.2% of respondents), art (49.4%), infrastructure and architecture (49.4%), chemical (25.3%), education (32.5%) and film and entertainment (30.1%), indicating a broad appreciation of the potential use of 3DP.

81% of respondents had no university experience of 3DP; only 10% experienced 3DP in their work environment, i.e. 25% of the industry-based participants. Nevertheless, 53.6% of the respondents had experienced CAD in some form, either in their degree programme or other

(e.g. school, extracurricular) use. Encouragingly, approximately 78% of the respondents reported a desire for training in 3DP as part of their degree programme, demonstrating widespread interest in the technology and its applications. Not surprisingly, particular benefit to the degree programme was reported for design and computing and simulation work (Q9). However, benefit was also reported for all teaching aspects, with mean responses (on a 4-point scale) of 2.3 for lecture-based modules (81.1% favourable response), 2.7 for laboratory work (83.3% favourable response), 2.9 for computing and simulation work (84.6% favourable response) and 3.2 for design work (94.7% favourable response).

For skills development, low 3DP benefits were reported for teamwork and leadership—an expected trend. Positive benefits were reported for (in decreasing order): creativity (3.4 mean score and 94.6% favourable response), technical skills (3.0; 97.4%), analysis (2.95; 94.8%) and problem solving (2.7; 87.2%). The widespread recognition of 3DP to promote creativity skills is encouraging, especially in (chemical engineering) curricula where creativity tasks may often be confined to paper exercises or 2D simulation software outputs, suggesting that the findings of, e.g. Horowitz and Schultz (2014) are indeed transferable to other disciplines.

A thematic analysis of the respondent comments on question 8 of the survey led to the following general categories of perceived benefits and uses of 3DP in education:

1. Prototyping of equipment in design projects/work (c.f. Bøhn, 1997; Stamper & Dekker, 2000);
2. Material selection and testing for a given application (c.f. Corum & Garofalo, 2015);
3. Physical samples for demonstrations and presentations, e.g. analogues of complex structures, equipment and chemical components, including functional items (c.f. Williams & Seepersad, 2012);
4. Demonstration of industrial additive manufacturing principles (c.f. Go & Hart, 2016; Williams & Seepersad, 2012);
5. A support tool for CAD learning through the printing and analysis of CAD models;
6. Scaled print of a chemical plant, including 3D layout.

Interestingly, with the exception of theme 4, all the themes have generic relevance to the chemical engineering discipline. Comments by students within the chemical engineering department indicated relative ease in transferring 3DP principles to their educational needs, with application examples to process equipment, overall chemical plant design and speciality materials such as column packings and catalysts being readily recognised.

Demonstration and presentation related uses of 3DP received broad mention by the respondents, i.e. alternative tactile teaching resources to complement digital and virtual content. This may be particularly beneficial for the appreciation of scale and magnitude in design components, as well as the visualisation of complex and intricate structures, including the 3D layout of equipment which is often avoided in chemical plant design, but yet can be critical to the operational optimisation and indeed feasibility of the plant (e.g. sea-based oil platforms and mobile plants on ships). Comments also included the production of functional (i.e. operational) components using 3DP that are otherwise often represented as simple schematic diagrams within lectures, or accepted with little critique or analysis within laboratory settings. Indeed, such equipment analogues, once produced, could then be scanned into an immersive virtual reality environment for widespread viewing. Whilst basic (and affordable) 3DP is currently constrained to polymer prints, material science aspects often concern material shape and thickness considerations, such as pressure vessel selection and design in the chemical industry. As indicated by some of the comments, prints of components would provide opportunities for direct, experiment-based application of such material science principles.

Although CAD education in engineering is generally viewed as favourable in supporting design and digital skills development, it is uncommon in chemical engineering curricula. This may be related to the specific output needs for such CAD models, where structural and mechanical design is less important than the identification of, for example, input streams, heat transfer areas and operating conditions. However, the advent of affordable and easily accessible 3DP would provide a relatively easy method of extending process engineering concepts to

mechanical principles, fostering in turn engineers with a wider knowledge and skills base and potentially greater role pliability (see also the discussions of Alpay, 2013). The responses from the chemical engineering students in this survey indicate that 3DP would be a favoured approach in bridging (to some extent) such historic differences between engineering disciplines.

In the current job market and the increasing pressures of gaining graduate employability skills, it is important to meet the expectations of employers and industry. 3DP can enhance students' learning journeys and it can also boost valuable employability skills, including practical applications and presentation skills. Skills developed from working with 3DP to create and innovate solutions to problems through design and technology have a place in industry and engineering roles. These roles are associated with methodical and rational processes, but enhanced creativity and imagination add alternative answers and solutions, and this gives more flexibility to the field chosen by engineering graduates.

The study confirms both student and institutional desires to adopt 3DP technology, but has also confirmed relatively slow adoption outside the mechanical and civil engineering disciplines. This in part reflects discipline disparities in the knowledge and skills of 3DP, which is a greater barrier for educational applications outside mechanical and civil engineering. However, with the advent of affordable and simple-to-operate devices, the centralisation of such services within institutions seems a natural progression, e.g. the use of printers within library services as reported by Hoy (2013). Future developments in tools for the easy and intuitive translation of sketches, artefacts and even photographs to printable (and scalable) formats would further open teaching and learning possibilities. In this sense, 3DP technology may provide a readily accessible means of visualising digital lecture/design content, especially where testing is required and so virtual reality-based visualisation does not suffice.

Conclusions

The study has indicated great receptivity towards 3DP in education by students and recent graduates in areas both within and outside engineering disciplines normally associated with 3DP technology. In particular, students in chemical engineering were able to recognise a broad range of 3DP uses to support learning and creative design, supporting literature reports in this area. The inclusion of 3DP itself in teaching would open learning content in areas of CAD, real plant layout and magnitude (scale) appreciation in calculations and design. In doing so, an important bridging between mechanical and non-mechanical based engineering disciplines could be achieved, broadening the knowledge and skills base of the graduates. In a similar way, as engineering curricula evolve in digital literacy and content requirements, the study suggests that 3DP technology provides a practical, visual and engaging medium for consolidating learning across areas such as CAD and rapid prototyping.

Reflective Vignette

Student Perspective (Atefeh Eslahi)

The staff –student partnership on this project has been a great experience and there has been significant learning from this collaboration. As the first experience in this way of working it has been a truly beneficial one; the close partnership has provided much closer supervision and has been engaging in taking ownership and having the freedom to produce original work with guidance and help from the staff. The freedom of developing my own ideas and making suggestions in how to carry out the studies has stimulated creativity and has implemented better understanding on how to articulate a scientific topic in clear and concise manner. The staff experience in writing papers has been crucial for this and there has been substantial guidance and learning. Communication has been vital to the development of this project and the importance of student and staff working together has been highlighted in the gains in mutual understanding and contribution to my professional development. Overall this has been a valuable project and has given

me a significant boost in confidence to work alongside experienced academics in the future.

Staff Perspective

The concept of staff–student partnerships in education is not new: undergraduate projects supporting academic research are a well-established example. However, such partnerships are less common on matters concerning pedagogy or educational development, especially in the science and engineering disciplines. An advantage here is the direct involvement of the recipients (i.e. students) of the intended learning and teaching initiative, providing continuous feedback into its development from the onset. The partnership also allows early and first-hand gauging of the student interest for an initiative, as well as a closer link to the student body for research evaluation purposes. The experience of this project has reinforced the value of such united educational research within discipline contexts. Perhaps an important extension of the approach however, would be to place projects within existing research project modules, thus potentially widening the scope of the research work and ultimate quality of research-informed educational development.

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Part II

Evaluating Teaching and Learning Approaches

8

Captured Content and Lecture Recordings: Perceptions and Experiences of Students and Lecturers

Venetia Evergeti and Harry Garside

Introduction

Captured Content (CC) and in particular Lecture Capture (LC) have become a widespread component of digital learning in higher education. Reportedly there has been a significant rise from 51% of universities recording lectures in 2012 to 71% in 2016 (UCISA, 2016). LC in particular involves a variety of technologies, such as Panopto, used to digitally record lectures and make them available to students outside the classroom. CC on the other hand refers to the use of various digital material to enhance the students' learning experience, including, to name but a few, external educational videos, podcasts, short recordings of main points/assessment, live polling software, digital images, as well as LC.

Current research tends to concentrate on the positive or negative effects mainly of LC rather than the broader application of CC. This

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reflects in some respects the increasing demand of fee-paying students for lectures to be recorded as well as the growing influence of metrics that has led universities to invest in LC technologies. However, the research literature has reported some inconsistent findings. For example, it has been suggested that making lectures available online can help especially those students who might have other (family or work) responsibilities while studying (Hadgu, Huynh, & Gopalan, 2016). Other studies have also reported a positive impact among low-achieving students who might benefit from multiple viewings of the material (Owston, Lupshenyuk, & Wideman, 2011), whereas some large-scale studies have reported that LC could have an overall positive effect on student grades (Hove & Corcoran, 2008; Nordmann, Calder, Bishop, Irwin, & Comber 2019; Terry, Marcy, Clarke, & Sanders, 2015; Traphagan, Kucsera, & Kishi, 2010; Wieling & Hofman, 2010).

On the other hand, there are studies that have highlighted a plethora of negative effects or no significant impact on students' academic achievements (Johnston, Massa, & Burne, 2013; Leadbeater, Shuttleworth, Couperthwaite, & Nightingale, 2013). For example, LC can have an adverse impact on the quality of teaching in terms of stifling lecturers' spontaneity (Joseph-Richard, Jessop, Okafor, Almpanis, & Price, 2018) and overall student performance (Euzent, Martin, Moskal, & Moskal, 2011). Some studies have specifically explored the issue of low attendance associated with LC (Bos, Groeneveld, van Bruggen, & Brand-Gruwel, 2017; Nordmann et al., 2019; Whitley-Grassi & Baizer, 2010). Furthermore, Edwards and Clinton (2018) make a very important point in relation to the effects of LC availability and the extent to which students engage with it, whereas Witton's study (2017) revealed that there is substantial difference between perceived student satisfaction in relation to the availability of recorded material and their actual performance.

Given this context, the present study explores student perceptions, and experiences of their interactions with LC and CC. In particular, we are exploring three research questions: the ways in which CC are utilised by students outside the classroom before or after the lecture, the degree to

which there is a noticeable change in lecturers' performance and delivery of the material because of LC software used, and the students' perceptions of the degree to which LC supports the delivery of a student-centred lecture. Two of the most important issues that came up in relation to LC in particular were the discussion of sensitive issues and the ways in which live recordings could affect the lecturer's performance.

Methodology

Our study was based at the University of Surrey, within the Faculty of Arts and Social Sciences (FASS), and utilised a combination of focus groups and interviews as well as an online survey. The overarching aim was to explore students' and lecturers' perspectives of LC usage along with other forms of CC. Specifically, we utilised three different methods:

- A focus group with students in order to capture their experiences of LC and wider CC;
- Interviews with staff in order to gain an insight into their views and practices of both LC and wider CC;
- An online survey that explored the degree and the ways in which a particular cohort of students engaged specifically with LC in a sociology module where Panopto LC was used for the first time.

The choice of these three data gathering tools aimed to offer complementary perspectives on two different levels: on one hand capturing the experiences and perspectives of both staff and students, and on the other capturing the students' engagement specifically with LC. Moreover, we were also able to obtain valuable insight into the usefulness of other forms of CC and the ways in which students interact with them to enhance their learning and in preparation for assignments and exams. The interviews with members of staff provided us with a basis for understanding their perceptions and experiences of the different ways in which LC can enhance or perhaps hinder interactive teaching and engagement in classroom discussions.

The focus group included seven students from two different FASS departments, three of which had experience of LC and four who had never utilised LC in their studies. As mentioned above, one of the main aims of this research was to gain insight into the experiences of students who had already experienced LC as well as those yet to be familiarised with the software (Chioncel, Veen, Wildemeersch, & Jarvis, 2003). Therefore, the focus group discussion concentrated on the ways in which both LC and other forms CC were used and the views of the students about the pedagogical value of such teaching techniques. Although the initial plan was to carry out four to five focus groups with students across all three Faculties at the University of Surrey, due to difficulties in gaining access to students from these Faculties, the focus group was carried out with students solely from FASS. The five academics who took part in the interviews were also from across FASS.

The survey (comprising 8 questions) aimed to obtain more information about the Sociology students' experience of using LC in relation to its usefulness as well as the effect that it may have had on their attendance.

A thematic analysis of our main findings is presented below, organised according to the three strands of our research, while making connections to some of the research literature.

Data Analysis—Focus Group

Captured Content

Several students considered essential readings made available on the University virtual learning environment (SurreyLearn) as a form of CC and highlighted the importance of reading them prior to their lectures:

> *Participant E*: Generally before the lecture I will do the readings that are uploaded whether that's on the reading list or whether that's articles that have been scanned (pause) when you've done the reading you know what's going on and you haven't got the stress of

> having to note down every single thing the lecturer says because you have that knowledge base.

In addition, when asked whether lecturers upload audio-visual content online, the students confirmed that videos are frequently uploaded helping them particularly with assignments and exams. For example, some participants explained that lecturers regularly email students to inform them of an interesting article or video they have found which is worth reading. Additionally, the students specified that certain lecturers also upload additional forms of CC, such as group work from seminar activities:

> *Participant B*: a lot of the time the lecturers send us a video and say that we should watch it before the seminar so that we can have a critical discussion….and it just helps us like to understand the content more….and sometimes like after the seminar the lecturer uploads our group work like posters and stuff to SurreyLearn and I use those sometimes cos it helps me with my revision and for assignments.

Interestingly, this reflected Witton's study who highlighted the importance of moving away 'from passive capture-all approaches to the use of capture technologies and towards more integrated discipline-specific use' (2017, p. 1011). In particular, Participant E placed heavy importance on the availability of various types of CC as students may find some forms of content more helpful than others:

> *Participant E*: I think it's always beneficial to have different types of resources available. I remember last year in one of my politics modules they were giving out 120 pages to read each week which isn't really as useful as other modules where the lecturers would upload videos that discuss the topic. I believe if you give students different ways to learn that would support them more.

As we will see below, such views were also shared by the lecturers interviewed who emphasised the importance of using a variety of CC forms

to support different pedagogical needs related to their discipline, rather than just LC.

Lecture Capture

When discussing LC, some of the students attending the module where Panopto was trialled for the first time, praised the practicality and usefulness of the software:

> *Participant F*: I think that it's really cool that there's different time intervals like you can skip certain parts of the lecture rather than having a whole audio file and needing to guess which time interval talks about a particular section so it's really handy to follow and it's not forcing students to listen to the whole lecture if a student needs to find something crucial.

Additionally, other students in the focus group stated that the ability to go back to a lecture and make additional notes or review content was extremely useful, often claiming that the fast-paced nature of the lecture limits their note-taking. Also, some of the students argued that they would use LC mainly as a revision tool for exams, something which is already widely reported in previous research on LC (Edwards & Clinton, 2018).

> *Participant G*: I haven't used Panopto yet but it is something I plan on using when I'm revising in the exam season and also for coursework especially in the fact that lectures don't just repeat what is on the slide, they always expand and add context to things and there's only so much you can note down in the lecture.

Flipped Classroom

There has been a vast amount of discussion in the literature about the concept of a flipped classroom (Missildine, Fountain, Summers, & Gosselin, 2013) whereby a student uses CC to prepare for the lecture and has opportunities to discuss their ideas in class. According to the students

in the focus group, this style of teaching has already been introduced in some modules:

> *Participant E*: I think that in all but one of my modules the lecture and the seminar are back to back and I think that really works because you get the information and then you get the discussion but I still think it would be really good if students had prepared beforehand because then you're still going to learn more in the lecture, but then when you go into the seminar you'll already have more information processed to be able to have an in-depth discussion.

What is interesting here, is that students did not refer to the flipped classroom as the traditional form of a pre-recorded lecture followed by a session of interactive activities, as described in the literature (Missildine et al., 2013). Instead, they highlighted the benefits of engaging with various forms of CC such as readings and educational videos in order to prepare for the more interactive seminar sessions of their course.

Sensitivity

One of the most important issues that was mentioned by both students and members of staff in relation to the use of LC was sensitivity. For example, in some courses in the social sciences, there is rarely a definite answer and certain, sensitive, topics often spark animated debate. As a result, some students may object to the recording of a certain module, particularly if they have controversial views which they do not want publicised. Interestingly, this was not something that we encountered in the literature we reviewed. Therefore, it was important to ask the students in the focus group whether they think that LC should be used more selectively, based on the sensitivity of a given module, or used throughout the course regardless of this issue. The students held different views, with some arguing that Panopto should be used selectively, others arguing that everything should be recorded as long as it was exclusive to the university and yet other students argued that only the lecture should be recorded and not the seminars.

> *Participant F*: if you want my very personal opinion I would say keep recording the lecture for students as some students cannot make the lecture or may want to use it for revision purposes but I would say not to record the seminars and leave that discussion for the classroom only for those students who did attend.

This was an important issue that also emerged from the interviews with the lecturers and was sometimes interrelated to students' perceptions of how LC could alter the lecture's performance.

Lecturer Performance

Students were asked whether they believed that the lecture recording will impact on lecturer performance and delivery of the material. Overall, the majority of the students posited that the recording would have a negative impact on the lecturer, for example they referred to the use of controversial examples used by lecturers which would be far more limited (Participants E & C). Also, students such as Participant C argued that the recording would likely affect the relaxed, informal, relationship between student and lecturer due to fears staff may offend students with their material.

> *Participant E*: So I have had discussions with my lecturers before about Panopto and some of the reasons they give for not using Panopto is if they're dealing with perhaps controversial research. For example, some of my lecturers know a lot of stuff that's going on in parliament and one of the reasons they gave for not using Panopto was if that got out they could get in trouble especially if it was leaked to the press so it must be kept confidential. But if I'm honest it's usually those kinds of examples which are the best and can really help with our learning.

As Joseph-Richard et al. (2018) have argued, the usage of LC can have a negative impact on teaching techniques. As we will show below, the members of staff we interviewed also mentioned that knowing that they were being recorded affected their performance and style of teaching.

Attendance

Arguably one of the key issues with the increasing availability of lecture capture is the potential impact on student attendance (Bos et al., 2017; Nordmann et al., 2019). Most students in the focus group claimed that they would still go to the lectures due to not having the same experience if they were to watch the lecture outside of the classroom.

> *Participant E*: I know a lot of people who essentially go to university from their bed because you can have your laptop and that's literally all you need. But I think that you don't get the same amount of knowledge and the same experience as you would if you were in a lecture.

Some of the students also argued that their attendance to a lecture/seminar would very much depend on the module, for example some of the students stated that they would be less likely to attend research modules if they were to be recorded:

> *Participant C*: I think it depends on the module for example certain research modules I know a lot of people would not attend because usually when we show up everyone is just browsing on the internet and not paying full attention. I think for a module like this it makes sense to record it because whatever the lecturer says is always on the slides so there's very rarely any additional content.

Current research has shown that students use LC for a variety of reasons, sometimes as a substitution for attendance and other times in order to gain further insights having first attended the lecture (Edwards & Clinton, 2018). Nevertheless, the issue of attendance still remains one of the most controversial in relation to the provision of LC as opposed to utilising other forms of CC (Bos et al., 2017).

Data Analysis—Online Survey

As mentioned earlier, the online survey was administered among students of a Panopto-enabled module where LC was used for the first time.

Panopto Experience

The first question in the survey was a closed question focusing on the usefulness of Panopto. As shown in the following graph, 60% of students claimed that LC was either extremely useful or very useful. On the opposite end of the scale, 10% of respondents stated that Panopto was not useful at all, and 30% responding that it was 'somewhat useful' (Fig. 8.1).

The following question was an open question focusing on the reasons why students found the software useful or not so useful, depending on their previous response. 35% of respondents mentioned that LC is particularly useful when they are unable to attend the lecture. In addition,

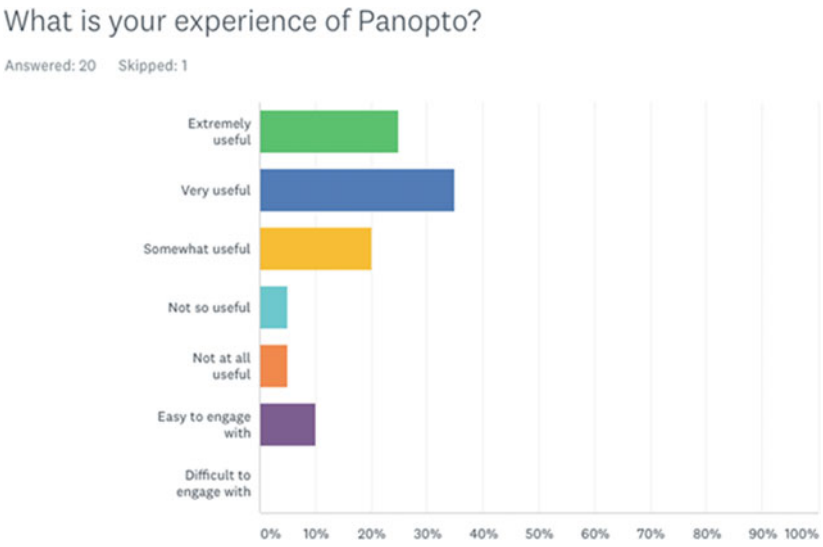

Fig. 8.1 Experience of Panopto

40% of students pointed out that Panopto is an effective tool particularly when revising for exams and writing assignments.

Engagement with the Content

In relation to students' engagement with Panopto, 29% of those who participated in the survey stated that they had not yet used the software, but would definitely use LC during the exam period for revision purposes. Nevertheless, 29% stated that they used the software regularly after lectures to go over the topics in order to gain a better understanding. Two students specifically appreciated the ability to pause the lecture and slow down the recording, enabling them to make further notes after the lecture.

Attendance

Given the precedence of this issue in current research, it was important to ask the students whether the availability of Panopto impacted on their attendance to lectures, particularly as these students had used the software. With regards to the focus group, it was more of a hypothetical response as the majority of the students had no experience of using Panopto in any of their modules. In terms of the survey results, 90% of the students answered that the availability of Panopto had no impact on their attendance of lectures. Nevertheless, looking at the class registers of the particular module, there was a clear drop in attendance from previous years.

Captured Content

When discussing CC, 31% of students claimed that they use the provided audio-visual material specifically for topics that they find interesting, or that are related to an assignment. Nevertheless, 36% of students said they were either not aware of the CC available to them or simply had not used this material. This is an important point which was also

raised by the lecturers, and indicates the need for raising further awareness among students as to what learning recourses are available to them, their pedagogical value and how they can be used to enhance understanding and learning.

Data Analysis: The Lecturer's Perspective

As mentioned above, we also conducted interviews with five academics from different departments/schools within FASS. For the purposes of anonymity we do not provide specific information as to which departments/schools our participants came from and we also refer to them as 'academics' rather than revealing their positions. Nevertheless, our sample included both early career lecturers as well as more established academics.

Lecture Capture vs. Captured Content: Pedagogical Benefits

One of the most serious concerns that all five academics talked about was the perceived confusion among students that CC equated to LC as well as wider concerns in terms of the questionable pedagogical benefits of LC. Their views echoed similar issues raised in recent research, especially in relation to whether LC could really improve or hinder the performance of both lecturers and students (Joseph-Richard et al., 2018).

> *Academic 1*: It is quite obvious that students don't know the difference between various forms of CC and LC. The student union has done a lot of damage pushing for all lectures to be captured without really exploring whether there are any pedagogical benefits of such a policy. I would prefer my students to engage with all the other material I provide them with, rather than just watching over and over the same lecture.

Often the concern was that LC in particular was creating a generation of 'lazy students' who 'lack' critical thinking—one of the most fundamental skills that should be developed through higher education.

> *Academic 2*: One of the main purposes of being at university is being able to do some critical thinking. So whilst there is a recording, it is quite static, it is fixed, so even if you watch it and watch it again particularly in a subject that requires a little more critical understanding, you are not getting anything further than what you would get in a textbook.

> *Academic 3*: Where is the pedagogical benefit of LC?…I'm not sure how it helps because one of the things being useful about being present is that you can ask and you can get the same material reframed and rephrased so just being able to watch the same unclear expressions isn't in itself going to help…If you didn't understand it the first time you are not going to understand it the second, the third, the fourth time.

All the academics agreed that LC allows students to go back over the lecture but were concerned that this did not enhance student performance, but only satisfied their perceived need for recorded lectures, an important point which has previously been raised by Witton (2017). Intrinsic to this discussion was also the connection with preparing students for the outside world and the degree to which supplying them with recorded lectures would enhance or hinder their employability skills.

> *Academic 2*: The recording can serve one purpose but there is a list of a thousand purposes of why you are here at university, effectively it's also about preparing you for the real world. Nothing will be recorded in your job, you go into a meeting it won't be recorded, people will expect you to write some notes or type some notes or they will be expecting you to be there and listen.

The Issue of Attendance

Overall, four out of the five academics interviewed thought that there would be a drop in attendance as a result of LC. This is also in accordance with some of the research results reported in the relevant literature (Bos et al., 2017).

> *Academic 4*: It [LC] creates less opportunities – may never even see some students as they may not go to lectures. There is a lack of 'bouncing off' one another, LC is proven to significantly reduce lecture numbers.

Some of the academics were also concerned about the wider implications of lower numbers of students attending lectures and the way it could affect negatively the overall learning environment. Indeed, Nordman et al. (2017) have found that there are complex issues where attendance is influenced by the availability of LC depending on a variety of factors such as learning objectives, the way students use LC, and their level of study.

Topic Sensitivity and Lecturer Performance

Similar to the students' concerns, topic sensitivity was also an important consideration for members of staff. All five academics mentioned that although various forms of CC (such as external links, audio, video and other material) can be used across all disciplines to enhance student learning, LC in particular should be used selectively depending on the sensitivity of the topics covered. This related to both the live recording of their own opinions as well as the discussions of the students. A further concern was that it would stifle the lecturers' creativity, a point that is also supported by current research. As Joseph-Richard et al. (2018, p. 377) mention, LC 'crushes spontaneity, impairs interaction and breeds wariness through constant surveillance'.

> *Academic 4*: It would create a far less creative/original lecture performance. There are ethical issues – for example, lecturers would be

> reluctant to include controversial yet informative examples due to fears about a student complaining. This means that lecturers will stick to a lecture script.

Academics were also worried that the selective use of material recorded in LC could be used out of context, especially in relation to controversial themes discussed.

> *Academic 2*: Nobody is ensuring me that the recording will not be taken out of context and used against me as an educator for the kind of ideas that I want to pass on.

Conclusion

Our aim was to explore students' and staff experiences and perceptions of LC and other forms of CC. Some of our findings are in accordance with previous research in relation to the potential of lower attendance and impairing lecturer's performance. It was also evident in our own study that although students appreciate the availability of LC, they still value the interactions that live lectures afford. However, one of our most significant findings relates to the fact that students seemed to be unfamiliar with the wide variety of CC provided by lecturers and, more importantly with the pedagogical benefits that could be gained by engaging with this material. Therefore, in relation to further research in this area, it would be crucial to get a further understanding of the ways in which students engage with a plethora of CC in order to evaluate their pedagogical value. As Witton (2017) has argued, there is an important difference between perceived student satisfaction in relation to recorded material and actual student performance. In addition, there seems to be a strong need to raise awareness among students of 'the danger of an over-reliance on using recorded content and the potential negative impact that low lecture attendance could have on their attainment' (Edwards & Clinton, 2018, p. 420).

Reflective Vignette

Student's Perspective

Working in partnership with Venetia has been a very enjoyable experience. Due to being in my final year of my degree, there were occasions where I was not able to devote as much time as I would have liked. However, Venetia was extremely supportive and understanding and often helped me to time-manage my studies. The main benefit of working alongside Venetia is that due to her position, not just as a lecturer but also as a Director of Learning and Teaching, she already had a lot of knowledge on the topic. Her feedback was always constructive and I have certainly learnt many skills that will assist me in writing my dissertation.

Staff Perspective

Working in partnership with Harry has benefited this study enormously, both because of the important views and perspectives that Harry brought, but also because of his enthusiastic engagement with the particular topic. We worked collaboratively throughout the project and I tried to offer support for some of the challenging areas of the research, whilst providing Harry with autonomy to organise the focus group and online survey. Harry brought important research skills into the study and his positionality as a student made it easier and more accessible to carry out research with the students.

The main challenge that we faced in our collaborations was organising the focus group/s. As this would theoretically have been Harry's placement year, the majority of his contacts were not at the university which made it far more challenging to recruit students, particularly from other faculties such as Engineering and the Vet School. Nevertheless, we were able to adapt and organise a focus group within FASS which fashioned some very interesting ideas.

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9

Captured Content: Captured Attention?

Teodora-Patricia Pelea and Tom Lunt

Introduction

This chapter reports the findings of a research partnership that examined how students and staff perceived the use of lecture capture technology as part of a second-year module on the BSc Event Management degree in the Faculty of Arts and Social Sciences. This research is timely as the most recent survey by the Universities and Colleges Information Systems Association (UCISA, 2018) reports increasing use of lecture capture. There is tension, however, between students for whom lecture capture is increasingly popular and teaching staff who are sceptical about its benefits (e.g. Edwards & Clinton, 2019).

A related development in higher education (HE) has been the advent and growing acceptance of the "flipped classroom" approach to teaching (Steen-Utheim & Foldnes, 2018). Using technology, primarily online

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filmed lectures, the flipped classroom moves content delivery and information transmission away from the live, classroom-based, teaching space. This move enables the classroom to be used for more active learning which encourages deeper staff/student and student/student engagement and learning (Lewis, Chen, & Relan, 2018; Steen-Utheim & Foldnes, 2018; Topale, 2016).

Most of the literature on lecture capture has focused on positive student perceptions of content on demand and whether students' performance has improved in test scores (Johnston, Massa, & Burne, 2013; Leadbeater, Shuttleworth, Couperthwaite, & Nightingale, 2013; McNulty et al., 2009; Traphagan, Kucsera, & Kishi, 2010). Studies have also highlighted the negative relationship between lecture capture, student attendance and attainment (Williams, Birch, & Handcock, 2012).

The debate regarding lecture capture focuses on student engagement and student centredness which have become increasingly mainstream within educational policy-making discourse (Klemenčič, 2017). The contribution this research makes is to show the opportunity that student–staff research partnerships offer to discourses of student centredness by putting theory into practice. Using a Bingham, Rancière, and Biesta (2010) lens to examine the practices of lecture capture and the flipped classroom, insights are offered in relation to the policy debate around student-centred learning.

Literature Review

In her critique of student engagement in relation to student-centred learning in education policy-making, Klemenčič (2017) suggests that student agency is a more appropriate concept than engagement because it emphasises the opportunities students have to influence their learning environments. In this way student-centred learning answers to some extent the Rancièrian critique of education (Bingham et al., 2010) that teaching as explication results in "enforced stultification" (Rancière, 1999, p. 7) and inequality, with students being dependent on the teacher to explain rather than developing the ability to learn independently.

The debate around lecture capture in UK HE typifies the issues around student agency and dependency. Although lecture capture systems are increasingly becoming the norm in UK HE, students' interaction with lecture capture is complex, making it difficult to draw firm conclusions regarding its relevance and effectiveness.

The most frequently mentioned benefit of recorded lectures is flexibility. Students can review lectures anytime, anywhere and as often as they need with the possibility to regulate the pace of the recording (Cooke et al., 2011; Topale, 2016; Traphagan et al., 2010). This suggests student autonomy, self-regulation and choice, which are key elements of student-centred learning (Klemenčič, 2017). Similarly, Langworthy, Shear, and Means (2010, p. 81) suggest that student-centred pedagogies are "project based, collaborative, foster knowledge building, require self-regulation and assessment, and are both personalized…and individualized". While Langworthy et al.'s (2010) research is based on secondary education (11–14 years of age), it is important because it shows that young people entering university have experienced student-centred learning approaches.

Existing research on lecture capture identifies two major concerns: a negative impact on students' attendance and their academic performance. Students report a temptation to skip classes because they have access to lecture capture (Brotherton & Abowd, 2004; Holbrook & Dupont, 2009). As Edwards and Clinton (2019) suggest, lecture capture eliminates the penalty for missing a lecture. Gorissen, van Bruggen, and Jochems (2012) found a slight negative effect on attendance while Harley et al. (2003) found that one-quarter of the surveyed students accessed webcasts instead of attending live lectures. However, several studies concluded that recorded lectures had no effect on students' attendance (Topale, 2016; von Konsky, Ivins, & Gribble, 2009). Moreover, researchers suggest that recorded lectures are predominantly employed by students as supplementary, to enhance the attended lectures, not as a substitute (Harley et al., 2003; Soong, Chan, Cheers, & Hu, 2006; Witthaus & Robinson, 2015).

Some studies suggest that there may not be a direct link between the availability of recorded lectures and attendance; for example, Topale (2016) identified the perceived value of the lecture as the main driver of absenteeism, rather than access to recorded lectures. Massingham and

Herrington (2006, p. 84) support this point observing that—"students only attend lectures if they perceive 'value' in them". In this context the term "value" relates to the teaching process and lecturer competence. Low perceived value appears to be a significant for both live and online attendance. As one of the panelists in Kolowich (2009) pithily observed, "If you're bad, you're bad. If you're bad online, you're bad in lectures, students don't come."

Alongside lecturer competence is teaching process; Bassili (2008) argues that students are more likely to opt for the live sessions which allow for feedback and a focus on two-way communication and when they anticipate the learning content to be difficult. Some research suggests that absenteeism is inevitable in the modern HE context due to students' need to balance study, work and life factors and, therefore, will occur whether or not recorded lectures are provided (Johnston et al., 2013).

While a significant proportion of research on lecture recording and attendance shows a negative effect, some students report that the availability of recorded lectures provides them with a better understanding of the lectures and, as a result, increases their attendance (Billings-Gagliardi & Mazor, 2007). Aldamen, Al-Esmail, and Hollindale (2015) also found a positive relationship between viewership and attendance. However, Edwards and Clinton (2019) suggest this may be due to more engaged students being more likely to access all the available educational resources.

A question often addressed in the literature is whether the effect of lecture capture on attendance could negatively impact performance. Edwards and Clinton (2019) concluded that non-attendance continues to have a negative impact on attainment, even when lecture capture usage is taken into account. Similar findings relating to frequent reliance on recorded lectures adversely impacting exam performance are reported by Le, Joordens, Chrysostomou, and Grinnell (2010), Wenger, Hobbs, Williams, Hays, and Ducatman (2009), and McNulty et al. (2009) who demonstrate that frequent use of recorded lectures lead to significantly lower exam scores.

In contrast, some researchers suggest lecture capture leads to higher performance (Danielson, Preast, Bender, & Hassall, 2014; Traphagan

et al., 2010). Students also reported a positive effect of lecture capture on their exam performance (Brittain, Glowacki, Ittersum, & Johnson, 2006; Gosper et al., 2008). Mayer (2009) suggests that lecture capture's ability to simultaneously present visual and auditory information should have a more positive effect on learning than textbooks, slides and notes. Bassili and Joordens (2008) speculate that the increase in performance is a result of students' ability to pause recordings at difficult concepts, and/or listen to recordings several times. Moreover, Traphagan et al. (2010) found that lecture capture had a positive impact on performance even if students' lecture attendance declined.

Clearly, the research on lecture capture, student attendance and performance is not conclusive. This is important when considering the lecturers' perspective as O'Callaghan, Neumann, Jones, and Creed (2017) observe that some lecturers are unwilling to use lecture capture where the benefits are unknown. This view is similar to Gosper et al.'s (2008) study of four Australian universities where 27% of teaching staff viewed lecture capture negatively. Some of the reasons for negative responses included that lecturers feel pressured by student expectations and fear poor student evaluations of their teaching if they do not use lecture capture.

There is less research regarding how lecture capture affects lectures, some studies showing that it leads to lecturers changing or suppressing their individual style. This may be for practical reasons such as the need to restructure the lecture, e.g. restricting movement to be close to a microphone (O'Callaghan et al., 2017) and repeating questions so they are picked up by the recording (Gosper et al., 2008). More fundamentally, mindful of recording, lecturers tend to avoid saying things that could be viewed negatively (Chang, 2007).

Methodology

This research follows a qualitative, case study, approach (Stake, 1995). The case is a second-year module, taught in the Autumn semester (October–December, 2018) at the University of Surrey.

The module, taken by 45 students, was taught by two tutors who agreed to use a flipped classroom approach using 10-minute preparatory videos to introduce topics and set tasks prior to the face-to-face workshop (a 3-hour block). Videos were released a week in advance of the workshop. Lesson structure varied but normally started with a group discussion of the preparatory video (30–40 minutes), followed by a formal (recorded) lecture (40–50 minutes). After a short break there were further group-based seminar activities.

Two focus groups were recruited through self-selection and conducted in week 7 of the 11-week module by the student researcher. Focus group 1 had five participants: Alison and Jenny from Hong Kong, Oliver from Macao, Liz from China and Gwen from Italy. Focus group 2 had four participants: Emily from Bulgaria, Olivia from the UK, Eva from Lithuania and Hannah from Macao (all names for students and staff are pseudonyms).

Two semi-structured interviews were also conducted by the staff researcher who recruited UK students from different backgrounds—George and Lydia—as UK students were under represented in the focus groups. The same questions were asked as in the focus groups. However, the staff researcher, Peter, was able to explore some topics and opinions in more detail which had not been possible for the student researcher to do in the focus groups. In this way, the potential bias of the self-selecting sample for the focus group was countered. Finally, after the module, Peter conducted an informal semi-structured interview with Joseph—his co-tutor.

Results and Discussion

Advantages and Disadvantages of Lecture Recording

When the students were asked about the advantages and disadvantages of lecture capture, they identified attendance as a potential issue:

Eva: So the main ones [disadvantages] are people skipping lectures.
Hannah: Yeah.

Emily: Because they rely on it's going to be recorded.

In her interview, Lydia described how lecture capture had been used on two modules. In one all lectures were recorded and released in week 11 to support revision. In the other lecture capture started halfway through the module as students were struggling to keep up. Reflecting on the two approaches, Lydia suggested that using lecture capture for exam revision was better as attendance dropped significantly on the module where it was introduced earlier. These comments concur with the findings of several researchers including Edwards and Clinton (2019) who argue that lecture recording removes the penalty of non-attendance.

In one focus group Alison described how the Accountancy teaching staff consolidated learning by using the seminar for exercises that tested understanding of the lecture. Following the seminar, more exercises were released for the students to practice. Alison thought that recording lectures worked better in that context. This suggests that recording some subjects' lectures and activities may be more appropriate than others. This point is supported by several comments in the focus groups relating to lecture capture of assignment briefings, the implication being that recording of instructions and procedures rather than complex ideas might be more effective.

Flipped Learning

Unlike the participants in Steen-Utheim and Foldness (2018) and Lewis et al.'s (2018) studies, the students in our focus groups and interviews had mixed views about the flipped classroom and use of preparatory videos. Several issues were identified that are also present in the literature. Alison said she was not in the "habit" of watching films prior to class. This is similar to Bramley's (2018) observation that students were confused about the amount of preparation time required. Time seems to also be an issue for Gwen who wanted just lecture slides so as to "know briefly" because it "takes less time" than watching a video. This point was also made by Lydia who said that she normally watched the video an hour or two before the lecture and skimmed any reading tasks. This

usage of lecture capture is confirmed by the software's analytics which are set out in Fig. 9.1.

Figure 9.1 illustrates the students' rather last-minute viewing habits. The preparatory video was released at 14:40 on 11 October and was viewed by students 19 times for 84 minutes in total prior to the lecture which took place on 16 October. On 16 October, there were 13 views totalling at 115 minutes prior to the workshop at 15:00. The table then shows another spike of 30 views between 29 October and 6 November lasting 181 minutes in total. The first assignment deadline was 6 November at 16:00 and content of the video included a reading task plus some guidance on the first assignment. The analytics support Lydia's version of viewing the video at the last minute, skimming the reading and tasks. They also support the views of the students in the focus group (Gwen, Alison and Liz) who preferred to just have the slides without a video.

In the focus group, Jenny and Liz expressed opposing opinions of the flipped classroom approach. Jenny was positive regarding the preparation suggesting that it helped with understanding both individually and collectively the topic of the lecture. Liz, however, was more critical, stating that not everyone viewed the video beforehand (including herself) and so preferred to have some explanation at the start of the lecture. The latter supports Bramley's (2018) flipped classroom approach where the lecture began with a 10-minute summary of the preparatory video.

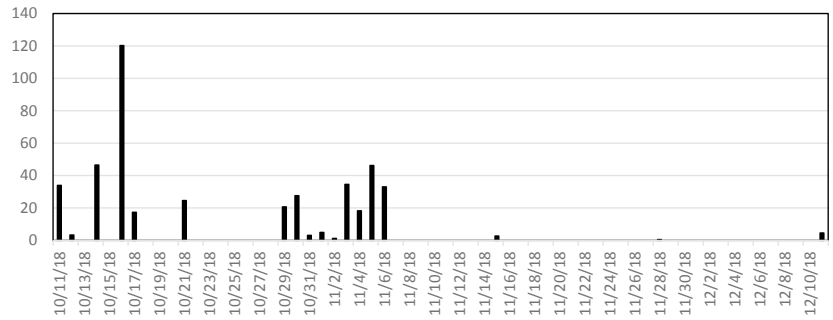

Fig. 9.1 Total student viewing time for Week 3 Preparatory Video in minutes during the module

Other students in the focus groups were much more positive about the preparatory videos suggesting that it increased active engagement prior to the classroom. However, such enthusiastic responses should be viewed carefully: in George's interview, for example, it was clear that the preparatory films were not a significant aspect of her studies.

Live Learning Experiences and Lecture Recordings

Despite students' calls for lecture recordings, the data shows that they were not accessed by the majority, nor did those that used them seem to utilise them fully. Table 9.1 gives a summary of access data for the weeks when recordings were made.

It can be seen from the table that the preparation videos were viewed more than the lecture recordings. However, the average minutes viewed show that approximately half of the 10–15 minutes preparatory videos

Table 9.1 Summary of student usage of lecture recordings

Session	Views	Minutes delivered	Average minutes viewed	Unique visitors[a]
Week 1 Preparation	40	290	7.3	19
Week 1 Lecture	31	126.4	4.1	18
Week 2 Preparation	98	508	5.2	49
Week 2 Lecture	42	125.7	3	26
Week 3 Preparation	79	479.6	6.1	41
Week 3 Lecture	39	213.2	5.5	24
How to upload your assignment (Week 3)	46	105.1	2.3	38
Week 5 Preparation	46	171	3.7	28
Week 5 Lecture	0	0	0	0
Week 6 Lecture	15	69.5	4.6	12
Week 7 Preparation	43	102.3	2.4	29

[a]Unique visitors may be the same individual accessing material several times

were watched (for lecture recordings the average view time is very low). One of the main reasons for the low take-up is probably the length of the videos. All students commented that if videos were too long they would not watch them. The optimum length seems to be 5–10 minutes. One student commented favourably on another module where the recorded lecture content had been divided into shorter sections. This view was also reported by Lewis et al. (2018) and Bramley (2018).

Both researchers asked the students whether they preferred live lectures or recordings. Similarly to Harley et al. (2003) and Traphagan et al. (2010), the majority strongly preferred live lectures. However, in her interview, Lydia offered a more nuanced opinion:

> Lydia: I think that [recorded lectures] could be quite a good alternative because I know some people don't like the three-hour block. I think [students would] probably slowly stop turning up for the seminars if they haven't done the listening beforehand…

Lydia's identification of the potential problems of using lecture capture exclusively to deliver recorded lectures is important. Moreover, she and other students described a meticulous process of note-taking during lectures, and then using lecture capture to help fill in gaps of the notes they have missed. This may suggest both UK and overseas students valorise the lecture in their learning experience. While Klemenčič (2017) suggests that student-centred learning should not obviate lecture-based approaches, it would seem, in the classroom, the reverse is true, with students being dependent on the teacher to provide knowledge and explain it rather than exercising agency to self-regulate their learning. In Rancièrian terms (1999, p. 29), the teacher-centred, lecture-focused model is *police*, where students and teachers have clearly defined roles and relationships set out along well-defined lines. The alternative flipped classroom model presents the possibility for what Rancière (1999, pp. 29–30) calls *politics*: "an extremely determined activity antagonistic to policing…Political activity is whatever shifts a body from the place assigned to it or changes a place's destination". In this context the flipped classroom intends to shift the students from coming to the classroom ready to listen, take notes and then engage, towards coming to class prepared,

and ready to engage with each other and the teacher. The evidence from the students is that this shift did not happen.

Lecturer Perspectives

In their discussion of the flipped classroom approach, both lecturers (Peter and Joseph) agreed that recording the lectures did not affect their delivery. In fact, both agreed that after a few minutes they had forgotten that the lecture was being recorded. Early in the interview the tutors established that their approach to the flipped classroom had been quite different. Originally Peter had suggested using the flipped classroom approach and it turned out that Joseph had recorded two pre-lecture videos. In both videos the topic was introduced, and in one video students were asked to watch a TED talk[1] and referred to two journal articles. However, Joseph's pre-lecture videos did not set the students particular tasks that led to the workshop. In contrast, Joseph introduced the topic, asked students to read an article and consider some questions and come prepared to discuss their answers.

Reflecting on the experience of using the flipped classroom approach and lecture capture, Peter said that his approach tended to be more ad hoc so he would record a lecture if asked to by the students or if the content was detailed instruction that students would need to refer back to, e.g. an assessment briefing. In contrast, Joseph tried to be more consistent in delivering a similar format each time. Both lecturers reflected on whether they would advocate the flipped classroom as an approach and both agreed that while there is an aspiration among faculty for students to be independent learners, in reality, staff do not encourage this in their teaching approach by sending consistent messages. Asking staff to include two flipped classroom sessions on all modules, and explaining to students that preparation for class is required, would help to develop a culture of student-centred learning more effectively than isolated initiatives which may be viewed negatively by students.

Conclusion

This project set out to examine student and staff perceptions of lecture capture, specifically the recording of lectures and the flipped classroom. What becomes clear from the case study is that while students requested lectures to be recorded, the take-up of the recordings provided was very low. This may be due in part to the length of the recordings and shorter, more focused videos would have better take-up. Similarly, in relation to the flipped classroom approach, the students' responses in the focus groups and interviews were mixed, with a preference for short videos and less preparation. The software analytics showed that those students who watched the preparatory videos did so at the last minute when there was little time to do the tasks set. This often had a detrimental impact on the classroom activity as students tried to catch up.

The flipped classroom approach runs counter to the established teacher-centric, lecture-focused, teaching culture of universities, what Rancière (1999) would call *police*. Students do not appear to expect to have completed tasks and to come prepared to the lesson. Rather, they expect to be lectured, take notes, engage in a discussion and ideally be able to listen again to the lecture at a later date if necessary. This expectation highlights the problem with Klemenčič's (2017) argument that student-centred learning should complement traditional, lecture-based, teacher-centred learning approaches. This case study suggests that the momentum on the students' part is still towards passive learning. For active, student-centred learning to be prioritised, and valued by both students and staff, traditional, lecture-based learning should be positioned as complementary rather than the other way around.

The importance of recognising that the students in this case study did not speak with one voice should not be missed: some valued the flipped classroom approach, others did not. Likewise, the tutors were new to the technology and to flipped classroom approaches and did not implement these consistently. This lack of consistency suggests the presence of Rancièrian (1999) *police* rather than *politics* in teaching practice, as tried and tested methods persisted even as the teaching staff endeavoured to shift towards flipped classroom approaches.

The Rancièrian (1999) lens is useful in understanding the dynamics present when new teaching practices are introduced, particularly when they challenge student dependence on teachers. This case study has highlighted a number of learning points relating to recording lectures and the flipped classroom that will certainly prove useful for developing future practice.

Reflective Vignette

Student Perspective

As a second-year undergraduate student I'd always wanted to get involved in research. This was a great opportunity and answered many of my previous questions about the research process: where do you start from, what methods can be used, and how the most appropriate research methods are selected. Moreover, most of the textbooks I used for my assignments were written by several authors and I was keen to understand how communication is maintained, how tasks are distributed, and how consistency is ensured. In this sense, this partnership project provided me with a thorough understanding of how two or more people can work together to achieve the aims and objectives of the study.

I was given significant responsibilities. Preparing the literature review was something I had done before but facilitating the focus groups was new so I asked for feedback and got plenty of helpful advice from my research partner. I was actively learning and I feel that this process of ongoing communication made the experience valuable.

Staff Perspective

I believe my role as a teacher is to encourage and challenge students to take on new tasks, responsibilities and ideas. I try to challenge myself in a similar way and this partnership project has been a channel to develop my skills and practice.

My co-researcher delivered really excellent work including a comprehensive literature review and two well-managed focus groups with fellow students. She rose to the challenge by completing tasks with minimal supervision and, I hope, found them both rewarding and challenging. I tried a new teaching practice: the flipped classroom. I don't think I got it quite right (the module evaluation questionnaire was negative for me) but I learnt from the experience and will try again with some changes next time. I highly recommend colleagues and students to do a student–staff research partnership. I've learnt a great deal which in time I hope will benefit students.

Note

1. TED is a non-profit initiative devoted to spreading ideas, usually in the form of short, powerful talks. TED began in 1984 as a conference where Technology, Entertainment and Design converged, and today covers almost all topics—from science to business to global issues.

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10

A Comparison of Student Perceptions of Physical and Virtual Engineering Laboratory Classes

Charlotte Foreman, Mary Hilditch, Nicole Rockliff and Holly Clarke

Introduction

Engineering degrees are highly technical and have a high proportion of analytical classes. However, students who choose engineering as a discipline tend to have an interest in the experimental/practical aspects of engineering (Holmegaard, Ulriksen, & Madsen, 2010) and it is a requirement of the Engineering Council to include experimental work in accredited programmes:

> For students to achieve a satisfactory understanding of engineering, the expectation is that they have significant exposure to hands-on laboratory work and substantial individual and group project work. (QAA Engineering Benchmark statements, 2015, p. 12)

Furthermore, accrediting bodies often commend programmes with high levels of experimental work. A study by Behnejad (2018) provided

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an overview of how the balance between the practical and academic aspects of engineering has changed, with particular reference to research by Froyd, Wankat, and Smith (2012) who identified five major shifts in engineering education that have occurred over the past 100 years. Included in these was a shift from a hands-on and practical emphasis, towards engineering science with an analytical emphasis.

Students can gain theoretical knowledge in the classroom environment; however, there are growing expectations for educators to provide online learning resources, including digital recordings. We ask if it is only possible to grasp necessary practical knowledge and experiences in the laboratory (Balamuralithara & Woods, 2007), or whether online resources and digital enhancements can also be used to enable students to gain the necessary practical skills that are required not only by accrediting bodies but also to meet industry needs. This chapter details a study carried out through a student–staff partnership, whereby the student and staff worked together to review the literature on the topic of virtual experiments, and to conduct focus groups in order to gain an understanding of students' perspectives of physical laboratory classes versus virtual laboratories.

This chapter will first examine the main perceived benefits and drawbacks of laboratory work along with reviewing virtual laboratory sessions. Following this, we explore the current laboratory practice within Mechanical Engineering Sciences at the University of Surrey, before examining simulations and remote laboratories that could be considered suitable replacements of the physical laboratories. We will also explore the results of focus groups held with current students within the department.

Potential Benefits of Laboratory Work

Hands-on laboratories involve physically real processes. All equipment required for the laboratory is physically set up and the students who perform the experiment are present in the laboratory (Elawady & Tolba, 2009). A number of researchers have identified the benefits of experimental work (Rahmat bin OK & Kamarudin, 2011), with its main

aims falling into four broad groups (Edward, 2002). The first is cognitive learning, which is often interpreted as the integration of theory with practice. Physical laboratories expose students to a variety of instruments and equipment, taking advantage of tactile information that, according to theories of embodied cognition, fosters the development of conceptual knowledge (de Jong, Linn, & Zacharia, 2013). Inquiry methodology is the second group which includes hypothesis forming, experimental design and methodology and evaluation of results including data analysis. Students can also develop skills such as troubleshooting of machinery and can experience the challenges many scientists or engineers face when planning experiments that require careful setup of equipment and the requirement to follow step-by-step instructions (de Jong et al., 2013). Students will also learn about the complexity of science by dealing with unanticipated events, such as measurement errors (Toth, Morrow, & Ludvico, 2009). The third group is vocational aims which include awareness of the current practice and professional ethics, and the ability for a deeper understanding of real-world problems. The final group is the development of personal skills such as communication, report writing and team working skills. Physical laboratories are also reported to impact upon students' learning outcomes and performance, and on the presumed practicality of professional preparation (Basey, Sackett, & Robinsons, 2008; Clough, 2002; Finn, Maxwell, & Calver, 2002; Magin, Churches, & Reizes, 1986; Nersessian, 1991; Ottander & Grelsson, 2006).

Perceived Drawbacks of Laboratory Work

In today's practice, students in many institutions are given detailed work manuals and have demonstrators who show step-by-step methods, therefore potentially invalidating some of the benefits (Rahmat bin OK & Kamarudin, 2011). Many laboratory sessions are scheduled as laboratory classes (separated from the specific Engineering discipline module) and as such, students may fail to recognise the links between the activities they are undertaking within the laboratory with applications outside of a laboratory environment (Kinchin & Kinchin, 2019).

Laboratory work is often expensive, including large equipment costs (both for initial purchase and maintenance), as well as facility expenses and the cost of technician and demonstrator time. With current fiscal cutbacks, it is becoming increasingly difficult to support the requirements for laboratory classes (Magin & Kanapathipillai, 2000). The amount of time students spend in the physical laboratory, preparing for the classes and writing up laboratory experiments, is also significant. In order to identify if virtual laboratories would be a viable option to implement within Mechanical Engineering Sciences, a review of the virtual experiments currently available was required.

Review of Virtual Experiments

One area of challenge facing institutions and educators in the implementation of virtual laboratories is how they can place real laboratories on the Internet (Balamuralithara & Woods, 2007), potentially with simulations, remote laboratories or virtual laboratories. A virtual laboratory can be defined as an environment in which experiments are conducted or controlled partly or wholly through computer operation, simulation and/or animation, either locally or remotely via the Internet (Chan & Fok, 2009). Striegel (2001) reports that simulations are equivalent to physical laboratories for explaining and reinforcing concepts and Hodge, Hinton, and Lightner (2001) observe that simulations can expose students to practical knowledge. It has also been stated by Trundle and Bell (2010) that by using virtual laboratories, reality can be adapted, and learning can be simplified by highlighting salient information. In some instances, it may not be safe or physically possible to conduct an experiment due to unobservable phenomena, such as chemical reactions, thermodynamics or electricity (de Jong et al., 2013).

Wiesner and Lan (2004) compared virtual and physical equipment for measuring heat exchange, mass transfer and humidification and found no differences in the performance for Chemical Engineering students on a test measuring underlying principles. Similarly, no differences between virtual and physical experiments on a test of conceptual understanding are reported by Klahr, Triona, and Williams (2007) for students

designing a car, or by Zacharia and Constantinou (2008) for undergraduates learning about heat and temperature. For measuring inquiry skills, Triona and Klahr (2003) found no differences in virtual and physical experiments that investigated the behaviour of springs. However, Peterson and Feisel (2002) report that many existing remote laboratories do not provide the user with the feeling of the real presence in the laboratory. Zacharia, Loizou, and Papaevripidou (2012) found that students who do not have previous relevant physical experience with the phenomenon or concept under study would not gain as much knowledge from virtual laboratories compared to physical laboratories.

Ma and Nickerson (2006) compiled a review of the literature concerning the comparative value and perceptions of hands-on, simulated and remote laboratories. Their findings suggest that no consensus exists amongst educators regarding the effectiveness of each laboratory type relative to one another, and that the educational outcomes, and instruments and methods, by which the effectiveness was determined seemed to vary from study to study.

Experimental Work Within Mechanical Engineering Sciences

At the University of Surrey, for both the first-year and second-year laboratory sessions, students are issued with a laboratory manual that includes all the laboratories that they are going to undertake. Within the manual, the students are provided with some background and objectives for each laboratory. Some preparatory questions and requirements are then outlined, which the students have to complete prior to commencing the physical laboratory. The equipment and step-by-step instructions are presented and then discussion points and deliverables are outlined. Many researchers have reported that physical investigations succeed when they include worksheets as well as online and teacher guidance to help students distinguish their own ideas and the ones demonstrated by the experiment (Linn, Lee, Tinker, Husic, & Chiu, 2006; Windschitl & Andre, 1998). Students are also provided with a list of references to enable them to carry out extra reading.

During the physical laboratory session, the demonstrator reviews the preparation activity and awards marks for this. The demonstrator is there to facilitate the laboratory session and typically explains the laboratory in more detail, asks directed questions to ensure students understand the purpose of the laboratory and are fully aware of the deliverables. Students are then awarded a mark for laboratory participation. The first-year students are also required to complete a full laboratory write-up of two of the experiments.

Methods

In order to identify if virtual experiments or simulations would be a viable option for Mechanical Engineering Sciences disciplines at the University of Surrey, we carried out a review of the current physical experiments at the University of Surrey along with the virtual or simulation equivalents. This study focuses on the first-year laboratories only, the reasoning being that the first-year laboratories tend to be more general engineering laboratories, as opposed to more specialised laboratories that the second-year students undertake. First-year students are required to complete five experiments covering tensile testing, hydraulic jump, stresses in a beam, centrifugal pump and impact testing, which all cohorts (Mechanical Engineering, Automotive, Biomedical and Aerospace Engineering) take, plus one more discipline-specific experiment.

As would be expected, after reviewing the resources available on the Internet, the more general engineering-based experiments have some virtual resources, whereas we were unable to find any virtual resources for the more specialised laboratories such as the viscosity of non-Newtonian fluid, laminar boundary layer and biomechanics and movement. We decided to focus on the virtual laboratory that best reflected the outcomes of a physical laboratory studied by our first-year students; this was the tensile test laboratory. The virtual experiment that was identified was a 2D (screen-based) simulation as opposed to a 3D immersive virtual laboratory. During our research we were unable to identify any immersive 3D simulation laboratories.

Focus Groups

Focus groups were used to initially explore student views on the benefits of practical engineering laboratories and of possible virtual laboratory sessions. This was followed up by the participants undertaking a virtual laboratory similar to the tensile testing laboratory they had completed in their first year and providing feedback on their experiences, bearing in mind their original responses. The student perception of the learning gains was thought to be critical.

Recruitment to the focus groups was by email, through the student partner, from the third and fourth years of the BEng and MEng programmes in Aerospace, Biomedical, Automotive and Mechanical Engineering. The target group was chosen because these students would have completed laboratory classes in both the first and second years of their programmes. In addition, many of them would have spent a subsequent year on placement in industry and would be able to offer a perspective that reflected the professional world. Initially, it was hoped to recruit about 30 participants, but the final number taking part was about 12, spread across three focus groups. The focus groups were facilitated by the student partner in order to create an environment where students felt they could give their views honestly, without the presence of a staff member. Each focus group started off by exploring the students' opinions on the practical laboratory sessions they had taken part in during the first and second year of their studies. The student partner probed participants to discuss both the advantages and any disadvantages of these sessions before asking them their opinions on replacing the laboratories with virtual experiments. The follow-up exercises made use of a virtual experiment from Classroom Materials.ac.uk, available online; this resembled reasonably closely the tensile testing experiment carried out by the students in their first year. Students were asked to provide feedback on the virtual laboratory and to compare this with their experience of the physical laboratory.

Results and Discussion

Focus Group Results Pre Virtual Laboratory Trial

Many of the comments from the focus groups echoed the comments of students within the study by Holmegaard et al. (2010), and fall into Edward's (2002) four categories outlined in the literature review: those of cognitive learning, inquiry methodology, vocational aims and personal skills development. The responses have been split into the following four categories.

Cognitive Learning

Some students stated "we did get a lot out of doing", followed by "knowing how (something) works in real life was useful". They reflected on the most useful laboratories they undertook, stating that the "best ones were where we physically see something happening (e.g. tensile testing material breaking, impact)". One student also felt that "a lot of other modules were not very practical, lots of theory", and as such including laboratories gave them the practical aspect to the Engineering degree. There was also a comment on laboratories being "useful if [you had] never seen equipment before" and that they gave students "practice in use of equipment" where many "enjoyed the aspect of doing something practical". One student commented that "labs extend knowledge".

Inquiry Methodology

The majority implied that being actively involved in the laboratory meant they understood it better and it was good to experience when things do not go to plan. A number of students also felt that during a laboratory, "if something went wrong, they would have more to discuss". They also said that they had an "appreciation of numbers used". and they "understand and know how things are measured". There was also a discussion on "errors", where students stated that physically doing

the laboratory gave a better appreciation of the errors that could occur; this is in agreement with Toth et al. (2009).

Vocational Aims

Some of the discussions focused on the usefulness of laboratories for going on an industrial placement. Students commented that this meant they "felt not just clueless". Clearly, some students may feel daunted going on placement if they have not experienced working in industry before. As a result, they felt better knowing they had "seen this before", that they "get the idea" about how certain equipment works and so they "didn't look like a complete idiot". Overall, the consensus was that it was good "preparation for placement, especially as work was hands-on in placement".

Development of Personal Skills

Interestingly, the students did not comment on personal skills development during the focus groups. The members of staff in this project team, however, feel that personal skills are significantly developed during the laboratory sessions. For example, these may be the first opportunity for students to work together in a group setting, and to develop team working skills. The in-lab discussions develop students' skills in communicating technical concepts orally, whilst written laboratory reports enhance technical writing skills.

Some of the more general discussions were around having demonstrators available to ask questions and explain things where students said that "some really good, in depth discussions" were had due to the presence of a demonstrator, and the demonstrators were able to "tease (information/understanding) out of the group". The demonstrators "made students figure things out for themselves" but also encouraged them to ask questions. Rice, Thomas, and O'Toole (2009) support this, stating "demonstrators are the most significant resource applied to the laboratory exercises", along with Osborne, Simon, and Collins (2003) who report

that the students' experience interacting with their laboratory demonstrator consistently ranks highly as a contributing factor toward students' interest in and attitudes to their science courses. Another interesting observation made was that the laboratories were often held within research areas and because of this it gave students the "opportunity to ask about other things". Here they were referring to other equipment in the laboratory area which widened their knowledge of the equipment and types of experiments that are carried out not just at the undergraduate level, but by post-graduate students and research groups within the University.

Following on from the reflection on physical laboratories, students were then asked to comment on what they thought about virtual ones. Some students commented that "virtual would be worse" and that it would be "better to go in and use real equipment", as they "would not be able to learn as much" from a virtual laboratory. This was partly because students thought that others would try and work through the experiment as fast as possible, just to generate a set of results. It concerned them that the results would be identical, which may have been implying that part of the usefulness of carrying out the physical laboratory is that even students within the same group can end up with slightly different results which promotes discussion. Going back to the usefulness of having a demonstrator as indicated earlier, they commented that there would be "no-one there to explain/tell you" and, you "can't ask a piece of software why something happened". Lecturers, however, might comment that removing the instructor could promote deeper thinking from the students.

Another concern voiced by some students was that "virtual laboratories could lead to collusion", again partly, we think because they all would have the same results, but also that they would be doing the laboratory remotely so potentially could all sit around one computer. There was also concern that virtual laboratories were "artificial", with an additional comment that students "could not trust that [things] behaved as they would in the real world", leading on to them discussing "measurement errors". They felt that it "would be difficult to see why errors occur as you don't see the equipment or the measuring devices". In relation to the vocational

aims, a student felt they would be "dumped in the deep end in industry" if they had had no exposure to a real laboratory environment and had "no hands-on time with equipment". A final interesting comment made by one of the students did not relate to their own learning but to potential applicants to the University: having no physical laboratory space and equipment would lead to "diminished marketing to potential applicants".

Focus group participants did draw out a few benefits of virtual laboratories, one being there would be "less variability in the demonstrator". Having six laboratories within the first year meant that each laboratory session was delivered in a slightly different way, whereas the experience would be consistent for everyone undertaking a virtual laboratory. Another benefit would be to "potentially be able to revisit" the virtual laboratory sessions and so they could check results and spend more time there.

Focus Group Results Post Virtual Laboratory Trial

The feedback from students who undertook the virtual tensile testing laboratory was consistent. They found the virtual laboratory easy to undertake and felt that the instructions were clear. They liked being able to do the laboratory remotely and in a location of their choosing. The students appreciated the good visual effects, realistic sounds and real-time drawing of graphs and felt that the simulation was "very to the point about what tensile testing is". It also allowed for the test to be repeated and gave a good introduction to the topic. In comparison with the physical tensile test experiment they had undertaken previously, the students identified several items of information that were lacking, but their biggest criticism was that they did not feel that it provided the depth of learning experienced from the physical laboratory. The fixed format of the results and identical repeat values were criticised for being unrealistic, the information was obtained too easily and it was thought that the animation of the experiment made it more like a game than a serious engineering test. The lack of experience in handling real test equipment was mentioned, as was the "perfect" nature of the experiment, with nothing going

wrong. Students also missed the interaction with the demonstrator and the opportunity to ask questions. Overall, the students were very much in favour of the physical laboratory, but felt that this type of virtual laboratory could be used in addition to physical laboratories. This finding reflects those reported by de Jong et al. (2013).

Conclusions

A collaborative student–staff investigation has shown that students are very much in favour of hands-on laboratory experiences. The students identified wider benefits than simply acquiring technical knowledge of a single experiment. As has been found by previous researchers, these benefits covered cognitive learning, inquiry methodology and vocational aims; however, students failed to identify the benefits to their development of personal skills. Students also appreciated the contributions laboratory classes made to their general engineering education. Virtual laboratories were considered of limited benefit and provided an inferior learning experience. Further research could focus on adding some element of virtual experiments to the laboratory sessions, for example, by allowing students to carry out preparatory work remotely to better prepare themselves for the physical laboratory.

Reflective Vignette

Student Perspective

I really enjoyed being involved in the student–staff partnership. I was fully involved at every step. I was invited to attend all meetings, and my opinions and thoughts were taken very seriously. The amount of work I was expected to do was made clear to me and this was very fair with respect to my degree work. The project was of interest to us all. I really enjoyed labs as part of my first and second year and saw the benefits of them being a practical part of the degree so was keen for my opinions to be put across; I believe this opinion was reciprocated by the whole team. It was useful for the staff to see that the

students' opinions of labs were similar to theirs, and vice versa *for me. As we all believed the same thing, it was easy to become passionate about the project and to work collectively as a group.*

As the project was very student opinion-based, I believe my inputs were important to see the scenarios from a student's point of view. It was decided that I would run the student focus groups so that the participants would feel comfortable and be open and honest about their experiences during labs. This worked well as some interesting discussions were had; however, as I knew many of the students it was difficult for them to see the focus group as a serious conversation. I particularly felt this with the first focus group all of whom I knew very well; the conversation was less a discussion and more of a question and answer. When compared to the second group, who I did not know as well, the discussion seemed to flow more, and people were able to bounce off each other's opinions with ease. Regardless of this, the information we gained from the focus groups was very useful and agreed with previous research done on the topic.

My experience confirms what I originally thought of staff–student partnerships—they are very valuable experiences. It allows students to see that staff are on the same page as them and most of the time agree with their opinions, rather than as people who are just there to teach you your degree. It helped me to understand the research side of university and I have a better appreciation of the amount of time and effort that needs to go into a research paper.

From what I have learnt, to make these partnerships successful, it is useful if the staff and students have similar work ethics and are of a similar opinion of how they want the project to pan out and the type of research they want to achieve at the end of it. I believe this allowed our project to run smoothly and that all team members gained a lot from the overall experience.

Staff Perspective

Coming from a technical background, we found the style of the research challenging. Being engineers, the majority of our work focuses on data and analysis rather than human involvement. As such, the most challenging aspects were actually understanding the ethics procedures that need to be considered

prior to commencing the study and the way qualitative data could be used. We were also very conscious of not overloading the student as we did not want the project to impact her studies. We feel we achieved the appropriate balance between staff input and student input into the study, and without the student being involved we do not think we would have encouraged as many students to be involved in the focus groups and to participate in the virtual experiment. The key fear we had of the student finding it difficult to manage facilitating the focus groups of her peers with sufficient authority was not reflected in practice, although clearly structuring the discussion to elicit the information wanted without leading the participants is a challenge. Getting sufficient student participants to engage in the focus groups for there to be meaningful results was perhaps one we had underestimated; ideally, numbers would have been at least double.

We are pleased to see that the students valued the physical laboratories that we offer as part of the degree programmes. The study has also provided us with some interesting ideas on how we can incorporate some digital technology into the preparation section of the laboratory module.

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11

Skills Developed by Economics Students During Their Professional Training Year

Miguel Flores and Bardees Elmenofy

Introduction

Despite the increasing numbers in student degree enrolments and degree qualifications,[1] there is evidence that graduates lack "employability" skills, with a growing number of jobs that are being left unfilled because companies are not able to find people with the right skills (UK Commission for Employment and Skills, 2016). Recent evidence shows the increased relevance of additional skills such as communication or teamwork to employers and graduates in a continuously changing labour environment (Succi & Canovi, 2019). In the field of Economics, employers frequently comment on a need for development in the application of economic theory and improvements in skills such as communication (UK Commission for Employment and Skills, 2016). Against this background, UK universities have come under pressure to

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equip graduates with not only academic skills from the subject discipline but also with "transferable" or "generic" skills needed in many types of high-level employment.

The Professional Training Year (PTY) at the University of Surrey contributes to closing the gap between degree qualifications and graduate employability skills, since students on placements tend to acquire not only specific job skills but also transferable skills. For this reason, it is crucial to identify the skills developed in economic placements that can contribute to graduate employability. Students participating in and returning from placement provide valuable insight into what employers are looking for from graduates. As Mason, Williams, and Cranmer (2009) note, structured work experience and employer involvement in degree course delivery have clear positive effects on the ability of graduates to secure employment in graduate-level jobs. In this chapter, we attempt to identify the skills developed by placement students from the School of Economics at the University of Surrey. We also try to contribute to a wider understanding of the possible effects of gender in HE[2] by looking at whether the skills developed by placement students are somehow different for male and female students. Using document analysis and statistical methods on the reports students submit as part of the PTY assessment framework towards the end of their placement year, we focus on five transferable skills: teamwork, problem-solving, communication, professionalism and time management. We also focus on nine skills/subject areas specifically relevant for Economics, e.g. data analysis and economic modelling. We find that most of the economic students in our sample acquired the five skills. Moreover, the proportion of male and female students who acquired those skills were similar. We also find that students develop their ability to analyse and interpret economic data, especially related to macroeconomics and finance areas, during their placement year.

Methodology and Data

We followed a document analysis strategy (Bowen, 2009) to identify the main skills developed by Economics students on their PTY. Specifically,

we focused on Economics placement students who completed their PTY during the academic year 2017–2018: 63 in total. For each of these placement students we analysed their final placement report. To complement the qualitative research involved with this methodology, we also built some statistic indicators to provide a quantitative dimension to our analysis and discussion.

The Placement Report is a 4000-word written document submitted at the end of the PTY (usually at the beginning of September) and before students start their final year undergraduate studies. The report contains two sections. First, the subject-specific or technical section (2000 words) includes a short description of the organisation, the student's roles and tasks and a brief description of the work they undertook. The main focus of this part of the placement report is on the analysis of some aspects of the student's professional experience and how these relate to the development of their academic knowledge and application of their working practices to the professional environment during the PTY. Second, the reflective section (2000 words) includes the analysis and critical evaluation of operational practices that the student undertook while on placement. Importantly, the focus of this section of the report is on the assessment of the student's personal and professional growth based on six competencies (cognitive abilities, personal characteristics, transferable competences, subject-specific expertise, organisational awareness and professionalism) that the student has reflected on throughout the year as part of the professional development review (PDR). The PDR is a self-reflection tool that provides guidance and a framework for students and workplace supervisors to discuss and evaluate students' personal and professional development. The way in which the placement report and the PDR feed into the work-based learning programme at the University of Surrey is in line with the feedback framework for employability skills proposed by Griffiths, Inman, Rojas, and Williams (2018), which is designed to enhance learners' self-perception of employability.

Students evaluate themselves on six different competencies at four different stages: before starting the PTY and in preparation for the first, second and third meeting with their placement tutor (i.e. academic from the School of Economics) and supervisor during the PTY. Workplace supervisors also assess students' performance on those six competences

in preparation for the first, second and third meeting with the student's placement tutor during the PTY. At the end of the report, students consider the feedback provided by their workplace supervisor and their placement tutor to address their current strengths and weaknesses, and outline how they plan to address any development needs and build on their strengths further for graduate employability. This process involves a reflection on the relationship between the student's placement experience and future academic and/or career aspirations, which might include a reflection on the transferability of their skills and the newly acquired awareness of institutional practices, professional environments and career options.

Following the literature on employability skills (e.g. Griffiths et al., 2018; Jayasingam, Fujiwara, & Thurasamy, 2018; Mason et al., 2009; Succi & Canovi, 2019), we analysed five commonly discussed transferable skills: teamwork, problem-solving, communication (oral and written), professionalism and time management. Specifically, for teamwork we looked for evidence on whether the student experienced being part of a team and contributed to the group effort in particular tasks during the placement year. For problem-solving we looked for evidence on whether the student experienced or used analytical/numerical skills during the placement year. Communication skills were evaluated by looking for evidence on whether the student experienced oral communication, such as presentations or discussions with peers and senior members of the organisation, and written communication, such as writing brief notes or reports, during the placement year. Professionalism was assessed by gathering evidence on whether the student showed resilience, positive attitude, adaptability, or networking skills during the placement year. Finally, for time management we looked for evidence on whether the student demonstrated effective task allocation according to priority or time during the placement year. For each of these five transferable skills we created dummy variables with values equal to one if the student showed evidence on the skill or zero if the student did not. This procedure allowed us to compute some statistics, such as the percentage of students who gained teamwork experience (see next section).

We contribute to the previous literature on employability skills by also studying more specific "economic skills". In particular, we focus

on the following key economic areas: data analysis, applied econometrics, software used, as well as different economic subject-level knowledge areas (economic modelling, microeconomics, macroeconomics, public economics, marketing, accounting, finance). We used data on employers and students' roles during their PTY from the University's placement records to identify the above-mentioned economic competencies. For each of the economic competencies, except for "software used", we created dummy variables with values equal to one if the student showed evidence of the skills developed within that area or zero if the student did not. This procedure allowed us to compute the percentage of students who gained experience with each economic competency. Finally, we also looked for evidence in the placement reports on whether and to what extent students applied their academic learning during the placement year. The summary of all variables is as follows:

- Teamwork: whether the student experienced "team work" during placement.
- Problem-solving: whether the student experienced or used analytical/numerical skills during placement.
- Oral communication: whether the student experienced "oral communication", for example, presentations or discussion, during placement.
- Written communication: whether the student experienced "written communication", for example, writing brief notes or reports, during placement.
- Professionalism. Examples: resilience, positive attitude, adaptability, networking skills.
- Time management. Example: allocating tasks according to priority/time.
- Data analysis. Examples: inputting data, creating graphs and tables.
- Applied econometrics. Examples: forecast analysis, regression analysis.
- Software used. Which software programmes were used during the placement year? Examples: Eviews, Stata, SAS, Matlab, or company specific software.
- Economic modelling. Did the student work with economic models? Examples: the Taylor rule, economic growth for countries, forecasting models.

- Microeconomics. Did the student work with microeconomics topics during placement? Examples: consumer, company/business strategies, markets.
- Macroeconomics. Did the student work with macroeconomics topics during placement? Examples: monetary policy, inflation, growth.
- Public economics. Did the student work with public economics topics during placement? Examples: economic policy, taxation, regulation.
- Marketing/sales. Did the student work with marketing or sales during placement?
- Accounting. Did the student work with accounting during placement?
- Finance. Did the student work with finance during placement?

Our sample had predominantly male students (67%), with 80% of the students under home (UK) fees. 73% of the students classified themselves as "White" and 22% as "Asian".[3] Most of the students chose the Economics BSc programme (43%), with the second place held by Economic and Finance BSc (38%), followed by Economics and Mathematics BSc (12%).

Results and Discussion

It was found that most students had developed all five *transferable skills*—professionalism, teamwork, problem-solving, communication and time management—through their placement year. All students showed in their reports evidence of developing professionalism with regards to dealing with colleagues, senior managers and clients, as well as being efficient and concise. They managed to adapt to a professional work environment which is different from the academic environment at the university. Moreover, we observed a general trend of all students strengthening their time management skills towards the end of their placement year. Specifically, although some of them struggled with deadlines and workload at the beginning of their placement, they managed to overcome this issue by allocating their time efficiently and prioritising the workload according to importance and deadlines. They all evidenced and developed communication skills by not only managing to communicate professionally with

their senior managers and team members, but also with other colleagues from different departments as well as other companies. One important aspect we noticed is that initially many students lacked confidence in public speaking and giving presentations, especially for large audiences. However, most students worked on their presentation skills and asked their line managers for opportunities to deliver oral presentations. Line managers are usually aware of the students' limited work experience and the challenges of oral communication so they often encourage students to deliver oral presentations or discussions only once students have settled into their roles, which is usually during the second half of the placement year.

Both teamwork and problem-solving are the skills with a relatively lower proportion of "yes". Specifically, 35% of students seem to not have acquired teamwork experience, which can be due to different reasons, including the fact that some students only worked with their line manager or because although they were part of a team, they worked using a client-based approach. In the case of problem-solving, 25% of students seem to not have acquired this transferable skill. This can be for different reasons; for instance, because students' reports did not present evidence that the job roles did involve analytical or numerical skills. In addition, from those students who claimed to have acquired teamwork and problem-solving skills, few of them supported those skills development with actual evidence from their placement.

When looking at the acquired skills by gender, we found that the percentages of positive responses were similar for both male and female students. This result is significant when related to the literature examining the gender wage gap. For example, the literature highlights the problem that there are no differences with regards to salaries for men and women on entry to the labour market in the UK, and yet men earn more than women after they join the labour market (Manning & Swaffield, 2008). Specifically for economics, while Chevalier (2011) shows that male economists earn 17% more than female colleagues after three years from graduation, Arsenis and Flores (2019) find no gender wage gap for undergraduate economic students at the University of Surrey in their placement year. This latter result suggests that there may not be any differences in students' skills due to gender.

Table 11.1 Acquired economic skills/subject knowledge

Skill	% of "Yes"		
	Whole sample	Male	Female
Data analysis	91.2	94.7	84.2
Accounting	43.9	42.1	47.4
Macroeconomics	38.6	36.8	42.1
Finance	36.8	36.8	36.8
Microeconomics	29.8	26.3	36.8
Applied econometrics	28.1	26.3	31.6
Marketing/sales	26.3	28.9	21.1
Economic modelling	24.6	21.1	31.6
Public economics	24.6	21.1	31.6

In addition to the development of the aforementioned transferable skills, most students were also able to develop and enhance their *economic skills* during their placement year. Table 11.1 reports the percentage of students who experienced specific economic skills and subject-specific areas.

Most of the students developed their data analysis competence, which is an expected result because of the nature of the Economics degree and the type of placements targeted by students. Indeed, one of the main skills developed by Economics students is the ability to analyse and interpret economic data, and most of the employers hire Economics students to work with some type of data. Specifically, they often have to go through different datasets, either from their own company/clients or from public sources, and analyse them critically, as well as producing charts and statistics.

One finding of particular interest was the relatively high proportion of students involved with accounting roles, especially those who had auditing roles, which is the second-highest figure after data analysis.[4] This is surprising because most of the students with accountancy roles did not have a previous background in accountancy, nor is this the main subject-specific knowledge area that students are expected to develop in the School of Economics programmes. Students reported that accountancy knowledge was useful in the analysis of sales and the company's profits, which usually required looking at balance sheets of the company.

Although many students in accountancy placements did not have previous academic knowledge of that field or related experience with accountancy, their employers were willing to provide support to students, either more informally through discussions with senior staff or through formal online accountancy courses.

Some other main economic skills students acquired during their placement year are related to macroeconomics and finance. This is not surprising because almost 38% of placement students in 2017–2018 were enrolled in the Economics and Finance BSc programme and wished to gain experience in the investment banking and finance sectors. Around one-quarter of the placement students had roles related to economic modelling and applied econometrics, which are usually placements with a research focus. We found that students who developed their knowledge of microeconomics, macroeconomics and public economics were the ones who did their placement year at government-related sectors (e.g. the Office for National Statistics) or at research-oriented employers such as the Bank of England or consultancy companies (e.g. Oxford Economics; Fathom Consulting).[5] In addition, econometrics and economic modelling skills were developed by a small number of students as these modules are more relevant for research-related roles. Marketing and sales subject knowledge was developed only by those students who did a placement in a business-related environment but was less relevant to others. Lastly, academic knowledge of finance was also applied to positions related to specific sectors such as trading, investment and asset management. Those who had such placement roles developed their finance knowledge and skills, especially those enrolled in the Economics and Finance BSc programme.

The degree of relevance of each subject varied depending on the placement role and employer sector, with some being more specific to certain roles than others. We also found an even split between the finance-based and the economics-based roles. Overall, knowledge of one particular subject seems not enough to excel in all of the placement roles mentioned in the dataset, as each placement required a combination of subjects to satisfy the employer's needs. Thus, to show outstanding performance, students need to work hard on different subject areas, which, at the end

of the placement year, allowed them to enhance and developed their skill sets.

Regarding the application of academic learning to students' placement roles, the placement year has provided them with the opportunity to apply economic theories to real-life situations in different sectors. They all used core economic concepts to understand the international market, the economic status of each country and economic figures such as inflation, and economic growth. We noted that although students did not explicitly mention the application of core economic concepts in their placement reports, they had nevertheless applied economic concepts and models such as the standard supply and demand, monopoly and international trade frameworks to analyse different behaviours of markets and key industry players. Moreover, in many placements students used economic concepts to understand the current economic situation in the UK, in particular with Brexit and political uncertainty, and its implications on the British and international economy.

Economic knowledge also helped students understand currency fluctuations and their effect on business deals involving different currencies. Notably, students' academic learning has built a foundation for an analytical approach to their placements, which has broadened their knowledge of real-life applications of different economic theories. Some students recognised the importance of academic learning from their undergraduate studies, which helped them to shape their way of thinking and analysing real-life situations in their placements. However, it seems that a minority of students failed to apply their knowledge from first- and second-year modules to their placement roles, possibly because of the more technology-based placements or because placements were not challenging enough to require the application of economic models or econometrics. We think this is an important aspect because it can be related to the "graduate underemployment" issue. Mason (2002) and Chevalier and Lindley (2009) have revealed that a growing proportion of graduates are undertaking forms of employment that are not commensurate to their level of education and skills. In a survey of employers of economics graduates, where employers were asked about the qualifications of their graduate employees and whether employers feel graduates were "over qualified", "about right" or "under qualified", there were no replies

that graduates were "over qualified", 66.7% believed them to be "about right", while the rest thought they were "under qualified" (Pomorina, 2012). This raises significant issues over the possible mismatch between graduate-level qualifications and job skills requirements, which can have wider effects on the economy. For example, McGowan and Andrews (2017) presented evidence that the mismatch between qualifications and required skills is associated with lower labour productivity in the Organisation for Economic Co-operation and Development (OECD) countries.

The degree of intensity of application of economic modules differed from one placement to another due to the nature of the employer's requirements. For example, one of the students who did a placement at a top consultancy company reported that the placement year was challenging and that they had to apply macroeconomics concepts. This student worked on different research projects, which required the use of different models and tools, such as the "neither in employment nor in education and training" (NEET) rate for unemployment among young people in EURO zone, the Taylor rule for monetary policy analysis and the Phillips curve model. Regarding information technology, students had to work with multiple types of software. Due to the nature of economic placements, all placement students used Excel regardless of their job role, department or industry as a whole. Other types of software, such as VBA, R, Python, Bloomberg, Thomson Reuters, Eviews and STATA, were also mentioned in the reports. Some of the students had the opportunity to learn more than one type of software, many students learnt just one and some did not learn any.

Overall, students in our sample found the placement year extremely stimulating because they were constantly working with new people, new tasks and/or new clients. They were often out of their comfort zone and challenged to be efficient, creative and productive as well as to excel in their assigned tasks. Finally, when looking at the acquired economic skills by gender, we find that the percentages of positive responses are similar in most cases for both male and female students. The main differences are that the proportion of male students who acquired data analysis and marketing/sales subject experience is larger than that for female students, while the proportion of female students who acquired subject-specific

experience of microeconomics, macroeconomics, economic modelling and/or public economics is larger than for male students. These differences can be explained by the different types of employers with which students did their placement year.

Conclusion

Within the context of an increasing pressure on UK universities to equip graduates with academic and also transferable skills needed in many types of high-level employment, we attempted to identify the skills economic students developed in a work-learning environment (the PTY) in 2017–2018 at the University of Surrey. We found that most of the economics students in our sample acquired the elements of the transferable skills discussed in this chapter (i.e. teamwork, problem-solving, communication, professionalism and time management). However, many students showed a lack of confidence in public speaking and giving presentations, especially with large audiences.

Students have the opportunity to enhance their communication skills during their studies at the university through the workshops provided by the Employability and Careers Centre. Those students who attend them usually do it in preparation for placement interviews (in their second year) or for graduate job interviews (in their final year). Moreover, the PTY programme at the School of Economics includes a "Returners' Day" in which all students on placement come back to the University for a day (usually at the end of January; that is, approximately in the middle of the placement year) and deliver an assessed oral presentation to their peers. The main aim of the Returners' Day is to encourage students to develop their communication and networking skills, as well as share their experiences with other placement students. Although the Returners' Day encourages students to develop their oral communication skills, this is done within a small peer audience. We believe that there is scope for improvement in communication skills for placement students within their undergraduate studies by adding oral presentations within the first and second year of the undergraduate programmes. We are also aware that this can impose some challenges for large groups of students because

of the limited academic resources for assessing oral presentations, but one alternative would be to have oral presentation assessment of student groups.

In terms of economic skills and subject knowledge, we found that the main economics skill students acquired during their placement year was the ability to analyse and interpret economic data, especially related to macroeconomics and finance. We see this as a positive aspect because employers usually hire students to perform data management, preparation of charts and statistics and sometimes data analysis for presentations. However, we found that a substantial proportion of economic students were involved in placements with roles in accountancy field rather than in economics. Moreover, some students did not show evidence of applying economic knowledge from first- and second-year studies to their placement roles, which could be due to the fact that the placement experience was not as challenging as some placements in which the application of economic models or econometrics was required.

Our study has a number of limitations. We focus on a specific institution and subject. Also, the students' assessment was based on a specific method employed by the University of Surrey, which may not be comprehensive enough to capture the full spectrum of a student's skills. Our analysis was based on the professional development reports that students submit at the end of their placement year as part of the university assessment. We are aware that the results should be interpreted with caution because of the self-assessment nature of the reports, that is, the data and analysis obtained from the reports are subject to measurement error. Finally, since the placement report presents evidence from the students' perspective, future research on this topic should also include the employers' perspective because there is recent evidence of the differences between graduates' and employers' perceptions of transferrable skills relevant for graduate employability (Succi & Canovi, 2019).

This study contributes to the understanding of skills students acquire in a work-learning environment which can help them to boost their professional prospects in the graduate labour market. At the same time, the identification of such skills at an early stage of students' career can be useful to detect a possible mismatch between graduate-level qualifications

and job skills requirements. Work-learning environments at undergraduate level can offer an opportunity to reflect upon whether some students might not be fully taking advantage of applying their academic knowledge into their placement experience.

Reflective Vignette

The student–staff project has been a great experience for both of us. Given that we did not have previous experience with this kind of project, at the beginning we were a bit sceptical of how the difference in the knowledge and experience levels would affect the development of this research project. But the student–staff interaction during the research project has been extremely positive, especially because of a two-way communication with a flexible approach to developing the project. Another positive aspect was the collaborative rather than authoritative approach, in which the student had the opportunity to provide suggestions on the methodology of the project. Moreover, the academic staff member encouraged the student to take responsibility for the qualitative and quantitative analysis involved in the project. The student's response to this challenging task was highly valued by the academic. We both agree that communication is a key aspect to having a successful partnership. Finally, we also think that delegation from the staff, especially providing the chance to the student to develop own ideas and make proposals regarding technical aspects of the project, can have a positive effect on a research collaboration.

Notes

1. According to the HESA (2017), the degree qualification increased by 25% between 2006/2007 and 2015/2016.
2. In HE, studies have shown gender equity concerns (e.g. Morley, 2014) such as under-representation of women in senior academic positions (e.g. Gardiner, Tiggemann, Kearns, & Marshall, 2007) and career development of women academics (e.g. Obers, 2015).
3. Ethnic background represents the students' self-reported ethnicity, which is registered at the course-enrolment stage at the beginning of the first

year of their studies (students classify themselves into one of the categories listed in the University form). For simplicity, we have grouped students on 'white' ethnicity, Asian or other ethnicity.

4. The main difference between roles in accounting placements versus economics placements is that the former focus on calculating, recording and presenting reports of transactions of a financial nature, while economic placements usually involve the use and application of economic concepts and models such as inflation and economic growth.
5. Students with placement in most of consultancy companies, including the "big four" (i.e. Deloitte, E&Y, KPMG and PricewaterhouseCoopers), acquire research experience oriented to business or management instead of more academic oriented research.

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12

Exploring the Benefits of Project-Based Pilot Plant Experience for Chemical Engineering Undergraduates

Benjamin Cooper, Rex Thorpe and Esat Alpay

Introduction

As for most university disciplines, in Chemical Engineering the dominant teaching method is the lecture (Grant & Dickson, 2006). As the discipline requires a certain level of competency with what can be quite complicated technical problems, lectures are often supported by tutorial sessions where students work through problems with the guidance of academic staff. In many Chemical Engineering departments in the UK, these two formats form the backbone of the course, often accompanied by some level of practical learning. Normally, this practical learning element will take the form of laboratory-based modules. While this has served many Engineering students well, it has for a long time also been criticised for not being well suited to the changing landscape of skills

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required by the employers of Engineering undergraduates (e.g. Sibley & Parmelee, 2008). Specifically, employers seek greater competency in the key transferable skills of leadership, communication and teamwork. Recognising this, there is the desire and scope for experimenting with new ways to teach undergraduate engineers that will help them develop these transferable skills, with project-based learning often touted as a good option (Lehman & Christensen, 2008), although it is clear that staff still need to be prepared to support such learning for it to be effective (Mitchell & Rogers, 2019).

This chapter will explore the ways in which the use of a pilot plant in Chemical Engineering degrees can improve undergraduate students' transferable skills of leadership, communication and teamwork, as well as their process understanding and appreciation for the importance of safety on process plants. Our hypothesis stated that in surveys carried out during various stages of the student experience of the process operation module at the University of Surrey, the students would report gains in these areas.

The Pilot Plant

"Pilot plant" is a term used in industry to describe a small-scale processing unit that has been built as a proof of concept to increase the confidence of success for the full-scale process. In universities, the term pilot plant is often short for pilot-scale equipment, similar in size to the industrial pilot plant, which is still much larger than laboratory scale. The pilot plant at the University of Surrey, for example, is three storeys tall and contains a reactor, filters, pumps and other pieces of common process equipment (see Fig. 12.1).

The university pilot plants built in the UK have been built principally to be used by students in undergraduate degree modules (e.g. the Universities of Surrey, Sheffield, UCL and Imperial College London). While these universities have chosen different processes, they can all provide students with a chance to operate a real process in a safe way, and also create opportunities for practical learning that could also develop

Fig. 12.1 Pilot plant in use at the University of Surrey (Copyright: University of Surrey)

their transferable skills such as leadership, communication and teamwork. However, the student experience is not made up solely by the equipment that they are working on. Just as important is the structure of the module through which the students use the equipment. At the University of Surrey, the module in which undergraduates interact with the pilot plant in the most involved way is during their 3rd year, in the "Process, Operation and Management" (POM) module, and this is the example used in this chapter.

While studies have been conducted on the efficacy and suitability of lecture formats and benchtop laboratory exercises for undergraduate groups (e.g. Madhuri, Kantamreddi, & Prakash Goteti, 2012), we were not able to find any studies that discussed the use of pilot plants for undergraduate learning. This is despite the apparent upward trend in the investment and use of pilot plants in UK universities in recent years. The study discussed in this chapter aims to begin the conversation about their use by evaluating the student experience of a pilot plant-based module compared to other modules following different formats.

The POM Module

In this module at the University of Surrey, undergraduates take on the responsibility for the operation and management of a pilot plant for five days of operation, after having completed a week of training in transferable skills, process operation and plant safety. The students must work in teams on the plant to keep the process running smoothly, which involves varied tasks from keeping the reactor level steady to loading the raw material into the system. Very little of the process of running the equipment is automated, so the students must engage with the plant physically, turning valves, pushing buttons and tracking raw output displays. As well as this, the students must complete additional tasks such as quality control checks and paperwork. When not on shift, each student group takes on two research projects which must be completed while operation is ongoing. These projects often interfere with the smooth running of the plant and this must be balanced to ensure production is not impacted.

All of this is managed by an elected group of students in the "senior management team" (SMT), who have fewer shift responsibilities but who are in charge of the organisation of the group and are expected to run the meetings and set the timetables to ensure that the plant runs as smoothly as possible.

The use of the pilot plant within this module is believed to be beneficial to students for several reasons. Firstly, it gives undergraduates real-world experience of processing roles, such as shift hand and shift leader, and provides them with exposure to business processes such as management structures and meetings. Further, research has also highlighted the benefits of adopting a problem-based learning approach in Engineering education. In their 2010 study of Engineering undergraduates, for example, Pease and Kuhn suggest that project-based learning is effective because of its goal-based activity structure, which forces students to address gaps in their knowledge themselves and add new knowledge in the context of what they already know. They suggest that this happens in a more rigorous way with project-based than traditional learning approaches (Pease & Kuhn, 2010). It has also been noted by researchers that engineers now need a combination of technical and non-technical competencies to increase their individual success in the twenty-first century (Knobbs & Grayson, 2012). Due to the high independent thinking and problem-solving requirements of the POM module, it would seem to fit quite closely with the types of learning environments advocated for above.

Methodology

Student Groups

This research was mainly conducted through surveys of student groups that had contact with the pilot plant through the POM module. The bulk of the research was completed by following the 3rd year group of students as they progressed through the POM module in 2018, taking their responses immediately before, during and after they completed the module. Later, when findings had been drawn from this research and

more questions raised, two further studies were completed with the same group of students. At that point the students had just returned from their summer break to commence the 4th year of their Engineering degree. At the same time, the group of students that would go on to complete the POM module in 2019 were surveyed to gain further insights into student expectations for the module. To manage numbers, the 104 students completing the POM module in 2018 were split into three equal groups that completed the module at separate times during the second semester. The survey conducted was the same for all groups. Being in their 3rd year, the students had had some experience of project and problem-based learning through other undergraduate modules, but none that matched the intensity and complexity of the POM module.

The questionnaire also asked students to identify if they were part of the SMT for their group. As the students in the SMT dealt more with the broader organisational challenges of the module than the other students, we believed that it was reasonable to assume that they may report different experiences of the module and that this may help us understand the strengths and weaknesses of the module experience.

Questionnaire Design and Execution

All five questionnaires used in this survey gathered quantitative data using Likert scales to give a numeric value to the strength of agreement or disagreement with a question, as well as qualitative data through open-ended questions that asked respondents to think of their own responses. The questionnaires themselves were designed following the method set out by Robson (2011), which includes several iterative stages of survey design. Then feedback on the initial draft of the questionnaire was gathered from both supervisors and students that had already completed the module.

Also included in the questionnaires was the "leadership self-efficacy scale" set of 21 questions designed by Bobbio and Manganelli (2009) with the understanding that the commonly desired transferable skills of teamwork, leadership and communication are all inherently linked, and often stem from an individual's self-confidence in their abilities. From

that position, they were able to develop a question set that evaluated a respondent's self-confidence in their abilities to use these transferable skills and produced a single metric, which they named "leadership self-efficacy", and which could be used for comparisons. Because of this, it was considered as a potentially useful tool to compare students before and after they had completed the POM module. By timetabling the surveys around the schedules of the undergraduates, it was possible to achieve high response rates for students of all three production weeks and to have them complete the surveys at similar time intervals before and after their completion of the POM production week.

Results During the Module

Improvements in Transferable Skills

Students reported high levels of improvement in key transferable skills as the module progressed. In a question where they were asked to rate how much they had improved as a result of the module on a number of technical and transferable skill topics, students rated the module highly. The students responded on a scale ranging from a score of 1, "I have not improved at all" through to 5, "I have improved by a very large amount". In the mid-POM survey, the students were already reporting high gains in the listed topics (Table 12.1). Most of the mean responses for this question were between 3 and 4, representing "I have improved a moderate amount" and "I have improved by a large amount", respectively. When responding to the post-POM module questionnaire, the responses were higher still, with most of the topics receiving a mean score of around 4 (Table 12.1).

Across multiple questions, reported gains were seen in both technical understanding and transferable skills. However, it was clear that students felt that they had improved most in their transferable skills. When asked in an open-ended question to report the skills that they had improved most at over the course of the module, over 75% of respondents listed a transferable skill, and 51% listed either teamwork, communication or

Table 12.1 Mean responses to perceived improvement in POM questionnaires

Q: Please rate the following in a scale from 1 to 5 in terms of how much you believe you have improved, if at all, as a result of the module so far						
	Technical knowledge	Process understanding	Team working	Leadership	Communication	Problem solving
Mid-POM questionnaire, $N = 50$						
Mean	3.6	3.86	3.9	3.66	4.02	3.48
SD	0.86	0.92	1.00	1.01	0.95	1.00
Post-POM questionnaire, $N = 89$						
Mean	3.83	4.24	4.17	3.93	4.12	3.81
SD	0.99	0.84	0.91	1.06	0.97	0.82
Post-POM questionnaire for SMT group, $N = 8$						
Mean	3.88	4.38	4.50	4.75	4.50	4.50
SD	1.13	0.92	1.41	0.71	0.76	0.76

leadership as the skill at which they had improved most. Table 12.1 indicates the high self-perceived improvement in student transferable skill competency during the module. This is likely to come from the high levels of interaction that all students must engage in to successfully complete the module (and earn high marks). Both exercises in the training week and roles in the production week require students to communicate and work with each other effectively in a team while under pressure. Students that nominated themselves for, and were elected to, the SMT were notable in the difference in their responses compared to their peers. Generally, they reported having gained more from the experience than the rest of the group (see Table 12.1).

Also of note is that the students rated transferable skills as more valuable as they progress through the module. Figure 12.2 shows responses to a question that asked students to assess the value of some skills relative to others, and how that changed over the course of the module. While at the start of the module technical knowledge was highly ranked, by the end it had been overtaken by communication skills and was level with team working skills for the perceived value that they would have to a process engineer. This result shows a clear change in the attitudes of students during a period when they were focused principally on the POM

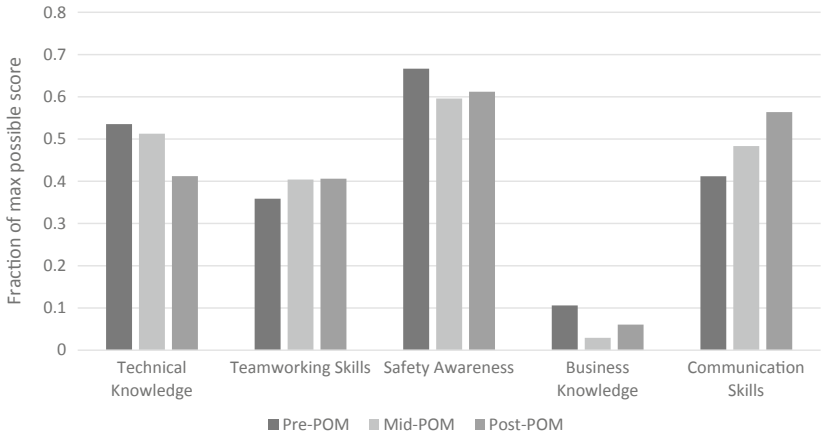

Fig. 12.2 Change in student perception of the relative value of skills

module, and is a positive trend given the increase in value that employers of Engineering graduates also place on these skills (Grant & Dickson, 2006).

Leadership Self-Efficacy

As mentioned previously, a set of 21 questions were included in each questionnaire which measured leadership self-efficacy (Bobbio & Manganelli, 2009), aimed at measuring a respondent's own confidence in their ability to use transferable skills effectively. Within the transferable skills reported, there was insignificant change between the start and end of the module for most questions, although an improvement in the students' attitudes towards leadership was notable. A higher confidence level was reported for the leadership self-efficacy set of questions at the start of the POM module than had been expected. For most of these questions, a drop in the mean score was seen in the mid-POM survey, which then recovered in the post-POM survey. Although the apparent lack of increase in scores potentially indicates little improvement, the noticeable drop in the mid-POM survey across multiple questions indicates that the completion of the module is affecting the students' attitude in some way.

One explanation posited in discussions with academics was that this results from an optimism bias in the pre-POM module that means the students are more confident in their untested abilities than they should be. It was this question that was tackled with the follow-up research completed when the students returned from their summer break. In this scenario, the mid-POM questionnaire may represent this attitude meeting reality as the students understand their insufficient experience in leadership in exercises during the training week, and the mean score recovery in the post-POM survey indicates a real improvement in leadership self-efficacy over the course of the production week that is more grounded in real-life experience. As is discussed towards the end of this chapter, the follow-up research provided evidence that indicated that this could be the case.

The only questions within the leadership self-efficacy set that had a higher mean at the end of the module than the start, were all based

around the ability of students to influence group dynamics (e.g. "I can usually change attitudes and behaviours of group members if they don't meet group objectives" and "I can usually motivate group members and arouse their enthusiasm when I start a new project"). The positive improvement in this area indicates that students are on average more confident in their own voice than before they took the module. This is perhaps due to all of them having to take on a leadership role, as well as the greater experience that has come with an intensive team working project.

Responses to questions related to team appreciation and consensus building ability (e.g. "I can usually make the people I work with appreciate me" and "I am sure I can gain the consensus of group members") were also unusual in that their post-POM response was lower than the mid-POM response, so that there was a consistent decline in the score across the three surveys for these questions. While on some level this may represent coming to terms with the reality of the concessions needed for effective teamwork, further questioning of students involved would be useful to identify the underlying cause of this result.

Results After the Module

When looking back at their third year modules (after returning from the summer break), final-year students evaluated the POM module favourably in a number of questions asking them to rate how much value they had gained from the module compared to other modules against a number of metrics. In terms of overall value, transferable skills and technical skills, the POM module was the second highest-rated module after the design project, receiving an average rating of 3.66/5 (Standard Error; 0.1) compared to scores of 2.94, 2.54, 3.01 and 3.00 (Standard Errors; 0.1, 0.08, 0.11, 0.08, respectively) for all other modules (besides the design project).

These students were also presented with a question that had been raised by the first set of questionnaire responses and asked for further feedback. The question was why students had reported high levels of competency in transferable skills before the module, then also credited

high improvements in this area due to the module, and then reported similarly high competency in them after the module. The students were asked if this was more likely because (a) they had overestimated their skills in their questionnaire responses before the module, (b) that they overestimated the gains that they had made in the module, or (c) that they believe the results to be caused by a different factor. Of the 32 responses, 15, almost half, responded with option (a). Option (b) was selected by only 9 students, and 5 were not sure of the cause (with 3 non responses). This result supports the idea that an optimism bias effect was part of the cause of the question around why transferable skills were ranked highly both before and after the module, and when taken with the other results indicates that the POM module did in fact have a positive impact on the transferable skills of the undergraduates.

Limitations

This study relied heavily on the feedback from the undergraduate students that were participating in the module. The students' perceived level of improvement is not necessarily the same as the actual improvement, and some may not have fully considered the questions before answering. The questions asked were also based on assumptions made before the students started the module. With results, it is now apparent that some questions were not ideal to answer some of the research hypotheses. If further research were to be completed in a similar manner, the results of this study would be useful in informing the design of the questions. Suggestions would include more focus on the differences between the general student group and the members of the SMT, and more scope for students to answer what aspects of the module have contributed to the improvements of particular skills.

Conclusions

This research project aimed to assess to what extent the use of project-based learning using the pilot plant in the POM module is an effective

way to improve students' transferable skills, their process understanding and appreciation for the importance of safety on process plants. On both transferable skills and process understanding, results showed that the module had a positive impact and compared strongly with other modules. In both leadership and communication particularly, the students' confidence increased as they completed the module. Much more research is needed on pedagogic methods and opportunities for pilot plants in general, to understand both their potential for undergraduate Engineering education and the pros and cons of different approaches to their use. It would also be beneficial to conduct more research into the benefits of the SMT role and how aspects of this could be used for the broader cohort to enhance the overall student experience. Focus should be given to the investigation of related topics on undergraduates at other universities that use pilot plants in this way and investigate whether the gains that the students believe they have made correspond to actual improvement.

At all points when students were asked about their expectations and experience, the POM module outperformed the lecture based-modules in terms of how much value the students attributed to it. Similar results were found for the design project. These results indicate that project-based learning modules could be considered as a useful tool by academics seeking to increase engagement with an Engineering undergraduate programme. In general, pilot plants could be seen in Chemical Engineering as an excellent complement to the design project for developing the types of skills discussed in this paper and should be recognised for the potential value that they can bring to students and employers alike.

Reflective Vignette

Student Perspective

I found through this experience that there are many unexpected hurdles that come with conducting a research project that can test patience, and challenge assumptions and motivation. All of these would have been much more difficult to take on had it not been for the partnership that I enjoyed with Professors Rex Thorpe and Esat Alpay. Throughout the project in my weekly

meetings with them I often found that their experiences, and their advice, was the key that I needed to unlock whichever problem I had brought to them. The meetings also ended up being instrumental in shaping how we all thought about the project in larger terms. Particularly at the beginning of the project we were able to use them as an opportunity to bounce ideas around from both my student and their academic perspective, tackling some of the questions in Engineering education research. I found this to be both a rewarding experience and very helpful to the project itself.

Overall, I found the student–staff relationship to have been a very interesting and enjoyable experience that I would recommend, especially to those taking on projects such as mine where the perspectives of both parties can improve the depth and quality of the work. I thank Professor Thorpe and Professor Alpay for making that the case for myself.

Staff Perspective

This project was classed as a research project which could be submitted for credit on his MEng degree programme in Chemical Engineering by the student researcher. As such it had a structure and a feel of the collaboration between supervisor and student typical of research in Science and Engineering. Best practise for the supervisor–student relationship should reflect a true collaboration and partnership in which the two parties bring different skills and amounts of time to the research project. We believe that best practice was followed in this case, with all parties benefitting from (1) the student passing the module and (2) the prestige in publication of this chapter. The student was able to bring a number of advantages special to this kind of educational project: that he had experience of the module similar to those being surveyed, which the staff involved did not, that he could offer explanations as to what the results of the surveys meant that were at least as valid as those contributed by the staff and that he could ask his peers to participate, which may have encouraged participation in three surveys in one semester and a follow-up survey in the next semester. The fullest possible participation is important to the credibility of the results and students are already extensively surveyed by the University about their courses. We, both staff and student researcher, had preconceptions of what the students being surveyed should report about

their experience of the module, but were somewhat confounded by their overestimation of their own abilities before the module began and, possibly, by their lack of reflection about their own learning. We attempted to address this with the follow-up survey which was composed by the staff and student team, conducted by ourselves and analysed by the student partner, post-graduation.

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13

Student Perspectives on a Nutrition Curriculum

Katrina Kwong and Adam Collins

Introduction

The value of a well-designed curriculum is one that was highlighted in the outcome of the last Teaching Excellence Framework exercise, where Surrey University was praised for

> stretching and supporting students with its meticulous and stringent course design and assessment, and offering teaching that is innovative, student-centred and well-resourced. (Office for Students, 2017)

For all academic programmes it is important to constantly review and develop the curriculum (Thomas, Kern, Hughes, & Chen, 2016), considering advances in the discipline, professional standards and other

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key drivers (e.g. resources, competitors, graduate destinations and the workforce). Any curriculum examination must be multidimensional, informed not just by academic judgement, resources and needs of the profession, but also by the perspectives of the end user (i.e. student or graduate), and this is explored in this chapter.

Despite Surrey's excellent reputation in Nutrition education, both the landscape and the professions related to nutrition have changed over recent years. Nutrition has developed from an early reductionist approach of treating deficiencies, to a more holistic discipline expanding beyond simply the biological (Raubenheimer & Simpson, 2016; Shao et al., 2017). Modern nutrition science does not just represent an advancement in science but its significant application and implications for nutrition to the modern world (Mozaffarian, Angell, Lang, & Rivera, 2018). Nationwide and worldwide, nutrition has most definitely increased in popularity, fuelled by use of the internet, social media and technology (Ramachandran et al., 2018; Sutherland, Wildemuth, Campbell, & Haines, 2005), although the credibility of information may be questionable (Franco, Fallaize, Lovegrove, & Hwang, 2016). This evolution of nutrition as a discipline, coupled to an increasing public interest, has given rise to a growth in nutrition-related courses. Established higher education programme providers are therefore challenged with increased competition, yet must maintain academic integrity whilst producing graduates that are equipped to work in this ever-changing profession.

The Association for Nutrition (AfN) is a Registered Charity, which independently regulates qualified nutritionists and is home to the UK Voluntary Register of Nutritionists (UKVRN). Registration with UKVRN is a mark of professionalism and exists to help safeguard the public and guarantee the professional credibility of nutritionists. Registrants must have a minimum of degree-level nutrition science and are required to follow set Standards of Ethics, Conduct and Performance (AfN, 2013). A key function of the AfN is to accredit undergraduate and postgraduate degree courses in Nutrition and in doing so recognise university courses which deliver evidence-based Nutrition education to a professional level, allowing graduates to enter the UKVRN as Associate Nutritionists. To obtain and maintain accreditation status, a course

should be mapped against the five core competencies to ensure it meets these requirements (see Fig. 13.1).

The BSc (Hons) Nutrition programme at Surrey is only one of the 80+ undergraduate courses accredited by the AfN. Whilst we have been successful in maintaining accreditation status to date, continuous improvement in the quality of our teaching, delivery and assessment methods and sustaining currency of knowledge that is aligned to current research, are vital to ensuring the quality of students' learning. Equally important is ensuring that our students learn effectively and achieve their potential, hence academic support and the overall student experience are also crucial.

As in other institutions, at Surrey, the evaluation of the programme through students' feedback is achieved through institutional mechanisms

Core Competency 1: Science - Knowledge and understanding of the scientific basis of nutrition.

Core Competency 2: Food or Feed Chain - Knowledge and understanding of the food or feed chain and its impact on food or feed choice.

Core Competency 3: Social/Behavioural - Knowledge and understanding of food or feed in a social or behavioural context,

Core Competency 4: Health/Wellbeing - Understanding how to apply the scientific principles of nutrition for the promotion of health and wellbeing of individuals, groups, and populations;

Core Competency 5: Professional Conduct - Understanding of Professional Conduct and the AfN Standards of Ethics, Conduct, and Performance, along with evidence of good character (Association for Nutrition 2016).

Fig. 13.1 Core competencies

as part of normal practice, for example, feedback from Module Evaluation Questionnaires and the National Student Survey. Yet, whilst feedback such as this has informed changes and refinements to the programme on a year-to-year basis, a more extensive evaluation of the curriculum is needed. We undertook this research project as part of a wider curriculum review to examine students' perceptions of the module content, delivery, assessment, professional role training, teaching staff support, marking system and the way feedback is provided. Qualitative data was collected from current nutrition students via focus group interviews, analysed and mapped against the five core professional competency requirements from AfN. The focus groups aided in the identification of adequacy and duplication of content, delivery and assessment. These insights were used to identify areas for improvement, drive innovation in content, delivery and assessment, and influence the shaping of the new undergraduate curriculum. The improvement in areas mentioned above and the development of new curriculum can potentially enhance students' learning, performance and ultimately improve their experience (Basch, 1987).

Our examination of the curriculum was framed by the threshold concept theory. According to Meyer and Land (2003),

> Threshold concepts can be considered as akin to a portal, opening up a new and previously inaccessible way of thinking about something… a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress. As a consequence of comprehending a threshold concept, there may thus be a transformed internal view of subject matter, subject landscape, or even worldview….Such a transformed view or landscape may represent how people "think" in a particular discipline.

Threshold concepts can be viewed as "rules, patterns which govern the understanding specific to a discipline and which connect the discipline together" (Timofte, 2015, p. 85) and have been referred to as "jewels in the curriculum" (Meyer & Land, 2006). Such concepts help students to recognise critical knowledge or ideas, to allow them to obtain significant

conceptual understandings (Meyer & Land, 2006). They serve as a diagnostic tool to notify educators wherein the curriculum students are confronted with troublesome knowledge and conceptual difficulty (Meyer & Land, 2006). The five core competency requirements from AfN can be considered the "threshold concepts" for nutrition practice.

Aims and Method

The purpose of this study was to evaluate the student experience on the BSc Nutrition programme. For this we used focus group interviews to help identify areas for improvement for the development of a new Nutrition curriculum. Focus groups are a helpful tool to explore people's opinions, experiences and perspectives (Doody, Slevin, & Taggart, 2013), and they also allow researchers to access different kinds of daily communication such as anecdotes, jokes and arguments. In this sense, focus groups can disclose levels of understanding that remain untapped by other data collection methods (Doody et al., 2013).

Data Collection

Two focus group interviews were conducted with six and eight final-year Nutrition students in each group. Each group included both home and international students. The focus groups included semi-structured, open-ended probing questions (Krueger & Casey, 2009). Questions were designed to stimulate responses and interactions between participants. A neutral moderator initiated and conducted both focus groups to ensure consistency in the way that the focus groups were conducted. This moderator was neither involved in the programme nor part of the Nutritional Sciences department, hence participants were able to share their views more freely. The researcher was presented as an assistant moderator supporting the moderator by taking notes, setting up a recording device and observing non-verbal interactions. As the researcher was a fellow nutrition student, and known to the participants, this further helped participants to feel relaxed and to express their ideas more freely. The

nature of each focus group allowed for the gathering of data relating to participants' student experience, course content, delivery, assessment and marking, usefulness and effectiveness of feedback, teaching staff support, professional role training and the use of technology and other media.

Data Analysis

Verbatim transcripts were generated from recorded conversations within the focus groups and formed the basis of data analysis. For familiarisation with the data, the researcher (student) read through the verbatim transcript several times to familiarise herself with the details and to understand the interviews as a whole. The analysis of the focus groups was undertaken using a thematic analysis approach (Braun, Clarke, Hayfield, & Terry, 2019). Short phrases related to corresponding comments were written in the margin of the text to begin forming categories in order to provide "identification of thematic framework". The following step was "indexing", quotes were then highlighted for "indexing" before "charting", which consisted of selecting verbatim quotations from the original transcript and reallocating them into the newly established main themes. The "interpretation of data" was then achieved by drawing upon verbatim quotations to illustrate the results, justify the main themes identified and to provide evidence to support points made by the researcher. In order for this interpretation to be effective, it was essential that the researcher had insights about the programme to understand the meaning of the comments made. For this reason, the researcher was the most suitable person to also act as the "data interpreter" as she was part of the final-year nutrition student cohort.

Following this process, four key themes were identified.

Module Content and Structure

This is a key aspect of the programme and is fundamental to ensuring that graduates qualify to practice as nutrition professionals. The primary

message of this theme was that the module content needed to be applicable to the nutrition profession and the curriculum should be structured around helping students to apply their learned knowledge. These were particularly significant in determining whether the programme meets the threshold concept, core competency 5 (Professional conduct), stressing the importance of application of knowledge to the nutrition profession. For example, students expressed their preference for the final year, as opposed to the first year, due to the greater number of nutrition-based modules and nutrition-based content and the higher applicability of the knowledge gained: "most interesting in final year, because it's more nutrition related, whereas the first year was just completely biosciences" and "I agree final year is more interesting and you apply more of what you know".

It is evident that students can identify a transition throughout the course as they move across the different levels (FHEQ [Framework for Higher Education Qualifications] level 4, 5 and 6), with clear recognition of the content becoming more subject specific and increasingly more specialised as they progress through the course. This progression, or "building", of knowledge and skills chimes with Bloom's Taxonomy (Bloom, 1979), and should be integral to any curriculum design. Indeed, this philosophy and logic have been interpreted by others in relation to curriculum design (Thomas et al., 2016). However, in relation to threshold concepts, it is less clear whether students appreciate how the curriculum itself is designed to give them the core competencies. Perhaps this is one way in which students can engage with the course and use their own learning for self-referencing.

Students' emphasis on the importance of the ability to apply learned knowledge was exemplified by their enjoyment of the Sports Nutrition module. They also thought that the module content was well-delivered and that they gained an insight into sports nutrition: "I found it really interesting. We had physiology in previous years, which is really related, but we didn't have applied, like, sports nutrition". Similarly, another student commented: "I thought the lecturers were thorough in everything that they lectured on, I feel like now I've got a really good understanding of how nutrition can be related to sports and personalised sports nutrition".

Whilst Sports Nutrition is a clear example where they can see nutrition applied to a profession, students are less able to see the wider application of their knowledge to a professional role. Nutritionists on the course are often being taught alongside student dietitians, whose vocational course is specifically designed to train students to fulfil a specific dietitian role. Nutrition as a discipline is multi-dimensional and nutritionists are working in roles that are increasing in diversity (Mozaffarian et al., 2018). With less defined destinations and increasing importance placed on the need for qualified nutritionists, it is important that our nutrition course not just develops the knowledge but also instils the professional standards expected. However, it is clear that the programme could have more opportunities for students to develop professional skills (see lack of professional role training).

The Support of Teaching Staff

The support of teaching staff is crucial to students' learning and performance. However, support was shown to be inconsistent in different areas of the programme. Some students found the statistics coursework challenging, yet they appreciated the abundant support provided as demonstrated in this comment: "We got endless help. I think for such a subject that we might not all really like, I think we got an adequate amount of help". Additionally, the inconsistency in general exam preparation support between lecturers was amplified as follows:

> Some lecturers give really detailed support towards the revision period, where we do mock questions, do group activity work. Whereas others you're left to your own accord really. So, I think more consistency between lecturers would be helpful.

The students also felt unsupported regarding the support for placement searching: "I feel like there wasn't enough support for students who were trying to find a placement because there were just a few placements referred to throughout the whole year". Our data suggest that whilst there were clear examples of good teaching support, this was not universal across all elements of the programme. Recognition of the challenging

areas in any curriculum is obviously important, as it can identify where additional support needs to be targeted. However, it is equally crucial to ensure that there is consistent support across modules.

Lack of Professional Role Training

The lack of support in placement searching was not the only gap identified from the focus groups. As indicated in the following comment, professional role training also seems to be an issue:

> I feel like to those who are interested in working in consulting people in the future, I feel like we didn't have enough support for that because if I graduate in June, I don't think I would be able to give nutritional information specifically for that individual.

This statement is supported by a comment from another student:

> I did a placement year and I was basically a sports nutritionist consultant. I found it really difficult in the first six months because I knew the content, but I didn't know how to properly sit down and give the advice to someone, because you're not taught those practical skills.

A key message from the data was that practical professional skills training in the programme needed to be strengthened. Here, the student describes the scenario of providing individuals with nutritional advice or information, yet this is only one potential role that graduates from our programme may go on to pursue. The challenge is how to provide students with a diversity of "professional experience" in a standardised and effective way. Many vocational courses include professional placements as part of their training, but due to the diversity of roles that nutritionists occupy, our professional placements are typically very broad, ranging from research, to industry, to clinical and public health. Nevertheless, embedding more opportunities within the taught course itself where students can get more training and practice in practical skills, is clearly one area for improvement.

Teaching

In terms of teaching, students mainly commented on three areas: delivery, teaching methods and teaching material. Students generally thought that lecturers were good at explaining complex subjects and making lectures interesting, and that staff showed enthusiasm about their subjects. However, the speed of delivery was criticised: "quite a lot of the lectures move on too fast before you've finished that section of notes. They just keep going and going, and then you just miss notes all the way through". Similarly: "when it's Panopto, you can sit there in the lecture and actually listen, and then when you go home you can write the notes up". This comment highlights the significance of the Panopto recording and that some students found captured lectures useful for supporting their studies. However, the use of Panopto recording was noted as inconsistent and no prior notice was provided whether lectures were recorded.

Inconsistency was also noted in relation to the use of the discussion forum: "some of the lecturers did that throughout the entire degree, and it was really helpful. But some of them don't do that". Further, most students found that there was too much content and too many research studies in lecture slides. They suggested that less content, and more precise and logically structured lecture slides, would facilitate revision. In summary, students were generally happy with the delivery of lectures. However, they commented on inconsistent teaching practices and sometimes struggling with revision due to overwhelming content and the unclear structure of some lecture materials.

Many of the comments made around teaching refer to the use of lectures as the main mode of teaching. Although the lecture has been criticised (e.g. Weiman, 2007), it is still the predominant method of teaching within higher education institutions. It should also be recognised that with growth in student numbers and cohort sizes in modules, there is significant reliance on lectures due to efficiencies of time and workload. What is interesting is how students report the value of recorded lecture capture in "freeing" them from the burden of notetaking and retention of facts and allowing them to more actively engage with what is being said.

Curriculum Design and Value of Threshold Concepts

The aim of our project was to evaluate the programme using the framework of threshold concepts: specifically, how the professional core competencies served as the threshold concepts around which a curriculum is designed. It was clear that students mostly found the content of the programme to be intellectually stimulating and academically strong, and that they were satisfied with the delivery of the content. Inconsistency in teaching practices was highlighted as an issue suggesting a more uniform practice would be favourable. Students also thought the programme emphasised too heavily the theoretical scientific knowledge and was lacking in practical training. They felt they were not confident enough in applying learned knowledge to their professional role, urging the University to provide more support in helping them to develop their professional identity. Our data suggest that good consistent practice in all aspects of the programme appears key to creating an effective learning and satisfying student experience.

Interpreting the students' evaluation from a threshold concepts perspective, the programme more clearly addresses the first four professional core competencies, whilst students' appreciation of core competency 5 (professional conduct) was relatively weaker. However, the underlying realisation from our exploration of student perspectives is that students have very little appreciation for how the "threshold concepts" have informed the curriculum. It is likely that, if students were more aware of what the threshold concepts actually are from the outset, and how these are embedded, then they could better identify where in the course these aspects were being taught. Even when exploring the perceived lack of coverage of one threshold concept (core competency 5), it is clear that students' appreciation and interpretation of what "professional conduct" actually entails is limited. Hence, it is important that threshold concepts are not just used by curriculum designers but are understood by the students themselves. Indeed, this is a way in which threshold concepts can improve student engagement within a course (Timofte, 2015). When designing or revising a curriculum it is important not to merely consult students to help identify areas for improvement in the course but

to gauge how students appreciate the standards and values that are integral to the programme and to them as graduates. Academics and students can then work in partnership to improve course design and delivery more effectively. For us, this research project has led to a departmental review of our programme where planned improvements and developments in the curriculum have been initiated as a result.

Reflective Vignette

Katrina

Being involved in qualitative research and a student–staff partnership for the first time, the whole experience of taking part in this collaborative pedagogic project has been a learning curve for me. I feel honoured to have been involved in such a project that can impact the modification of the programme. Through the journey, from recruiting participants and organising focus groups, to analysing data and writing this project, each stage has had its own challenge. Each stage has triggered a different cognitive dissonance, which is due to the contradiction with my existing beliefs. As I am more used to the engagement in quantitative research, my existing habits and mentality have subconsciously been applied to this qualitative project. Since, my undergraduate training did not prepare me for qualitative research, my ideas had to be unlearnt and transformed into new skills and mindsets.

One of the most difficult challenges was at the stage of understanding and analysing data, and the feedback and support from both Ian (Professor of Higher Education) and Adam facilitated the process and motivated me to improve further. During the regular meetings with both academics, I witnessed plurality, the establishment of reciprocity and trust between all parties, and I think these are the key features that have made this partnership successful. Moreover, I also felt the development of courage due to the gradual increase in understanding of qualitative research and the building of authenticity in my voice. Taking on more responsibility, as well as having more of an active role in this project rather than the conventional student role, has further empowered me.

After migrating from the habit to understand, analyse and interpret quantitative data to using and making sense of qualitative data, after overcoming all the challenges and arriving at the final stage, I felt the transformation in thoughts, growth in confidence and interest in qualitative pedagogic research.

Adam

As Programme Director, I proposed this project as I knew how critical this research was to be to the needed development of our programmes. Whilst I have supervised student dissertations for many years, working on a pedagogic project of this nature was atypical of the type of research I normally undertake. Not only was it involving methods less familiar, but it also relied on the support, expertise and insight of Katrina as the student. The whole experience has been incredibly rewarding both professionally and personally, beyond simply an exercise in gathering student perspectives. Typically supervising final-year undergraduate dissertations, you are the authority on the project, providing all the expertise and guidance, yet for this project the student and supervise roles naturally equalised into a clear partnership. Both Katrina and I had to seek help from others with qualitative research expertise to ensure the robustness of our data collection and analysis, and in this way, it was as if we were students on the same project. I couldn't simply rely on my knowledge and experience as aspects of this project were a learning curve for me too, hence I could not possibly have done this without her. In this regard, having Katrina in partnership kept me honest, because her nature was that she wanted to be sure it's right, and understand everything. This really helped ensure integrity in the project, but also provided me with a clear insight from the perspective of the student, how important it was to her not just to help her studies but also for her personal development. I genuinely believe that as a seasoned academic supervisor, you can become slightly detached and certainly underappreciate how much value students put on their work. I think that insight, for me, has had the biggest impact, reconnecting with students and never underestimating them.

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14

Learner Engagement on a Blended Ethics Education Programme: Perspectives of Students and Teachers

Barry Costello, Julia Brennan, Colin Loughlin and Ann Gallagher

Introduction

Student engagement has received a good deal of attention in the educational literature in recent times. The assumption is that if students are not engaged, they will not learn well or meaningfully (Elkington, 2014; Higher Education Academy [HEA], 2010). Many illuminating quotations can be located stating, for example, that "great teachers focus not on compliance, but on connections and relationships" (Caposey, cited in Ferlazzo, 2014), while Ferlazzo (2015) comments that

> If teachers don't know the hopes, dreams and interests of their students, it's pretty hard for them to construct what's going on in the classroom, so that students see it in their self-interest to be self-engaged.

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Student engagement is considered critical in relation to students' meeting learning outcomes, and yet, the construct is "complex and multifaceted" (Kahu, 2013, p. 758). It has been argued that the relationship between Higher Educational Institutions (HEIs) and students is one that has evolved from the traditional pedagogical model of teachers conveying knowledge to learners, as "empty vessels" to be filled (see, for example, Rodriguez, 2012) to one that places more emphasis on "student satisfaction" and value for money (HEA, 2017). This is particularly important with the introduction of tuition fees and the withdrawal of bursaries for student health professions, such as Nursing, in England (Department of Health and Social Care, 2017). Student engagement is a necessary condition for effective learning and is likely to contribute to the development of professional competence (Jones, 2008).

Despite an abundance of literature, there is no consensus as to what "student engagement" means, nor is there agreement as to what strategies promote it and what barriers inhibit it. In this chapter, we explore literature relating to student engagement and discuss findings from an analysis of qualitative data from focus groups with students and teachers in relation to a blended online approach to ethics in healthcare. Ethics and professionalism are compulsory components of the curriculum for students of the Health and Social Care professions. The course had previously been online and has now been supported by more face-to-face seminar time. This project was a partnership between a second-year paramedic student (BC) and three educators (JB, CL and AG). Findings illuminate how students and lecturers perceive student engagement and how it may be promoted.

Student Engagement: What It Means and Why It Matters

For many years, student engagement in higher education (HE) was generally thought of as relating to classroom based, face-to-face pedagogical collaboration between academics and students (Bryson, 2014). However, in the face of changing technology and continual pressures on HEIs, both politically and financially, the meaning and implications of student

engagement have come into question. There is no consensus as to what student engagement is. It is generally thought of as a series of theoretical models and strategies that take into account student ideas and perceptions of their learning environment, including psychosocial engagement factors (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). Research suggests that improving student engagement improves academic performance (Lee, 2014); however, the benefits of engaging students are not limited to this. Student engagement is seen as a multifaceted concept that accounts for a variety of positive outcomes such as emotional, cognitive and social engagement (Manwaring, Larsen, Graham, & Halverson, 2017).

Despite these positive trends, the relationship between emotional and cognitive engagement and its effects on student learning outcomes is still unclear (Janosz, 2012) and difficult to quantify. As students complete their degree, the feedback provided by them is used in national league tables and marketing that is used to rank HEIs. This in turn positions HE as a commodity, and students as the service user or consumer of the product on offer (Bryson, 2014). In this instance, emphasis is placed on the level of grade achieved which is considered value for money against a background of increasing tuition fees. HEIs are then pressured to meet these expectations by adopting new strategies to increase student engagement such as blended learning. It is for this reason that further research into student engagement, particularly in relation to the education of health professionals, is necessary.

Different approaches to teaching have different implications for student engagement. Blended learning, for example, is a form of pedagogy that incorporates face-to-face learning with digital (online) learning (Hockley, 2018). As HEIs continue to evolve and adapt in the face of growing challenges, there is evidence to suggest that blended learning has the potential to transform traditional pedagogical approaches to HE (Garrison & Kanuka, 2004). It is thought that a blended approach to learning promotes a greater level of student engagement, which has been linked with positive learning outcomes (Fisher, Perényi, & Birdthistle, 2018). Achuthan, Francis, and Diwakar (2017) support this, comparing two groups of undergraduate students. They found that the students who had undertaken virtual lab training, similar to that of a Massive Open

Online Course (MOOC), following initial classroom training, achieved consistently high test scores over a 7-week period of assessment. This was attributed to greater knowledge retention. By comparison, a significant decline in scores was highlighted in those students who had undertaken classroom training only.

The finding that enhanced learning can result from blended approaches (Pye, Holt, Salzman, Bellucci, & Lombardi, 2015) raises questions about the link between student engagement and its impact on satisfaction and institutional retention rates. The success of blended learning could, in part, be attributed to its appeal to students and their affinity for technology and online learning platforms (Dziuban, Moskal, Brophy-Ellison, & Shea, 2007). The correlation between blended learning and improved student engagement is unclear. Also, the flexibility of a blended approach may afford students greater autonomy and choice, while also providing a sustained level of face-to-face contact time with academic peers (Manwaring, Larsen, Graham, & Halverson, 2017).

While there may be reliable evidence available supporting HEIs adopting a blended approach, this pedagogical method could disadvantage students who struggle to navigate the modalities of a more autonomous approach to study (Banerjee, 2011). Moreover, in the case of MOOCs, some students may find it difficult reconciling the face-to-face aspects of the course and engagement with an online cohort of peer learners (Bruff, Fisher, McEwen, & Smith, 2013). Given these conflicting findings across the spectrum of a blended approach, it is important to continue to conduct research in this field, specifically into the links between blended learning, student satisfaction and academic performance.

Context

The School of Health Sciences at the University of Surrey developed an innovative ethics education course to form part of a module on "Concepts of Caring". The module is for first-year undergraduate student health professionals (nurses, midwives, operating department practitioners and paramedics). The 6-week ethics component was initially fully online and was designed to teach different ethical approaches to

care across the health professions more effectively. High-quality video resources were produced, which included case studies and interviews with healthcare professionals, patients and ethics experts, who would not normally be available in a face-to-face class. These were combined with online activities including discussion forums and formative tests, and face-to-face support in lectures and seminars. In response to student feedback following the first iteration of the course, more face-to-face engagement with students was added in the form of additional seminars.

Given the complexities involved in clinical and ethical decision-making in the healthcare professions, it is vital that emerging practitioners have a fundamental understanding of the self-reflective process that will inform future decision-making with regard to patient care (Hibberd, Chia, Spindler, Walsh, & Wigginton, 2014). Wintrup (2014) argues that such a foundation stems from student engagement strategies in healthcare education. By advocating for the centrality of reflective understanding in HEIs, students' development as healthcare professionals needs to be nurtured. Wintrup (2014) continues by suggesting that as healthcare is constantly evolving with regard to practice and decision-making, so should the reflective process with the inclusion of emotional engagement and "sense of self".

For the 2018 cohort it was agreed that it would be beneficial to gain the perspectives of students and teachers regarding the meaning, as well as enablers and inhibitors of student engagement relating to this course. The student researcher (BC), working with staff partners (JB, CL and AG), collected data from focus groups to explore student and staff perceptions of the meaning and ethics of student engagement in relation to the revised online ethics education course.

Methodology

This was a small-scale qualitative study whereby the student researcher collected data from staff following a student–staff liaison meeting and a focus group with seven healthcare students. Data were transcribed, anonymised and analysed by the project team. Focus groups enable their participants to engage in a comprehensive group discussion around

selected topics (Carey, 2015). The "free-flowing" format of focus groups is an ideal means to explore the research question as it provides students and staff with the opportunity to share and explore their viewpoints and experiences. This helps to ensure that student and staff voices are captured, providing data from which to gauge programme effectiveness.

Questions/topic areas for the focus groups included:

1. What is your understanding of "student engagement" and why is it important?
2. What strategies are you aware of that are designed to promote student engagement? Which have you come across in the university context?
3. What strategies do you suggest might promote student engagement on the next iteration of the ethics education component of "Concepts of Caring"?
4. What are the factors that influence student engagement?

The thematic analysis of the focus group data (student–staff liaison group and student focus group) was conducted in accord with the process described by Maguire and Delahunt (2017).

Findings

Staff Views

Staff had a reflective, detailed and largely shared understanding of student engagement. While acknowledging levels of complexity and different spheres of student engagement within the module and across the HE experience, staff descriptions of what engagement meant to them were framed in terms of what the student does, for example: "how *they* interact" and "how much *they* utilise resources available". The word "crucial" was used repeatedly to describe the importance of students engaging with the course material, their profession and the whole university experience as "the more engaged somebody is, I think the better experience they will have as a whole". The myriad of strategies employed to encourage student engagement included face-to-face meetings, emails, module news

items and social media. Communication was a theme that came through strongly in the staff group in relation to student engagement with a view that: "we're particularly good at that because we're used to working with people". There was a range of staff views regarding student engagement. One teacher said:

> I would say it's how students respond to something we either give them, or from delivery, how they interact – be it verbal [or] written communication.

Another said:

> I suppose I see it as how the students see themselves within the part of this interactive learning experience, and how they commit to that in every aspect…the communication, the utilising every aspect of learning tool that we offer them.

A third staff participant suggested a range of formats:

> the first thing that comes to mind is whether they're coming to the university or not. So I think about registers…and then I think engagement is about interaction…and how much they utilise resources available, whether they be online or tutor support.

Lecturers also highlighted the importance of students being active as opposed to passive learners:

> Because sometimes students can be in the room but they're not engaging, not ready to learn this thing. Or sometimes there's a concept "you're going to teach me" as opposed to "I'm going to utilise you as a tool to gain more".

Staff participants had a strong view that engagement was critical to student learning and the more engaged students were, the better their experience. There was a reference to taking a "holistic view" of students and to considering their development as "professionals" and as "people". This involved focusing on the development of "emotional intelligence and

social aspects". They also shared a range of strategies they see as contributing to student engagement, for example:

> face to face meetings with students, we have email, telephone, usual ways of communication. We also have SurreyLearn where we have communication boards that the students can feed into. We also have student reps again who feed in to us at meetings.

Another staff participant made reference to the role of nudges (Times Higher Education, 2018):

> I think there are nudges as well, you can use nudges, can't you, sending regular emails, news items, Panopto […] and some of the support groups, and some of the students are now very active, aren't they, with actually supporting each other. They have their own networks […] a student will facilitate a WhatsApp group which they'll talk to each other and actually engage.

A staff participant suggested the role of the environment in engagement in terms of "presenting the learning environment as a place where people want to be, and what is it that engages people within that".

Interestingly, given students' views below that they lacked clarity about the aims of educational methods, staff participants highlighted the importance of students knowing what was expected of them and of sharing their own experience and how they had managed practice situations in the past. Facilitating a sense of belonging was a priority and there was a view that a blended approach would be more effective:

> that kind of sense of belonging, which if you talk to a lot of students and read the research around belonging, you only get that with human contact. It's very difficult to have that in social media within an online community, it can be quite difficult… there's something quite tangible, isn't there, of being in a room full of people that know what it's like. So that helps engagement I think.

Another staff participant supported this:

> And I think it helps engagement in that if you're in a room with people that you know and there's a sense of trust and belonging within there, you're going to be able to delve deeper into your personal learning than [if] you are in an environment of strangers or people that aren't visible and known to you.

Engagement was therefore seen as an important step in creating a sense of community and belonging.

Student Views

Students who participated in the focus group understood "engagement" rather differently. For them it was:

> [students] being involved in their education, kind of having a say in what they agree with and disagree with and any changes…students shaping the way that the teaching is delivered to them. So sort of the staff can adapt it to whatever works best for them.

Student participants acknowledged the University's efforts to engage them in terms of the module evaluation questionnaires and student satisfaction surveys. Another understanding of engagement also emerged, for example: "whether [students] can focus and/or whether they really want to participate". Some participants focused on what failed to motivate or engage them: "in lectures it's not very engaging to just watch a video and then have someone telling you basically what's in the video". The focus group participants all belonged to a minority professional group within a mixed cohort of nurses, midwives and other healthcare professions. A number of comments related to their feeling isolated which affected their levels of engagement. For instance:

> I think in my group certainly the [students] felt a bit sort of forgotten about, everyone was focused on the NMC (Nursing and Midwifery Council) and nursing…HCPC (Health and Care Professions Council) wasn't mentioned at all really…We always felt like an asterisk…They did say quite a lot "For [your group] this doesn't really apply to you but you

> can listen"…We didn't feel very engaged because then we kind of felt, "oh we can take a back seat and listen to everyone else talk about it".

Student participants were more positive about the online element (in relation to lectures) of the blended learning experience:

> I like the [online video] scenarios because it related what we were learning to real life scenarios […] a combination of the [online content] and the taught lessons or the seminars […] made it a bit more engaging […] I think the variety as well, that kind of suited more people, because some people can learn by watching visual things, and then putting that into perspective. And other people can learn by reading and contributing.

There were, however, issues around navigating the online content and also the integration of the online material with the face-to-face sessions, such as: "I think you need to actually get a discussion going and I didn't have any kind of discussion going in my groups".

Communication of the module aims appeared to be a factor that impacted on student engagement with a number of student comments suggesting that they did not really know how they were benefitting from the mixed cohort or the online content. One student commented: "It was never sort of explained to me what the point of the [online scenarios] were, what the expectations were and how we were meant to use them". On a positive note, the library skills workshops seemed to be universally popular, as did the personal tutor groups, with students valuing the opportunity to engage with staff in smaller groups and have more meaningful discussions.

The focus group data suggest a wide range of views regarding the meaning and enactment of student engagement, as well as the barriers and enablers that underpin it. We turn next to a discussion of the data in relation to the literature.

Discussion

In comparison with the student focus group, staff participants shared a more conceptualised understanding of student engagement and the underlying pedagogical approaches which can encourage it. The student group, while less abstract in their responses, highlighted a range of topics that warrant further exploration. One consideration is how student engagement is perceived by staff and students. Teaching staff placed a significant emphasis on classroom-based interaction and the students' ability to effectively communicate both verbally and through written work. Students, however, felt that while this was an important factor, engagement should also be quantified through the teaching staff's ability to adapt to student feedback and expectations with regard to teaching styles and course content. This mirrors an opinion from the staff focus group in that student attitudes towards education and engagement have shifted from attainment of knowledge to one of the entitlement. Bryson (2014) supports this viewpoint arguing that HE is now thought of as a commodity, rather than a shared educational experience among students and academics. However, it is thought that HEIs that show a willingness to engage with student feedback and base changes on staff and student partnerships, will in turn empower students and promote a greater level of engagement (HEA, 2014).

Another theme that arose was the importance of student engagement in relation to student progress. A shared opinion across both focus groups was that a greater level of engagement results in a higher level of academic attainment. Lei, Cui, and Zhou (2018) explored this relationship and found that there was indeed a positive correlation between the two, as a result of several influential factors, most notably behavioural, emotional and cognitive engagement. The theme of emotional engagement was alluded to in both focus groups, with students highlighting the importance of social interactions with their peers as a means of building confidence. This, in turn, promoted greater participation in lectures and seminars; however, it is unclear if this resulted in greater academic achievement as all student participants were first years and had yet to receive summative feedback on recent assessment.

When exploring strategies for building student engagement, both focus groups shared similar viewpoints that suggest the usefulness of nudges. Through weekly email updates on course content, students stated that they would be more likely to engage with pre-reading prior to lectures. Insights from nudge theory may help to illuminate the data and future discussions of student engagement, as it has been shown that prompts, or "nudges", can positively influence behaviour (Thaler & Sunstein, 2008). Interestingly, the literature thus far suggests that positive nudges, foregrounding the desired behaviour, are more effective than cautionary or negative nudges. For instance, text nudges sent to students with timely study tips improved engagement with learning resources and was associated with improved academic performance (Frankfort, Salim, Carmean, & Haynie, 2012). There are, however, ethical considerations when nudging students and particular care must be taken that the nudge does not become a shove, or coercive in any way. This is a growing area of interest for universities (Times Higher Education, 2018) as more student data is readily available which brings to the surface previously hidden study behaviours. The challenge is how to use this data to provide useful information to students, while respecting their privacy and autonomy. While general reminders may contribute to student learning, a deeper understanding of developmental nudges based on Blumenstein, Liu, Richards, Leichtweis, and Stephens's (2018) synthesised framework for enhanced engagement could help more precisely target the learning process through behavioural and cognitive engagement.

Conclusion and Recommendations

This study highlights some key themes for further research into student engagement in blended learning which will help improve future presentations of the Concepts of Caring module and have the potential to inform wider teaching practices and policy in the School of Health Sciences at the University of Surrey. These themes are of increasing importance and wider relevance in the context of the emergent "student-as-consumer" environment in HE, as well as the rise of blended learning – both of

which are bringing radical changes to the landscape of university education. These include:

- **Communication between staff and students**. Our study suggests that shared understandings between staff and students regarding the module aims and the teaching methods used in a course are core to student engagement.
- **Understandings of the role of the teacher and the role of the student in the consumer climate**. Our study suggests that students and staff have different expectations of engagement in the current climate and may not be aware of this – with teachers expecting high levels of independent study and students expecting to have a say in how their module is delivered.
- **Social and emotional connections (between students and staff and between students)**. Our study suggests that both of these are significant factors in engagement. To return to the opening quotation – teachers need to understand the "hopes, dreams and interests" of their students, but students also need to get to know and understand one another to build a "safe space" in which they have the confidence to learn.

Recommendations

In further research it is recommended that greater numbers of students and staff are invited to participate from the full range of nursing professions, as one of the limitations of our study is its small size, and the uniformity of the participant group. It could also be beneficial to increase the range of instruments used (e.g. including survey data). Further research could also investigate the impact of nudges on student behaviour and engagement with the module, to assist in the delivery of improvements in the three areas listed above. For example, emailed or texted nudges could help facilitate staff communication with students as well as articulate and reinforce the module aims and teaching methods.

Reflective Vignette

Staff Perspective

Healey, Flint, and Harrington (2014) report that the most common values cited in student partnership literature include trust, respect, reciprocity, responsibility and openness. In fact, we did not reflect explicitly on these values before beginning our partnership (and would have benefitted from having done so). However, on considering these after the event, they were all borne out to some degree in the work we undertook together, and the partnership enhanced the outcomes of our research.

We come from three different positions – Barry as a second-year paramedic student, Colin and Julia as professional members of staff in the Technology Enhanced Learning Department and Ann as a senior academic; however, we endeavoured to work as equals, being ***open*** *about and* ***respecting*** *our different backgrounds and experiences and planning our work according to our strengths and also to areas in which we would like to develop. During the planning process we* ***trusted*** *each other to take on our different roles and took a shared* ***responsibility*** *to remind each other of upcoming target deadlines and complete our tasks. Additionally, we all contributed to the shape of the study in a* ***reciprocal*** *way from our different perspectives and discussed its development conceptually at regular intervals.*

As members of staff, we could perhaps have been less directive when it came to deciding on the allocation of different tasks. Had we fewer pressures on our time, we would have probably taken a more emergent approach. As it was, we hope that Barry felt that he was an equal in the process and felt supported by us, as well as the training sessions offered by the Department of Higher Education.

Overall, then, there have been many advantages to working in student–staff partnership. Barry brought fresh ideas to the project from his previous student experience and from his own research. These included the key areas of difficulty for students working on a blended course as well as the notion of student emotional engagement being a factor in student engagement more generally. In addition, as Barry was the interviewer in the focus groups, it was noted that the data collected from the students had a more direct and open quality, again bringing new perspectives to the research theme. We hope

that this work will be the beginning of more and deeper student partnerships within the School of Nursing.

Student Perspective

Given the day-to-day rigours of my paramedic degree and inexperience in academic research, I had initial concerns with regards to my effectiveness as a member of the partnership. However, I feel that I was well supported throughout by Ann, Julia and Colin, who provided me with not only the technical means but also the confidence to undertake such an academic venture so early on in my degree. As I progress into my final year at The University of Surrey, I am very proud to have been a part of this student–staff partnership, and I look forward to drawing upon this experience in future research endeavours, including my upcoming dissertation.

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Part III

Partnership Approaches to Assessment, Feedback, and Student-Staff Dialogue

15

Student Nurses' Experiences of Receiving Verbal Feedback Within the Clinical Learning Environment: To What Extent Does This Promote Sustainable Feedback Practices?

Julie Panzieri and Cathrine Derham

Introduction

The importance of feedback on academic work is well documented in the literature, but little of this work has been contextualised to the clinical learning environment where verbal feedback predominates (Kerr, 2017). Verbal feedback is considered as "all dialogue which supports learning in both formal and informal situations" (Askew & Lodge, 2000, p. 1). Within the clinical environment there are many ways in which students receive feedback: as informal opportunistic feedback during day to day activities; in conversations away from the clinical area or more formally as part of formative or summative assessment. This research explores the experiences of student nurses to determine the quality of the feedback

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they receive and the extent to which this promotes sustainable feedback practices; that is feedback which both "supports and informs students on the current tasks, whilst also developing their ability to self-regulate performance on future tasks" (Carless, Salter, Yang, & Lam, 2011, p. 397). Through the use of focus group discussions, data are presented which indicate that verbal feedback was valued by students, but challenges were encountered in utilising feedback and this impacted upon the development of sustainable feedback practices. The chapter ends with a reflection based upon experiences of working in student–staff partnership, which draws upon the student author's current experiences of receiving and using feedback and the staff author's experiences of mentoring and giving feedback.

The Clinical Context

High-quality verbal feedback is an important component of the pedagogy of practice learning (Johnson et al., 2016). Within nurse education the clinical context is recognised as an essential arena for learning and professional development, as students spend half of their undergraduate programme within this environment as they prepare for professional registration. The support students receive for learning in the form of feedback is therefore fundamental, as high-quality feedback is a crucial component of clinical instruction. Verbal feedback may be given by a variety of people: fellow students, health care assistants, allied health care professionals, doctors, patients, relatives and mentors. Mentors are experienced nurses who are assigned to support and assess a student throughout their placement (Hughes & Quinn, 2013). As enablers and givers of feedback it is essential that mentors have the skills and confidence to provide constructive feedback to students and assist them in identifying future learning needs and actions (Nursing and Midwifery Council [NMC], 2008).

High-Quality Feedback

Although mentors and other practitioners have a responsibility to ensure high-quality feedback, the learning potential of feedback can only be realised if students engage with and act upon it. Johnson et al. (2016) identify key determinants of high-quality feedback and note the complexity and challenges associated with verbal feedback practices in clinical settings. They identify 18 key elements of a clinical educator's role in the feedback process and 24 behaviours associated with providing feedback which engages, motivates and enables the student in their development. Four overarching themes are used to describe the key concepts of high-quality feedback. Firstly, the learner has to do the learning: the student identifies what they need to learn and the educator acts as an enabler of timely feedback. Secondly, the learner is autonomous: students need to make their own decisions about how to use and act upon feedback. This is influenced in part by the third theme, the learner–educator relationship, which influences both feedback and subsequent learning, and finally collaboration, where dialogue is identified as key in terms of providing opportunities for direct and flexible interaction and support for development.

Sustainable Feedback Practices

Students must engage with feedback through dialogue, analyse advice given, clarify understanding and identify ways in which to utilise new understandings. This active participation in the feedback process is referred to as self-regulation: "an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate and control their cognition" (Carless et al., 2011, p. 396). The interactive and dialogic nature of verbal feedback in practice appears to be ideally placed to encourage sustainable feedback practices, which both "support and inform the student on the current task, whilst also developing the ability to self-regulate performance on future tasks" (Carless et al., 2011, p. 397). The characteristics of sustainable feedback skills emphasise the

importance of dialogic feedback where the student has agency to be self-reflective and self-regulating of their own feedback. These qualities, coupled with the ability to set goals and plan for learning, are mirrored in the professional attributes required of both students and registered nurses (NMC, 2017).

Students' ability to understand, engage with and make sense of feedback in order to enhance future practice is referred to by Carless and Boud (2018) as feedback literacy. Feedback literacy is dependent upon the quality of feedback provided. In their role as enablers of timely feedback, clinical educators are ideally placed to create the conditions needed to enable sustainable feedback practices. At the same time, students must take responsibility for seeking out and acting upon feedback. The aims of this research were to explore the extent to which students experience high-quality feedback and identify the challenges encountered in developing sustainable feedback practices. Insights gained will be used to inform the supervision and assessment of students in preparation for the introduction of new NMC Standards for student supervision and assessment (NMC, 2018), in order to ensure appropriate strategies are encouraged to optimise the potential for high-quality sustainable feedback practices.

Methodology

A non-probability purposive sample was recruited to take part in a focus group discussions. Second and third-year students were informed of the purpose of the research and encouraged to contact the researchers if they were interested in participating. 28 students were recruited representing adult, child and mental health nursing. Three focus groups, each lasting up to an hour, were facilitated. This was considered sufficient to identify the most prevalent themes within the data set (Guest, Namey, Taylor, Eley, & McKenna, 2017). Discussions were audio recorded with the informed consent of each participant and were transcribed verbatim. Thematic analysis was undertaken using the framework outlined by Nowell, Norris, White, and Moules (2017). The authors familiarised themselves with the data, generated and agreed codes. Once codes were

agreed, data was organised independently by the authors and checked for consistency. Themes were generated deductively and linked to the determinants of high-quality feedback (Johnson et al., 2016). These themes were subsequently reviewed and refined through discussion, in order to ensure they reflected the meaning evident in the data set. Favourable approval from the University's Research Ethics Committee was obtained prior to the commencement of the research.

Results

Findings indicate that high-quality verbal feedback was not experienced consistently by students as they moved between placements and worked with different healthcare professionals. It was challenging for students to navigate their way around different learning environments and build relationships with multiple health care professionals who were in a position to provide verbal feedback. Some learners adapted to the demands of different learning environments, which enabled them to identify learning needs and seek feedback, but others found this more challenging particularly in the early stages of the programme. This resulted in lost opportunities for feedback and impacted upon the development of sustainable feedback practices.

Themes Representing High-Quality Feedback

1. *The learner has to do the learning*

Students are required to identify their own learning needs at the start of each placement and agree an on-going plan of development with their mentor. This, together with the educator's role in acknowledging and responding to these learning needs, was identified as crucial and key to enabling high-quality feedback:

> With the mentors that have been really engaging, at the start of the shift they will ask me what I want to achieve by the end of that day, or I would

> talk to them at the beginning of the placement and then either go about it myself to try and achieve that, or they'll help me with it. And at the end of they'll ask whether I think I've done it and what we want to work on the next shift or what then want to do. (Focus group 2)

However, not all students experienced situations in which mentors were regarded as enablers of feedback. Some students were frustrated when mentors failed to acknowledge their individual learning needs and offer opportunities for feedback:

> They're not picking up, these are your outcomes, this is what you want to learn and guiding you in that… and feedback along the way was nil because they weren't aware of where I was going. (Focus group 2)

Many students only appeared to understand their role in the feedback process as they came towards the end of the programme. This was often because in the early stages they were too concerned with fitting in, helping out and passing modules. Additionally, students lacked awareness and confidence to identify their learning needs and ask for feedback. Winstone and Carless (2019) refer to this as self-efficacy, which is the way in which students view themselves as learners and their levels of confidence and self-belief. Self-efficacy only developed as students progressed through the programme. In the early stages, their understanding of the need for shared responsibility and active engagement as proactive recipients of feedback (Winstone, Nash, Rowntree, & Parker, 2017) was lacking. As students reached the later stages of the programme, they began to realise their own responsibility in identifying and sharing learning needs. There seemed to be a sense of urgency associated with this for final-year students:

> I am going to be focused and ask for advice on areas which I'm a little unsure about, for my own benefit, not just to pass the modules. But because I want to know –I want to get as much information out of that last placement as possible, because it feels like the last chance. (Focus group 3)

This realisation occurred as a result of experience, rather than because of any formal support or instruction. Students recognised that their goals changed from year to year but stated that they were not guided in how to access the feedback which would have enabled planning and development, particularly in the early stages of the programme. Evans and Waring (2015) argue that students can be taught to self-manage, notice and make sense of feedback, but they need to be guided in how to do this. This was discussed during focus groups where students identified the need for more support with this aspect of practice:

> But I think maybe before we went out on placement, maybe if there was a bit more of a discussion on empowering yourself to get that feedback and just saying, "it's OK to ask for it and be proactive". If your mentor is not giving you any, to just say "it's alright to ask questions". (Focus group 2)

Mentors are the enablers of feedback and the timeliness of their feedback was recognised as an important component of high-quality feedback. Timely feedback appeared to occur in situations where educators were engaging with students on a regular basis and were often associated with particular clinical settings, such as specialist practice or community care:

> Throughout the day there'll be like little conversations. Or like has been said in the community it's more of a constant thing. (Focus group 1)

More commonly, however, students reported significant delays in receiving feedback:

> I had no feedback until I did my midpoint review and it was only then when I read what my mentor put about me that I had to go ask questions like, oh I didn't know, you know, that I wasn't that confident or I didn't know I wasn't being as proactive as you would like me to be, can you discuss this with me before, you know it gets written on a report…before that I had no, like, verbal communication with her. (Focus group 1)

Students were able to recognise the challenges in obtaining feedback associated with the context in which they were working, mentors' time

and workload pressures, relationships and the interest and accessibility of these educators. They used a variety of strategies in order to ensure timely feedback:

> I have no idea if I was doing it right…So the next day I would go to my mentor and ask…I would just make sure I went to her and say this is what I did, this is how it was…and see what she said. So just chasing up really is the main responsibility because that's the only way you know if anything you are doing is right or not. (Focus group 1)

Verbal feedback came from a variety of sources and was often regarded as more valuable when given by those not assigned as mentors or assessors. This was partly because of the timeliness of the feedback, which was delivered as part of daily practice and was based upon first-hand observations, whereas mentors appeared to be constrained by formal assessment processes:

> I found your mentors only started to give you feedback when it came to do your clinical grading tool, I found that the non-mentor nurses were far more on hand to teach you and give you feedback than your own mentors were. (Focus group 2)

Students also considered feedback givers who were not their mentors as more approachable and available to give timely feedback. The power relationship which was associated with the mentor as an assessor and student was apparent. It was during interactive exchanges with those who were not mentors that opportunities for valuable dialogue occurred. Students recognised how this supported them with their development and enhanced their ownership of assessment processes (Carless et al., 2011).

2. *The learner is autonomous*

Once feedback has been received, students need to decide how to utilise it (Johnson et al., 2016). Carless and Boud (2018) identify that feedback literacy is key to sustainable feedback practices, as the students' role in using comments to improve subsequent work is vital. The extent to

which students were able to do this depended upon their opinion of the feedback giver:

> Particularly I think newly qualified are quite good at giving feedback because they know exactly what we've gone through. Whereas the more experienced nurses, yes they're more experienced and they're great at what they do, but some of them haven't had some of the more updated training that we've had…and they're quite set in their ways. (Focus group 1)

When the focus of feedback was related to formal assessments activity, students were more likely to act or adjust behaviours, even if they did not recognise the feedback as credible:

> And even though I sometimes feel that the way I'm working doesn't suit my personality or it's not the way I would choose to do it,…. I do feel like I am pleasing them sometimes, which is probably not the best way to do it but, I want to get a good grade overall. (Focus group 3)

Verbal feedback was regarded as powerful and was positively received if this focused upon clinical activities. Feedback pertaining to personal characteristics "knocked their confidence" and stimulated defensive reactions, which impacted upon students' ability to implement actions. Evans (2013) identifies that even if principles of high-quality verbal feedback are applied, students may not be able to use this effectively because of the impact of emotions. The relationship between emotions and feedback is complex and emotions may either enhance or decrease engagement and action. Managing affect is an important component of student feedback literacy (Carless & Boud, 2018) and feedback literate educators will be aware of the emotional response their feedback might evoke. It was apparent though that students worked with educators who appeared to be unaware of their impact:

> It doesn't change the fact that they're aggressive and you haven't learnt anything. (Focus group 3)

Nash, Crimmins, and Oprescu (2015) identify that feedback which is overly critical can lead to "academic paralysis" resulting in an inability to

act upon feedback. This was experienced by students who reported negative emotions associated with feedback and their subsequent motivation and ability to self-regulate and engage with feedback. Verbal feedback was regarded as powerful because of the emotional impact and body language associated with it:

> Yeah like with verbal feedback you get that whole body language, the facial expression, like being looked down on and that like…disgusted look along with the words that they're saying or the…Oh my god happy face with the, you did so good I'm so proud of you. It just hits you more. (Focus group 3)

3. *The learner–educator relationship*

The interpersonal dimension of feedback is key in influencing the way in which students receive, process and use verbal feedback to inform action (Carless & Boud, 2018). Relationships based upon trust and mutual respect were important as they enabled students to engage in meaningful dialogue. Students were also more likely to seek out feedback when the clinician they were working with demonstrated interest in their learning, and when their relationship was characterised by trust and empathy. This buffered against emotions associated with negative feedback and led to a greater acceptance of developmental advice. Thus when and how feedback was given and by whom, was an important determinant in enabling sustainable feedback practices:

> I think it's a lot to do with the mentor you have, like I've been really lucky I feel with my mentors and have felt able to go to them whenever I need to and kind of ask if I need to maybe have an extra bit of supervision or something. Or just at any point approach them and I think that really helps because I know if you don't have that good relationship with your mentor it will probably not make you want to get feedback. (Focus group 1)

However, relationships based on empathy and respect were not always easy to achieve. Students identified times when they were not made welcome by mentors which impacted upon their relationship and confidence they had in their feedback:

> I sat in the coffee room with my mentor before she knew she was my mentor. She was having a conversation with another nurse about how she didn't want a student, how she likes to work alone and couldn't believe she's been dumped with another student. And I was sitting there thinking she doesn't realise it's me. (Focus group 2)

4. *Collaboration*

Dialogue is an important component of high-quality feedback and a characteristic of collaboration (Johnson et al., 2016). During interactions and verbal feedback exchanges, educators and students are ideally placed to optimise the potential for meaningful outcomes. Students were able to identify examples of excellent feedback which was conversational in nature:

> I found the best feedback I had was on a night shift and I was just having a conversation with my mentor and they had a lot of time to talk to me about everything I had done, on a more feedback basis rather than just saying thank you at the end of the shift. (Focus group 2)

Students identified the importance of informal two-way conversations which was often between them and practitioners who were not their mentors. They recognised this had a greater impact upon their development than more formal, documented feedback.

> It made you really think about it and it made you kind of develop as a person, and then when I kind of eventually came around to doing it I remembered what she said to me, rather it wasn't written down anywhere and you know it made me…perform better as a student. So yeah I felt that verbally was much better. (Focus group 3)

Written feedback associated with an assessment was not valued as much as informal dialogue and was described as a "tick-box exercise":

> Verbal feedback just sort of, for me, stays with me more. I probably couldn't tell you most of the things that mentors have written in my portfolio, but I can tell you half the things which other people have said to me in practice. (Focus group 3)

Students stated that during summative assessments there was limited dialogue. Formal assessment activity was characterised by the one-way transmission of information, consisting of evaluative statements or corrective advice (Carless, 2015). Students valued feedback based upon first-hand observations given by others, those who were not designated mentors or assessors. This feedback was dialogic in nature and regarded as credible and timely, with potential to promote student engagement. However, anxiety was expressed about whether or not the mentor assessing them would be made aware of this feedback, particularly if they felt this could positively impact their final assessment. A tension was expressed between the value of immediate feedback from credible and trustworthy practitioners and the need for the mentors' input, even when this was not valued by the student:

> The only need for the actual mentor to know about it is that they're the one filling in the paperwork and we want it to reflect how you're actually performing in practice, but the value of the verbal feedback is for yourself as a nurse and how you're progressing. (Focus group 1)

Thus there was a tension between the value of dialogue and the need to have feedback documented. Changes to the structure of student learning support within clinical learning environments, directed by the NMC (2018), will replace the role of the mentor as the primary assessor of students and introduce two new roles: practice supervisors and practice assessors. The practice supervisors, who will not have formal assessment responsibilities, will take on the role that other practitioners have played in terms of working alongside and providing feedback to students. Interestingly, the practice assessors are not expected to work alongside their

students and will therefore need to rely upon other colleagues to provide them with feedback to inform summative assessment. It is therefore inevitable that practice supervisors will now need to document feedback. This could jeopardise the value of dialogic feedback and result in a decline in the quality of feedback and the ability of students to self-regulate.

Conclusion

For feedback to influence learning it must be of a standard which enables sustainable feedback practices. High-quality feedback relies upon the skills of the educator and their ability to create the conditions to enable feedback which is dialogic in nature, timely, credible and based upon a relationship of mutual respect and understanding. Students have identified each of these factors as important in enhancing their learning experiences. It is clear, however, that students' experiences of high-quality verbal feedback is inconsistent, and feedback often fails to inform and develop students' understanding and practice. Mentors and other practice educators ultimately have the responsibility to create an environment that facilitates students' learning through feedback, where the students' responsibility is also recognised. There is an urgent need therefore to increase the effectiveness and quality of their engagement with and their use of feedback. Students need support to enable them to view themselves differently as a learner and develop confidence and self-belief in order to access feedback from the beginning of the programme.

Until students develop the capacity to regulate their own learning, their ability to make sense of and use feedback will continue to be limited. More needs to be done to develop skills of self-regulation by communicating to students the purpose of feedback and their role in this process. It is important to introduce students to notions of feedback literacy at the beginning of a programme of study in order to establish a productive feedback ethos. This is vital in terms of developing sustainable feedback practices which are an expectation of the workplace and lifelong learning. Currently, students are not trained or supported in these activities and often rely upon unsophisticated strategies when

seeking feedback. It is proposed that through a series of feedback preparation activities, students could be trained to explore through dialogue the process of seeking, receiving and using feedback.

Much time and energy has gone into preparing mentors to deliver effective feedback. With proposed changes to NMC standards for education, there is now a need to do the same for the new roles of practice supervisors and assessors. This should afford opportunities to encourage new feedback practices that facilitate the uptake of feedback by placing an emphasis upon the motivational, emotional and interpersonal dimensions of feedback and the importance of dialogue. If the role of practice supervisors results in fewer opportunities for dialogic feedback, there is the possibility that both the quality and sustainability of feedback practices will decrease. This creates a sense of urgency in terms of developing students' ability to self-regulate and reduce their current dependency on others for direction. Although it is vital that we consider the development of practitioners' feedback practices, it is argued that perhaps more could be gained from developing students' behaviours and strategies. It is unlikely that one single intervention will achieve this and the best way in which to enable learners to become proactive recipients and seekers of feedback is not yet known. There is a need for more research to understand how we improve engagement and these fundamental skills and behaviours within the practice learning environment.

Reflective Vignette

Julie

My interest in this project was three-fold. Initially, I relished the opportunity to work with Cathy as an experienced researcher to advance my journey in becoming a research nurse. Secondly, as an academic student, this was an opportunity to develop my understanding of qualitative data collection and interpretation which informed my dissertation project. Most importantly, the findings of the research itself were of interest to me personally as a potential beneficiary, both now as a student nurse and in the future as a nursing mentor. Working with the data and other students fed back into my practice

as it enabled me to reflect directly on the theory surrounding feedback seeking and skills of self-regulation. It provided the motivation to challenge current feedback practices which I hope to continue doing.

Cathy

My interest in this partnership opportunity was motivated by previous positive and enjoyable experiences of working collaboratively on projects with students and colleagues. Julie's ideas and insights were invaluable in informing the research, and her willingness to share her thoughts and experiences had a significant impact upon my understanding and empathy for the challenges students encounter. As a result, I felt quite protective of Julie. I recognised the added workload this project represented and wanted this to be a meaningful experience for her and therefore tried to encourage flexibility and choice in the activities she undertook. We realised as we progressed that our roles reflected the mentor/student role we were exploring.

In Partnership

For us both the true value of partnership working was gained via *the process of engagement. Our partnership was characterised by our ways of working. This was a collaborative process where we both felt able to contribute equally, but in different ways. Our relationship and activity was based upon dialogue, mutual trust and respect. Although great satisfaction was gained from developing mutually constructed knowledge through the completion of our work, the greatest pleasure was in realising that our engagement truly represented partnership working.*

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16

Facilitating Students' Proactive Recipience of Feedback with Feedback Portfolios

Kieran Balloo and Aka Vashakidze

Introduction

Proactive recipience of feedback is the term for when students are active participants in the assessment feedback process (Winstone, Nash, Rowntree, & Parker, 2017). In this chapter, we discuss how feedback portfolios facilitate students' proactive recipience. In order to understand more about how recipience skills are enhanced through portfolios, we undertook a case study that focused on students' perceptions of a specific VLE-embedded feedback e-portfolio called *The Feedback Engagement and Tracking System* (FEATS; Winstone, 2019), which was co-designed in partnership between staff and students. Using a hybrid inductive and

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deductive approach to thematic analysis of semi-structured peer interviews with users of the portfolio, we consider the ways in which it targeted their recipience processes, and whether students perceived these attempts to be successful. We conclude by considering the overall efficacy of feedback portfolios in facilitating students' proactive recipience. Finally, we end the chapter by reflecting on the student–staff partnership approach we utilised.

Proactive Recipience of Feedback

Feedback can be the most influential moderator of student achievement (Hattie, 1999), because learners can use feedback information to directly improve the quality of their work (Boud & Associates, 2010). One definition of feedback is that it involves the provision of information about the quality of a piece of work or a learner's level of understanding (Hattie & Timperley, 2007). However, Carless (2015) suggests that feedback should be seen as a dialogic process in which learners are active participants. This shifts the focus to the learner's role; learners need to actually *use* the feedback, rather than just *store* it, otherwise it is merely information (Boud & Molloy, 2013; Ramaprasad, 1983; Sadler, 1989; Wiliam, 2011). Thus, when learners act on feedback, they are closing the feedback loop (Carless, 2019).

Since written comments on students' work have traditionally been the most prevalent form of feedback information across many disciplines within higher education (Gibbs & Simpson, 2004), students need to be able to interpret these comments and convert them into useful actions. This requires them to understand the comments they receive; comments that are not understood are merely "dangling data" (Sadler, 1989, p. 121). Worryingly, many students appear to enter higher education minimally equipped with the skills required to act on written feedback (Burke, 2009). Teaching staff often expend a significant amount of time crafting written comments (Sambell, 2016), yet the provision of more and more feedback information is becoming increasingly unsustainable with no apparent additional benefits for learners (Nash & Winstone, 2017).

Educators play an important role in supporting students' proactive recipience and helping them to engage with feedback information (Nash & Winstone, 2017; Price, Handley, Millar, & O'Donovan, 2010). Through a systematic review of a range of interventions used to engage learners with feedback by supporting their recipience processes, Winstone, Nash, Parker, and Rowntree (2017) developed a taxonomy of four recipience processes that have often been targeted in previous research, known as the SAGE taxonomy:

- *Self-appraisal* requires learners to be able to make and accept critical judgements about themselves in terms of their strengths and areas in need of improvement, in order to prime them to engage with the feedback they receive on their work;
- *Assessment literacy* means that learners are aware of the standards and criteria used to assess their work;
- *Goal-setting and self-regulation* involves learners having the ability to set themselves targets based on their feedback and then self-monitor the extent to which these targets are being achieved;
- *Engagement and motivation* involves learners being receptive to receiving feedback, then motivated to actually use it to take action.

Despite its apparent value, feedback is the area of students' programmes with which they express most dissatisfaction (Nash & Winstone, 2017). This dissatisfaction has important implications for module evaluations and large-scale surveys of university satisfaction, the latter of which impact on national and international university league tables. Students need to perceive feedback comments as being usable in order to feel they are effective (Dawson et al., 2019). They then need to synthesise the messages being conveyed in these comments and other forms of feedback to produce appropriate action plans and carry out these plans. Therefore, students need to be supported to become proactive recipients of feedback.

Facilitating Proactive Recipience with Feedback Portfolios

Students require opportunities to engage with feedback processes and practise their proactive recipience skills (Winstone & Carless, 2019). Feedback portfolios assist students in their active application of feedback by collating feedback from multiple sources, allowing for the sustainable monitoring of performance change over time (Parker & Winstone, 2016; Winstone, Nash, Parker et al., 2017). Winstone, Nash, Rowntree et al. (2017) asked students to rank-order the perceived usefulness of various feedback interventions that may support recipience processes, and feedback portfolio tools were ranked highly both in terms of their utility and likelihood of use.

Winstone, Nash, Parker et al.'s (2017) synthesis of feedback interventions highlighted several instances in which feedback portfolios were used to facilitate three out of the four recipience processes from their SAGE taxonomy: self-appraisal; goal-setting and self-regulation; and engagement and motivation. Although the specific activities in different portfolio tools differ, there are some commonalities that demonstrate how they attempt to target recipience processes. Quinton and Smallbone (2010) devised a portfolio activity in which students answered questions about their feedback comments on a reflection sheet, then they compiled these reflections across a number of assignments to develop an overall action plan, targeting their goal setting and self-regulation skills. Similarly, Ajjawi, Schofield, McAleer, and Walker (2013) asked students questions about their engagement with feedback, and they then collated these reflections as part of an online repository to enable an ongoing dialogue. Dahllöf, Tsilingaridis, and Hindbeck (2004) used a logbook to encourage students to self-evaluate their competence (targeting their self-appraisal skills) and track their own development (targeting their self-regulation skills). Finally, Embo, Driessen, Valcke, and Van der Vleuten (2010) developed an instrument that assisted students to take more responsibility for asking for feedback. They found that through continuous feedback on self-directed learning, students became more internally motivated over time to use their feedback.

Portfolios include a number of activities that explicitly target recipience processes. However, it is not clear whether they do in fact facilitate these skills and if any barriers are experienced by students. Furthermore, whilst the discussed portfolios had similar goals of attempting to engage students with feedback processes, they were not specifically designed to explicitly target recipience skills in the SAGE taxonomy. Therefore, we undertook a case study to explore students' perceptions of a portfolio that was developed with this precise purpose.

Case Study: Students' Perceptions of How Their Recipience Skills Are Facilitated by a Feedback Portfolio

Building on their systematic review findings (Winstone, Nash, Parker et al., 2017), Winstone and Nash (2016) created the *Developing Engagement with Feedback Toolkit* (DEFT)[1] as a collection of resources to engage students in the feedback process. DEFT includes a portfolio resource that encourages students to collate feedback comments and create an action plan for how to act on their feedback. The *Feedback Engagement and Tracking System* (FEATS; Winstone, 2019)[2] is a VLE-embedded feedback e-portfolio tool based on the DEFT portfolio. FEATS enables students to collate feedback from multiple assignments and synthesise common messages. Created as part of a curriculum development project led by Dr. Naomi Winstone at the University of Surrey, FEATS was co-designed by staff and students, drawing on a participatory design approach (Spinuzzi, 2005) involving student workshops, think aloud sessions and focus groups. Like other portfolios, the purpose of FEATS is to increase students' engagement with their feedback, and make it easier for them to understand how to improve.

There are three sections in FEATS that are accessible via an online dashboard. Part A of FEATS asks students to use their own words to identify their key strengths and weaknesses based on the feedback they have received, then categorise each of these aspects into a range of preset skills (e.g. critical thinking and evaluation), which are synthesised

across multiple feedback episodes. Part B displays a list of useful resources (e.g. books, websites, library workshops, etc.) that have been specialised according to the skills students identified as being in need of improvement in Part A. Finally, Part C provides students with a space to explain how they will make use of resources in Part B. They can then set specific targets and dates by which to achieve them and monitor whether they have accomplished each action.

Methodology

Participants

Six first- and second-year undergraduate psychology students who were users of FEATS took part in one-to-one semi-structured interviews lasting up to 30 minutes. As FEATS had only been made available in the year prior to when the interviews were conducted, none of the participants had extensive experience of using the portfolio over a long duration. Second-year students had access to it during the whole of their first year, whereas first-year students would have only had access for half a semester at the time of the interviews. All participants had used FEATS to complete at least one feedback review (Part A), but only some students had subsequently used the resources (Part B) and created an action plan (Part C). Table 16.1 displays students' basic demographic details and the extent of their usage of FEATS (names are pseudonyms).

Table 16.1 Students' demographics and usage of FEATS

Participant	Age	Gender	Year of study	Usage of FEATS
Alice	19	Female	1st year	All sections utilised and action plan carried out
Janine	19	Female	2nd year	Part A utilised only
Zainab	19	Female	2nd year	Parts A and B utilised only
Gavin	19	Male	1st year	All sections utilised, but action plan yet to be carried out
Katarzyna	19	Female	2nd year	Part A utilised only
Megan	19	Female	1st year	All sections utilised, but action plan yet to be carried out

Procedure

Since the investigation focused on students' perceptions of a teaching innovation, there were concerns that participants may not be open about their views and usage of the portfolio if a member of staff interviewed them. Peer interviewing is a potentially useful approach for facilitating rapport between interviewer and participant, as well as encouraging candour in participants' discourse (Byrne, Brugha, Clarke, Lavelle, & McGarvey, 2015). Therefore, the student co-author of this chapter conducted all semi-structured interviews, then transcribed and anonymised the data prior to transcripts being accessed by the staff member co-author.

During the peer interviews, the FEATS tool was used as a stimulus to engage participants in discussion. Participants were shown the portfolio and they were then asked to talk about whether they had engaged in the activities and how. This allowed students to be probed about specific choices they made (e.g. how they used feedback reviews to form an action plan and whether they perceived that this action plan helped them to develop their subsequent work). Questions concerned each of the recipience skills being targeted (i.e. self-appraisal, goal setting and self-regulation, and motivation and engagement) and were asked whilst participants viewed relevant sections of FEATS. This stimulated recall interview approach has been found to be useful for prompting participants to reflect on their thoughts at the time of carrying out a particular action (Heron, 2018).

Analytical Approach

Since we aimed to use the case study to understand the mechanisms behind how the portfolio facilitated the recipience processes of self-appraisal, goal setting and self-regulation, and motivation and engagement, these three aspects of the SAGE taxonomy (Winstone, Nash, Parker et al., 2017) provided a framework for understanding students' responses. Therefore, we followed a hybrid inductive and deductive approach to thematic analysis (Fereday & Muir-Cochrane, 2006), so the

taxonomy could be drawn on as a deductive framework. This meant that the three recipience processes became deductive codes (and first-order themes) and inductive data-driven codes were then matched with these (as sub-themes) through an in-depth reading of all transcripts and iterative coding process conducted by both authors.

Findings and Discussion

Self-Appraisal Skills

Primed to use feedback. By using their own words to review and reflect on their feedback, students were encouraged to think beyond the specific task to their performance in general: "The stuff I did not do well was basically most to do with essay structure and that's actually something I [have] pretty much always struggled with" (Alice). Significantly, the portfolio appeared to help students move beyond seeing feedback as having a purely evaluative purpose, preparing them for understanding how they could use it to improve their future work:

> [As a result of using the portfolio] I think for like identifying my weaknesses and strengths, I am hoping that I would have done better this year. (Katarzyna)

> [Categorising one of my weaknesses as] critical evaluation skills gave [an] indication [of] what exact skills to focus on, and then you can see you completed that, and then you will be like, 'oh I understood that, and I don't need to focus on those skills again'. (Gavin)

By asking students to explicitly identify their key strengths and weaknesses based on the feedback they received, students' self-appraisal skills were being targeted and this appeared to focus their attention on how feedback could be used to improve their future work: "[The portfolio] kind of broke [my feedback] down … so I definitely kind of understood my criticism better, and I actually paid more attention to it rather than

just skim[ming] it" (Alice). As a result, students seemed more able to understand their own skills.

Barriers to self-appraisal. Because the portfolio was only able to prompt students to reflect on their own understanding of their feedback, and what it revealed about their strengths and weaknesses, the tool did not make the self-appraisal process any easier for students if feedback comments were perceived to be unhelpful or unclear:

> There were some areas where I did not understand why I did not do so well, or the areas where I did well, the comment was only 'good', and I did not really know … the reason why I did well. (Janine)

> They would say things like you need to be more specific, and then I would be very confused, because I had been as specific as I thought was needed. (Katarzyna)

One aspect that appeared to assist understanding of feedback information was if comments were accompanied by a cover sheet or general comment that explicitly highlighted what students did well and areas in need of improvement: "In my essay they gave us [a] feedback sheet, and it kind of had two sections, one of them was things you did well, things you did not do well, so I just kind of took it from there [when identifying my strengths and weaknesses]" (Alice).

Goal Setting and Self-Regulation Skills

Identifying patterns in feedback information. Some students noted how the portfolio allowed them to identify patterns across feedback comments that they could then use to set goals for what to improve in future tasks:

> It makes [a] difference when you look at [feedback] as a more holistic view, because you can compare to other assignments and find a pattern where you do worse I guess. (Janine)

> [The portfolio] kind of breaks [feedback] up, because when you look at [an] essay it's difficult because it's such a long text to distinguish particular things I need to change, so it breaks it down so it's easier for me to focus on. (Megan)

However, one student seemed to only see these patterns where the feedback could be viewed as focusing on something generic, or appeared to be relevant across different types of assessment: "In some of my assignments I had [an] issue with critical thinking and where I had to work on my critical thinking and evaluation points, and kind of deduce the information from just the description of studies, for example. And I applied that to other future assignments" (Janine). Where assessment types were quite different, and the feedback seemed to be specific to those assessments, this student had difficulties turning her feedback into actionable points that could then be used across assignments: "For the last year I had two lab report-type assignments. I could kind of compare and contrast [the feedback on] those two, but if I was to compare a statistics essay with a written essay, I can't do that" (Janine). On the other hand, other students were able to move beyond this issue and understand how the portfolio could help them draw together similar points from different types of assessment to see the generalisability of their feedback, allowing them to set goals:

> When you go on the action plan, [it] made me think about how [feedback] will apply to [the] next one, even if it was not the same type of assignment. (Megan)

> Even though other assignments were on different topics for the different courses … it does not need to be [the] same in terms of topic, it is just the way you review your skills to just see where you need to improve, so it was quite helpful, and I used [the feedback] for like other actions as well. (Zainab)

Scaffolding action plans enabled self-regulation. Goal setting was an important stage for students to encourage them to think about how to use their feedback to improve future tasks. However, in order for feedback to actually enhance students' self-regulation, they needed to then

carry out their action plans. The portfolio scaffolded students' action planning by providing targeted resources based on their self-identified strengths and weaknesses:

> [For] critical thinking and evaluation, [there] does seem to be lots of different varied responses like online resources for it, and they are from quite reliable sources [on the portfolio], and they [have] even got the link to [the learning advisors], so I think that is quite helpful. (Katarzyna)

> After I put everything down [in] FEATS, one of the recommended ways of dealing with my structure issue was to attend [a learning support] workshop, which I did, and then I talked to the guy [there] … and he gave me sort of step by step instructions [of] how I can lay out my ideas and then put them down in [a] more sort of organised format, and now whenever I prep for my assignment[s] … I follow the step by step instructions and it is actually easier. (Alice)

When students took the step to use these resources and incorporate them into an action plan that they then followed, the portfolio enabled students to explicitly close the feedback loop (Carless, 2019) and use their feedback to become self-regulated learners, which is often seen as an important goal of good feedback practice (Nicol & MacFarlane-Dick, 2006).

Engagement and Motivation

Increased awareness of the power of feedback. Students seemed to be aware of the benefits of using the portfolio either because they had already seen improvements in their performance or understanding after using it, or they perceived that there would be benefits through continuing to engage with their feedback using the portfolio:

> I do feel like yeah I have improved my work … I am much more confident about approaching my structure, and that is because what FEATS recommended to do…. It really makes you think about feedback instead

> of just kind of ignoring it, which is obviously [an] easier thing to do. (Alice)

> Now that I am looking at [the portfolio again] … I really know that those were the skills I was struggling with and I have improved on some of those by now. So yeah I think it has helped me. (Katarzyna)

For Alice, sharing actions from her plan with her tutor also initiated a dialogue about her feedback: "[My tutor] went through my paragraph and she marked it and gave me more feedback, so yeah it's helpful". Therefore, the portfolio was able to both increase the student's engagement with her feedback and also involve her in a meaningful dialogue about feedback, which is an important way for students to ensure their understanding of their feedback and gain further feedback (Winstone & Carless, 2019).

Difficulties finding motivation. The portfolio did not, however, necessarily lead to spontaneous engagement with feedback. Alice noted that she "probably should [use the portfolio], [but] whether I actually do" in the future, and time seemed to be a barrier for some students:

> I would like to say [I will continue using the portfolio]. If I had time I would, because it will be nice to see the difference between what I was like this time last year and how I have improved this past year, but again very busy second year, and it doesn't take long, but it takes time to think about it. If you're going to write what you're going to say in your own words you will have to think properly [and] deeply to understand this feedback. (Katarzyna)

It appeared that there was a distinct need for the portfolio to become a more integral aspect of students' study routine in order for them to be more likely to use it: "It would be great if the tutor could go through with us during our academic tutorials, so the tutor would show us the benefits of FEATS which would be really useful" (Katarzyna). Thus, by integrating this tool into students' curricula, there is the potential for making dialogue around feedback more of a standard practice.

Conclusion

In this chapter, our intention was to investigate the potential for facilitating students' proactive recipience through the use of feedback portfolios. Previous research has indicated that portfolios target the recipience processes of self-appraisal, goal-setting and self-regulation, and engagement and motivation. The case study presented in this chapter illuminated the ways in which these skills may (or may not) be supported by portfolios. Feedback portfolios encourage students to identify patterns in feedback information across assignments that could then be used to improve their future work, rather than seeing feedback comments as only applying to a single piece of work. Therefore, through using portfolios, students may focus more on future-oriented directive feedback and how it can be used. This may be very valuable since Nash, Winstone, Gregory, and Papps (2018) found that students appear to remember past-oriented evaluative feedback (i.e. feedback focusing on current work) better than (more useful) directive feedback. By facilitating students' engagement with feedback, they are able to explicitly see how their feedback can be used for future work, which means they are more likely to see how it is effective (Dawson et al., 2019). If feedback is seen to be effective, students will be more satisfied with it, which is an important goal for universities considering students' usual dissatisfaction (Nash & Winstone, 2017).

However, the case study did also reveal some potential barriers to using portfolios to facilitate students' recipience skills. Firstly, portfolios do not make up for poor feedback practices. Feedback comments that are hard to understand do not become usable just from having a portfolio available. Therefore, students need to be encouraged to engage in a meaningful dialogue with teachers around their feedback to clarify the meaning. Some students may also struggle to see the generalisability of feedback across assignment types, even despite portfolios prompting them to focus on more general skills. Finally, in the same way that the provision of feedback comments does not automatically lead to students using this information to take action, having access to a portfolio does not mean students will use it. Thus, any implementation of portfolios needs to be scaffolded and fully integrated into students' curricula. Usual feedback practices would also benefit from aligning with portfolio activities.

Examples may include providing assessment cover sheets focusing on students' strengths and weaknesses that will make it easier for them to draw out these points for use in a portfolio, and embedding time for portfolio training and use into timetabled sessions.

Reflective Vignette

Aka

Collaborations between students and staff members are helpful, as this partnership offers both sides the opportunity to experience something new. This can also lead to successful outcomes by understanding the perspectives of both sides. My expectations about the project were positive, as I already had experience working with university staff as part of my placement year, which was a really pleasing experience. In my opinion, the main challenge with this partnership was being able to allocate the time necessary for the project. Sometimes, I felt I could have contributed more if I had a bit more free time, as my final year of studies has been very time-consuming. However, this has not affected my experience of the student–staff partnership; I had all kinds of support from Kieran and freedom about how to undertake my role. I believe that understanding each other's workload, perspectives and priorities was the key to this partnership being successful.

Kieran

At the start of this project I was excited about the prospect of the student–staff partnership, but also concerned about how it was really going to work in practice. I had ideas about how we could split up duties to make the most of each other's strengths; for example, I thought it would be a good idea for Aka to conduct all of the interviews with his peers for the reasons previously discussed. However, whilst I hope Aka was happy with these decisions, I was also very aware that, as the staff member, I was mostly in control of this negotiation, so he may not have felt able to challenge my suggestions. I think the project was ultimately a success and we each contributed in ways that

made sense to the research being conducted. Though in retrospect, I think we may have both benefitted from a neutral party being present to mentor both of us through the initial part of this process.

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Notes

1. DEFT is available open-access at the following web link: https://tinyurl.com/FeedbackToolkit.
2. Further information about FEATS can be found at the following web link: https://www.surrey.ac.uk/department-higher-education/learning-lab/feedback-engagement-and-tracking-surrey.

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17

An Innovative Presentation Tool as an Alternative to Traditional Methods for Student Assessments

Andrew T. Hulton and Kyle Gapper

Introduction

This chapter examines student perceptions following the introduction of a new presentation tool, Go!Animate, that is offered as an alternative to traditional presentation software. Providing students with access to a greater variety of presentation tools may offer them the opportunity to gain valuable transferable skills that enhance employability but also may provide additional motivation and enhance student interest in learning. This chapter aims to investigate students' perspectives of this tool during a summative assessment period. Qualitative and quantitative analyses will examine student beliefs about the software and whether they feel that these novel technologies have a role in higher education.

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Assessment in Contemporary Higher Education

In order to understand if students have met the learning outcomes of a particular module or programme, assessment tasks are imposed. According to Butcher, Davies, and Highton (2006), assessment plays a crucial role in the curriculum and may serve many purposes for the institution, the staff and the students. However, teachers and academics may find that assessment is one of the most challenging aspects of their role. This may be because of the responsibility associated with assessment creation and delivery, or because of the perceived need to preserve academic standards and integrity at the institution, whilst also ensuring and maintaining fairness and impartiality (Butcher et al., 2006).

Assessment strategies can be designed in numerous ways that not only fit a particular module, but support the programme as a whole and provide transferable skills that may support future employability. The expansion of higher education means that students now come from a diversity of ethnic and cultural backgrounds, and from a multitude of training backgrounds (Romanelli, Bird, & Ryan, 2009), and a wide range and differing learning styles are exhibited. Learning styles were defined by Jensen (2003, p. 31) as "a preferred way of thinking, processing, and understanding information", with Shell (1991) identifying that some students prefer different methods of learning more than others. Therefore, this may provide an opportunity to enhance the variety of assessment methods available throughout the university programme to provide a greater opportunity for all students to showcase their academic abilities.

An increased interest in the assessment strategy may also facilitate greater learning. Shuell (1986) suggested that for students to learn the desired taught outcomes, it is a fundamental task of the educator to engage with the students and provide meaningful learning activities. These learning activities could include formative or summative assessments. Shuell reiterated the beliefs of Tyler (1949), stating that "it is helpful to remember that what the student does is actually more important in determining what is learned than what the teacher does" (Shuell, 1986, p. 429). With these beliefs in mind, the importance of module design and assessment strategy to provide such learning activities is

paramount, with Brown (2001) suggesting that course design and effective assessment are inseparable. Furthermore, Ramsden (2003) suggests that students see assessments as a main driver for their curriculum and these assessment tasks may dictate how they spend the majority of their time.

Assessment Strategy and Transferable Skills

There are a wealth of assessment methods utilised in higher education today, of which essay writing, problem-solving tasks, practical reports and projects or dissertations have been seen as the most common (Brown, 2001). Academics also need to prepare students for future employment and enhance their transferable skills (Butcher et al., 2006; Pellegrino & Hilton, 2012). The UK Government HE White Paper (2003) suggested that higher education has a role in developing graduates' employability skills and develop a culture of lifelong learning. A key aspect of lifelong learning and employability is to know one's strengths and weaknesses, and by providing a more varied assessment strategy this may support students' metacognitive skills, such as planning and self-awareness (Pellegrino & Hilton, 2012). Employability skills may include the recovery and management of information, communication and presentation, interactions for social development, planning and problem-solving, creative and critical thinking, and active and reflective application of knowledge (Driscoll, 2000; Fallows & Steven, 2000). In order to provide a more varied assessment strategy, additional methods of assessment should be incorporated and can include case study or open problems, portfolios, log/diary/minutes, video or film, and presentations in the form of oral or poster format (Brown, 2001).

Presentation Tools for the New Generation of Students

Assessments via oral presentations are a popular tool within higher education within the UK, and can help to develop employability skills. Morley (2001) suggested that oral presentation skills are essential for academic

study as they have the potential to lead students to enter into debate and sustained reasoning. Furthermore, they encourage students to contribute fully in their learning, to communicate, and to support the development of competencies that may be needed for future employability (Živković, 2014). To assist oral presentations, software packages such as Microsoft PowerPoint are commonly used. However, the use of new technologies could provide an exciting opportunity to vary the assessment tool and provide more skills that are able to be assessed.

The current cohort of students have been labelled Generation Z (defined as people born after 1995 [Cilliers, 2017]). With this new generation may come a change in the type of teaching and assessment required within higher education, as it has been argued that generation Z are more demanding than their predecessors, the Millennials, and that they are the first truly digital native generation (Wotapka, 2016). Generational labels have received criticism and need to be taken with caution, as students' relationships with technology are much more complex than the digital native characteristic suggests (Bennett, Maton, & Kervin, 2008). However, if there is some truth relating to the notion that this group of students demonstrate enhanced use and reliance on technology, then there may be a need to improve how technology is used within teaching and learning. To facilitate a greater learning environment in accordance with Shuell (1986), Wotapka (2016) suggests the following:

1. *Think Digital*—provide information that is instantly accessible on multiple platforms.
2. *Break it up*—include a variety of teaching and assessment methods to maintain interest.
3. *Make information graphical and digestible*—use different media to maintain their attention.
4. *Rethink how we communicate*—text messaging is considered normal and email is considered formal. Can we use different media to get information across?
5. *Be relevant*—maximise their time as this generation are busier than their predecessors.

Technological advancements and an evolution in the student population suggest that a more sophisticated software is warranted, providing an alternative variation to the more static presentation capabilities available within Microsoft PowerPoint. Such presentation platforms exist and the Vyond's software package Go!Animate may provide an exciting variation (Fig. 17.1 offers a screenshot of this platform). This animation package, which works within a slide structure like traditional software but uses video and attempts to make the static dynamic, transforming mundane presentations into something more captivating. This software allows the use of animations and avatar creations to illustrate and communicate information. It also offers the flexibility to view the presentation on multiple platforms, making the information more accessible, digital and graphical, all of which were suggestions by Wotapka (2016) to increase engagement with the Generation Z cohort but offer an ability to potentially enhance learning for all students.

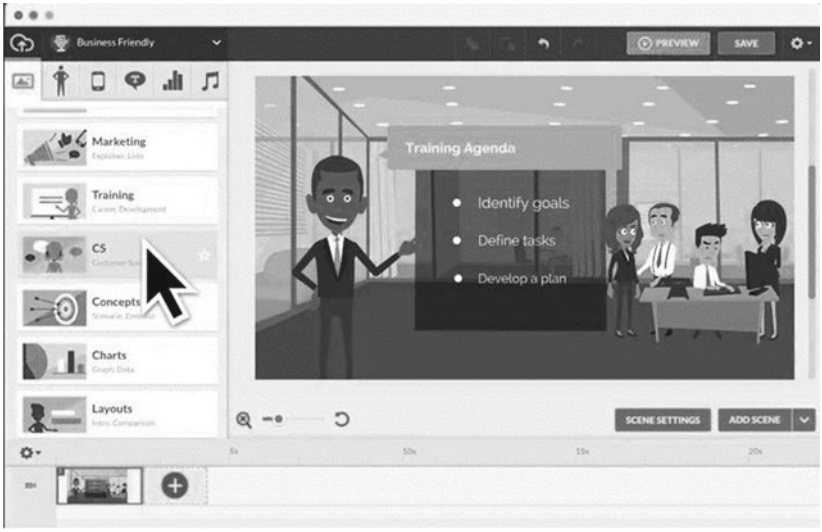

Fig. 17.1 Screenshot of Go!Animate

Rationale for this Design

A theoretical perspective underlying this technology for learning may be explained using the self-determination theory. Deci and Ryan (1991) suggested that applying the self-determination theory to education is ultimately concerned with the promotion of the student's interest in learning and developing confidence in their capacities and attributes. Reeve and Tseng (2011) observe that students vary their engagement in their response to learning activities, with variations in the amount of work the student contributes to the activities, the amount of joy perceived, and with differing strategic involvement. These engagements can be attributed to the behavioural, emotional and cognitive differences in students' learning and achievement. Furthermore, Reeve and Tseng (2011) propose a fourth aspect of engagement, that of agentic engagement, whereby students may look for an opportunity to make a task more enjoyable and relevant. The authors define agentic engagement as "students' constructive contribution into the flow of the instruction they receive" (Reeve & Tseng, 2011, p. 258), suggesting that engagement, and indeed learning, is a process that students can try to proactively develop to enable a personalisation to their learning, both how and what is to be learnt.

Therefore, if varied assessment tools are used then there may be an opportunity to increase students' intrinsic motivation. Deci, Vallerand, Pelletier, and Ryan (2008) suggest that if an increase in intrinsic motivation is manifested, then assessment can produce high-quality learning and conceptual understanding, in addition to increased personal growth that can be linked to employability skills. In essence, learning is about promoting student understanding within a particular area or discipline and assessments are used as the vehicle to objectively measure that learning has taken place. If students are intrinsically motivated to engage with the new software, Deci and colleagues (2008) predict that they will do so freely, with a full sense of volition and without material rewards and constraints. Consequently, students may partake in assessed learning for its own sake, thus endorsing the concept by Shuell (1986) as students engage in a meaningful learning activity.

Methodology

Study Participants

This study was conducted with all second-year students ($n = 25$) studying the BSc (Hons) Sport and Exercise Science degree at the University of Surrey. Students were summatively assessed via presentations for two separate modules using Microsoft PowerPoint and Go!Animate, with assessment deadlines for both within the same teaching week. It is important to note this was the first time that the Go!Animate software was used, in contrast to PowerPoint that had already been utilised as an assessment tool previously.

Questionnaire Data (Quantitative Data Analysis)

Following the completion of both assessments, students completed an online questionnaire anonymously via the internet or SMS texting. The online questionnaire used the Poll Everywhere programme, which works through a simple web interface. The questionnaire used two different types of questioning: closed-ended rating scales and questions asking students to favour either PowerPoint or Go!Animate.

Focus Group Data (Qualitative Data Analysis)

To produce more complete knowledge and provide stronger evidence through the corroboration of findings (Johnson & Onwuegbuzie, 2004), a focus group was employed. The focus group was used to gauge opinion and gather further information, with each student encouraged to participate in the discussion that was pre-planned following an initial analysis of the questionnaire data, guided by a facilitator who was prepared to develop additional themes/topics when they arose. To meet the recommendations that facilitated focus groups are conducted with four to six participants (Vaughn, Shay, & Sinagubm, 1996; Gibson, 2007), four students volunteered to participate. The rationale for this group size is to yield diversity in information provided, yet not include too many

participants to inhibit their sharing thoughts, opinions and experiences (Onwuegbuzie, Dickinson, Leech, & Zoran, 2009). The facilitator's role was to moderate the course of the discussion, stimulating and encouraging all to contribute (Greene & Hogan, 2005). To ensure an accurate account of student's views, the facilitator was encouraged to probe participants to gain in-depth explanations and clarify meaning (Greene & Hogan, 2005).

For the focus group data, sound files were transcribed verbatim for analysis. Transcripts were subjected to thematic analysis following a six phase approach (Braun & Clarke, 2006). Phase one (familiarisation with data) involved reading and re-reading transcripts and making note of initial ideas. Phase two (coding) involved listing recurrent themes and grouping into categories. Phase's three to five included further searching, reviewing, defining and naming of themes. During phase six (writing up) a thematic map of the analysis was generated where the main themes are presented as subheadings (Fig. 17.4).

Results

It Takes Longer, But We like It! (Questionnaire Data)

Results from the questionnaire provided interesting findings. Figure 17.2 demonstrates that students preferred the Go!Animate software and would like to use this tool again for future assessments. However, the time constraints to complete the assessment proved to be quite a challenge, with over 50% of students stating that the Go!Animate software was very time consuming (Fig. 17.3). It was of further interest that students preferred the new software, even though 83% of students found the PowerPoint software easy to use compared with only 20% of students suggesting that the Go!Animate software was easy. This may have been expected due to the students being very familiar with PowerPoint. Therefore, it was encouraging to see students are open to new assessment tools, even though there was no additional enjoyment perceived during the use of the new software, whereby approximately 50% of students rated its use moderately for enjoyment. This finding is in contrast

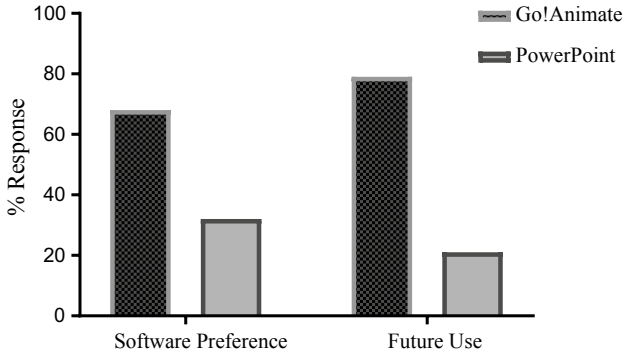

Fig. 17.2 Students' response to which software they preferred to use and which they would like to use in the future

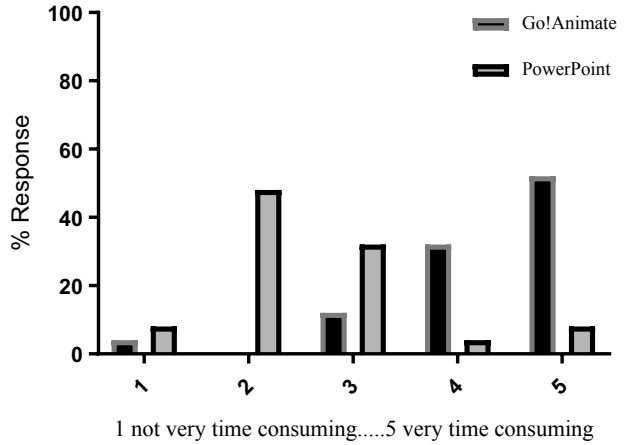

Fig. 17.3 Comparison of the time constraints in developing presentations with both software packages

to the initial rationale for the inclusion of Go!Animate, as we hypothesised that the new animation software would increase enjoyment during the assessment period. However, the use of the Go!Animate software did appeal more to students when they were watching their peers, with 88% of students stating they were more engaged during Go!Animate videos compared to the PowerPoint presentations.

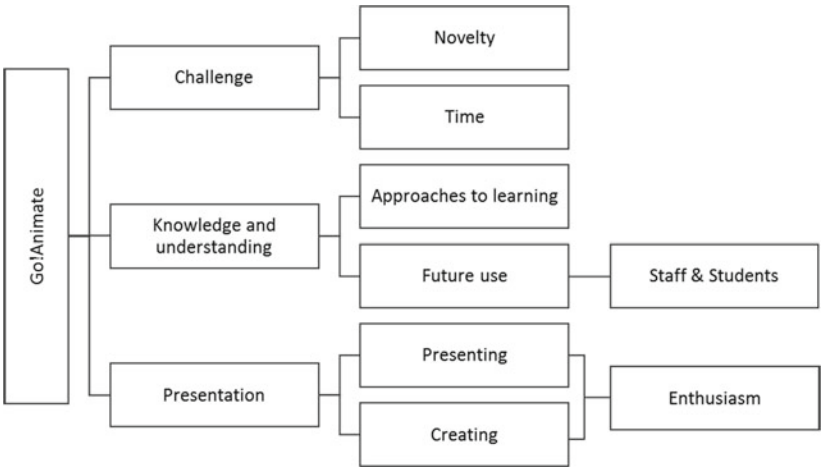

Fig. 17.4 Thematic analysis of focus group discussion on the use of Go!Animate

Room for More (Focus Group Data)

The results of the thematic analysis are mapped in Fig. 17.4. From the analysis, three main themes were discovered: Knowledge and Understanding, Challenge, and Presentation. These main themes produced sub-themes within each component and will be discussed in the sections to follow.

Knowledge and Understanding

This theme produced two sub-themes relating to the student's *approaches to learning* and *future use* for the software by both staff and students. The idea that the software enhanced knowledge and understanding came from its ability to relay information in a different fashion. One may suggest that this method supports Prosser and Trigwell's (1998) student-focused strategy for teaching and learning as the focus is on bringing about conceptual change in students' understanding, and it is what students do to achieve understanding that is important. Students noted that the Go!Animate presentations were "more memorable than PowerPoint"

and that the software "has more functionality…making it more interesting". This may also suggest that students who are able to personalise their work may become more engaged (see earlier points regarding agentic engagement). In addition, the focus group revealed that students may prefer visual and auditory learning approaches as they stated:

> It's easier to associate things with what happens in the presentation within Go!Animate, as I remember this information as it span onto the screen and then this guy [avatar] said that whereas with a PowerPoint it's easier to glaze at the screen.

In addition, this software may have facilitated the kinaesthetic learning style during the creation of the presentation as it was stated that the use of Go!Animate "really engrained it into my brain whilst I was making it". Therefore, the use of different learning styles throughout an assessment process may be suited to this student population. Peters, Jones, and Peters (2008) identified that students studying sports-related programmes ($n = 338$) do not have a singular dominate learning style, but a combination of auditory, kinaesthetic and group learning styles.

Students thought that Go!Animate had the potential to be used for future assessments but interestingly they suggested using it concurrently within a PowerPoint presentation:

> I think you could replace PowerPoint using it, but I think I'd want a presentation bit where you could talk in it as well. So to use the GoAnimate software, but also be able to present as well, because I think that is an important skill.

It was of interest that the students identified the need for a "human element" within the presentation and that they suggest not using Go!Animate "in isolation". Students identified that employability skills could be gained and enhanced via oral presentations, signifying their intention to strengthen these skills, "I would like to do more speaking and actually presenting. I think that's more helpful in the real world". These statements support the use of oracy skills within higher education, first explored by Wilkinson (1965) who set to differentiate the skills

of speaking and listening from reading and writing (literacy). Alexander (2013) suggested that oracy skills may allow students to articulate their ideas effectively in both academic and non-academic contexts, making them key transferable skills for Sports and Exercise Science students who may gain future employment working outside of academia where they have to translate research findings to a non-academic population.

In addition, the students also appreciated the opportunity to use new software to set them apart from other students, as they sensed the need to be "creative, and doing things differently". A greater variety of assessments may provide a greater skill set to present themselves to future employees, as one student commented:

> Everything is more digital now, and it sets you apart from everyone else. So if I went to a job interview and they were like 'You need to prepare a presentation' and there were no rules as to what it was to be and it didn't have to be PowerPoint, and everyone went as PowerPoint and I went with a GoAnimate, they are going to remember my presentation more than the PowerPoint.

Furthermore, students seemed to respond well to receiving informative videos linked to the assessment via the animated media:

> I do think they are really good them little videos [lecturer] sent to us that sum up something. I think they are really good. Everyone was saying "Did you see that video [lecturer] sent?" Yes, much more engaging than just sending an email. I think they are perfect for that.

This statement was further strengthened by another statement suggesting that students would actually discuss the videos, whereas there would be no interaction or discussion from an email, "Yes, when [lecturer] sent the little videos people where like 'Oh, have you seen that', whereby if it is just an email people don't actually talk about it I don't think". These statements suggest that maybe a more engaging form of communication may be to utilise the Go!Animate software as these may also link to the suggestions by Wotapka (2016) that staff need to think digital, make information graphical and digestible and rethink how we communicate.

Challenges

The challenge theme produced two sub themes that were *novelty* and *time*. The challenge of novelty was a result of the Go!Animate software being new to the students and their concerns of how to use it, although this challenge may be reduced if used in the future, "it would be more comfortable now than when it was first set". Students were learning how to use the software whilst preparing their presentation, whereas the PowerPoint software had been used in previous assessments. One student highlighted the fact that they liked the challenge of using a new software and how they now understand the need to be challenged by stating:

> I think that when I was younger, I would have 100% rather done PowerPoint because it's easier and it's just a bit of a cop out. Whereas something like this now, where it's a bit of a challenge and it's a bit new, I would way rather do that. Be forced outside my comfort zone – it's that feeling of progression like I've learnt something new today.

The fact that the new software was deemed a challenge is a point of interest. Payne, Kleine, Purcell, and Carter (2005) highlight that an academic challenge can provide quality or higher-order learning and can also improve student satisfaction. Therefore this type of challenge could be viewed as having a positive impact upon students' learning.

Another challenge identified was the time commitment, with one student stating: "it took me about 36 hours over three days [laughs]". Despite the fact that the students highlighted the length of time to complete the work, they were fully engaged in its use: "I think it is good software. I actually quite liked it when I got to the end of it. It was just the amount of time, with any new software, to get used to all the features".

Presentation

The final theme generated from the focus group was the presentation itself. This created two further sub themes of *presenting* and *creating*. The

sub theme of presenting had a clear link to agentic engagement as students noted the ability to add their own personality to their work: "You can put more personality into GoAnimate…You can showcase your personality a lot more", although there were some concerns over using this software as the students believed that "you had to be a lot more creative" and "media-savvy". Students identified that the inability to present their work with commentary may hamper their ability to highlight key information; as one student said, "I think it's easier to have a bad PowerPoint presentation but, if you're a good speaker you can make a bad PowerPoint presentation good just by being dynamic in front of it". Although this may not suggest good practice by the students, this assumption is of interest. Importantly, the students value the ability to be provided with further detail when a presenter is able to elaborate on key points: "I like it when there is a little bit of information [when using PowerPoint], then they [presenter] talk and elaborate on it. The problem with Go!Animate is that you couldn't elaborate". Furthermore, it was suggested that students may feel able to engage with the presenter better during a PowerPoint presentation, "It's easier to interact with them. Getting an emotive response, you're laughing at what they are saying or see how passionate they are about their subject". These comments may support the potential to use both software tools together, whereby the students present their work with PowerPoint presentation, but have additional Go!Animate videos embedded within the presentation.

The process of creating the work also seemed to help facilitate learning, "I think just looking at the text and spinning it around and stuff and putting it in an animation, helped me learn it a lot more…Rather than just typing it into a PowerPoint and putting it in the corner". It was also documented that the creative nature of the Go!Animate may have pushed the students further, adding to the challenge discussed previously, although students still register the ease of use with PowerPoint:

> GoAnimate is quite dynamic in that you want to make it good, you want to make it interactive…Whereas with PowerPoint, you can blag it. You can put a picture on and talk over the top, and it makes it pretty quick and efficient.

The overriding link with enthusiasm stemmed from the ability of a presenter to engage with the students:

> If someone's presenting and they're enthusiastic, I listen more than if it was just text on the screen. That's because a good presenter can obviously engage you more and you want to listen more. If you just use GoAnimate, you've only got the text there, it can't elaborate if someone was to ask a question.

A potential disadvantage for Go!Animate from the students was the programme's inability to create and demonstrate the enthusiasm that a good presenter is able to. However, it could be argued that the students' inexperience with the software was a factor in not being able to showcase their passion, and that this could improve with experience.

Conclusions

The information gained from the use of Go!Animate in this investigation may provide teaching staff and academics an alternative presentation tool to use. The Go!Animate software is different to PowerPoint in that students do not have to stand up and present the work; therefore, this should not be seen as a replacement, but only a variation for assessments. The students seem to like the ability to be creative and inject their personality into their work, but feel they still benefit from presenting their work to their peers, and as such also like to listen to each other, elaborate and share their enthusiasm and passion for their work. Both PowerPoint and Go!Animate promote different employability skills and a conclusion from the questionnaire survey and focus group is that the ability to concurrently use these tools within a degree programme, or within a single presentation, is recommended. This could provide students with the opportunity to orally present using PowerPoint but with the addition of embedded Go!Animate, either to summarise the work or provide additional context on specific areas. Therefore, this investigation suggests that the use of new assessment tools is welcomed by students.

It is now the role of academics to rethink their assessment strategies in order to provide novel, innovative and challenging assessment activities.

Reflective Vignette

Andrew

Working with Kyle was a great experience, he added many additional insights from his student's perspective, which fully enriched this chapter. We had many positive planning meetings prior to the focus group following our initial analysis of the quantitative data. Constructive and refreshing discussion grew throughout our six phase approach to produce the thematic analysis, and it was this collaboration which I enjoyed the most. Working closely together to analysis the transcripts, formatting this into our finalised themes, and identifying our key quotes, which I feel we successfully achieved. I would seek, and recommend, more partnership opportunities with students and value the opportunity and experience this research provides, to staff and students.

Kyle

As a student, I feel that this project has allowed me to develop a unique array of transferable personal and professional skills within a relatively unfamiliar subject area. The collaborative nature of the project was an excellent way to dispel hierarchical barriers between staff and students and promote equality and healthy power dynamics between both parties. It was a joy to work alongside Andrew; his student-focused approach to project supervision was inspiring and I felt empowered to be creative and to put forward my own thoughts and ideas during study development and the formulation of our final themes. Overall, I have found this project to be highly beneficial and it has furthered my aspirations to pursue a career within an academic setting.

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18

Maximising Student Participation: Factors That Facilitate Dialogue

Katerina Ridge and Saima Islania

Introduction

In many higher education institutions of the early twentieth century, teaching consisted of didactic delivery of information to students who worked mostly in isolation to enrich and assimilate its content through further self-reflection and study. Such a system was described by Smirnova and Georgiadi as a "uni-directional" model of learning in which teachers produced content without regard for students' personalities and cognitive abilities (Smirnova & Georgiadi, 2013). The concept of learning in isolation, however, is rapidly giving way to an alternative that involves communication, collaboration and participatory decision-making. A report by Lancaster (2015) illustrates this change from an

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"ancient mode of education" that involved "monastery-like transcription" and "worked" as students "survived the system through independent study" to putting emphasis on "equipping students to solve problems through true understanding and the application of concepts not merely the recall of answers" (Lancaster, 2015, p. 6). This emphasis on collaboration reflects a similar change in the workplace where the search for solutions to solve problems means that developmental paths are based on creative thinking fostered by sharing knowledge. There is demand for "multi-disciplinary teams of professionals with a wide intellectual range and core competencies" (Smirnova & Georgiadi, 2013). The traditional strict hierarchical leadership is giving way to "participatory leadership" (Drugus & Landoy, 2014) where employees are called to leadership roles based on their professional vision, competence and ability to collaborate.

Mirroring this change, education seeks to redefine its goals. Students seek a transformation from novice to expert. Experts fit for the modern world of work have a well-integrated understanding of their field of knowledge and are skilled in application, communication and collaboration. Expertise in knowledge and application was explicitly defined by Kinchin and Cabot as the ability not only to link concepts into chains of knowledge, but to also skilfully select appropriate chains to create a network of understanding that is suitable for specific endeavours (Kinchin & Cabot, 2010).

The emergence of experts involves a series of transformations as progressively more complex levels of understanding and competencies are acquired such as critical thinking, independent learning, collaboration, inclusion and diversity. Such transformations constitute ontological and epistemological shifts (Ruttherford & Pickup, 2015). Ontological, as they involve a transformation of the sense of self from novice to expert. Epistemological, as they involve a transformation of world view as progressively more refined networks of understanding are adopted. Such transformations are not fully supported by independent reflection as required by the didactic model of teaching. Instead, the establishment of a dialogic, social construction of knowledge is called for.

New knowledge is often "troublesome" (Perkins, 1999), i.e. not intuitive, involving seeing things in a new way. The assimilation of new knowledge into a network of understanding involves the development

and construction of new cognitive elements (Talanquer, 2015). The danger of troublesome knowledge is that it can stay as "foreign". Coming from a perspective that is in conflict with the student's implicit understanding, it can remain as a piece of information that lacks meaningful connectivity (Perkins, 1999). "Troublesome" knowledge, due to its counter-intuitive nature, is not easy to integrate. It requires crossing of conceptual "thresholds" (Meyer & Land, 2005). Understanding here is not linear where a new piece of knowledge can neatly be integrated into an existing network. Instead, meaningful connectivity emerges from a number of such integrations. It involves dismantling or coalescing existing assumptions, concepts and ideas and simultaneously building new ones. Students have to "construct the path to the threshold concept…select the proper elements to build it and learn how to put them together" (Talanquer, 2015, p. 4). Such construction often takes place "without a clear sense of where and when the exit will appear" (Talanquer, 2015, p. 4).

A discursive model of learning would foster the development of a variety of ideas through the inclusion of a variety of ways of reasoning. It will also, through collaboration, permit the construction of a path that can withstand challenge. Further than this though, dialogue facilitates learning through the opportunity for expression or internal reflection. Wenger considered the process of creating meaningful connectivity as the result of the dynamic interplay of "reification" and "participation". He saw "reification" not only through personal reflection but also through the creation of artefacts of expression (e.g. words, notes, documents, general resources). These artefacts become meaningful through "participation" in conversations or other forms of interpersonal interrogation of a concept. Reification without participation can render the artefacts meaningless (Wenger, 2012).

Social construction of knowledge through dialogue has inspired considerable research in recent years[1] although its origin can be traced back to Socrates (479–399 B.C.) and even earlier, to China, sixth century B.C. (Gadotti, 1996). Lev Vygotsky (1896–1934), the main theorist behind modern social constructivism, saw construction of meaning through dialogue as central to cognitive development. He saw cognitive development taking place through a "Zone of Proximal Development", involving

interrogation of new knowledge through problem-solving in collaboration with more capable peers (Vygotsky, 1978, p. 87). In the 1960s Paulo Freire described the didactic model—traditional to his native Brazil at the time of his writing—as "dictating ideas" rather than debating and discussing them; preferring to "work on the students" rather than "with them", thus externally imposing the order they have to accommodate (Freire, 1974, p. 38). Freire saw the development of critical consciousness as the motor for cultural emancipation. He distinguished "adaptation" from "integration" describing the former as mere change to incorporate new information and the latter as meaningful understanding accompanied by the ability for efficient application.

Despite the big volume of research into the value of social, discursive learning, the traditional didactic model appears to have unexpected tenacity. In our experience, teachers frequently endorse the notion that effective teaching takes place only through personal delivery of the material face-to-face with the students. With listening and note-taking being a solitary occupation, and with dialogue severely limited by time constraints, learners continue to be isolated and problems such as rote learning, increasing discomfort with difficult content and difficulties with time management persist. Practical applications are, therefore, necessary to help them move from an instructional to a discursive paradigm of teaching and learning; from a teacher-led delivery of content to co-construction of meaning.

This project aims to add to the volume of published research on student–student and student–tutor dialogue. The research was conducted by two researchers. Katerina Ridge, employed as a Teaching Fellow in the Department of Chemistry of a university in U.K. and Saima Islania, a student of Chemistry in her second year of study at the same university. The study, therefore, was a product of collaboration between a tutor and a student; it used a number of methods to collect information about current practice, factors that affect dialogue and insights into possible improvements as viewed by students and tutors. The study concludes by tentatively offering a number of practical considerations to encourage dialogue.

Methods

This research sought to identify practical solutions that would encourage the students to engage in dialogue during lectures (which involved the whole cohort of students) and tutorials (which addressed smaller groups). The participants were first-year undergraduate students in the department of Chemistry and also three tutors who were involved in the teaching of the modules where data was collected. (One of the tutors was the researcher, Katerina Ridge.) In their first year of study, students develop ways of learning within higher education. We felt that first-year students would be more willing to examine the vision of a dialogic assimilation of knowledge and that this would make the discussion more open. Furthermore, since these students would continue their study for another two or three years, they would be able to directly benefit from any changes initiated by this research.

Our insider positions, as Teaching Fellow and student in the same department as the participants, necessitated some constraints in the collection of data, but simultaneously offered solutions. The tutor researcher was the one that observed her colleagues' lectures and tutorials as the tutor participants might have been hesitant to discuss such observations with a student. For a similar reason, the student researcher conducted all student interviews and focus group discussions as the presence of a tutor in the discussion could have caused bias. On the other hand, our insiderness also had advantages. We had intimate knowledge of the broader environment within the department and were able to understand the language and the views of the participants in this context.

Two modules were chosen from which to collect data. The modules ran in the first semester and were compulsory for all first-year students of Chemistry. In this document, we will refer to these modules as "module A" and "module B". Module A was new to the students, although some aspects of the content had been encountered in their previous education. Module B built up on knowledge gained in secondary education, so the students had experience of learning methods associated with it. The research involved lecture and tutorial observations and discussion with the tutors. In addition, two surveys were conducted in the form of questionnaires that the students were invited to complete at the end

of lectures. Students were also invited to take part in two focus group discussions and two sets of individual interviews.

In both modules, lectures were dedicated to the delivery of new material and a small number of tutorials were used for revision and problem-solving. For the tutorials, the students were split into groups and, thus, each session was attended by a relatively small number of students. The observations focused on assessing the level of engagement of the students and their participation in academic discussion. As the nature of the content and also the number of students attending differed between lectures and tutorials, we felt that observation of both would give us a more holistic view.

Questionnaires were used in order to allow a bigger number of students to express their views. There was one questionnaire at the beginning and one towards the end of the semester. We considered that the students would not be willing to spend much time answering questions and decided that we were likely to have increased participation if we used multiple choice. Thus, answering involved choosing from given answers or showing the level of agreement to a statement by using a number from 1–5. There was space for each student to write comments to qualify and clarify their answers but this option was not popular; only one student offered a brief statement in one of the questionnaires.

Interviews were also offered to willing participants in order to allow them space to discuss their views. The "multiple choice" form of the questionnaires meant that the responses were relatively standardised. The interviews offered the possibility for dialogue. We followed the style referred by Patton as the "interview guide approach" (Patton, 1980, p. 206). The interview questions were specified in advance but they only acted as a guide; the interviewer decided the sequence and the depth to which each of the questions was covered. The focus group discussions introduced a broader social dimension to the dialogue. We anticipated that discussion between the participants could add depth and clarity to the findings.

The Results

Lecture and Tutorial Observations

Observations of both modules showed that lecture time involved a tutor presentation interspersed with questions to the students. In module A the tutors looked animated, interested and enthusiastic. They used anecdotes from their research to illustrate relevant points and made connections with other modules. The students appeared focused but spent most of their time taking notes. When they had questions, they would prefer to quietly ask another student; tutor-set questions were met with little response.

The content of Module B was much less descriptive than module A's and involved more problem-solving. The tutors encouraged dialogue and the students often worked in peer groups. Although more active, the students were still very hesitant to express a view or participate in whole-class discussions. As with module A, the only questions asked by students were questions to their peers. Although the students seemed comfortable to work in groups for problem-solving they relied on memorisation and were very hesitant to attempt anything that they had not seen before. With all problems, they appeared uncertain unless there was tutor confirmation, so time had to be taken by the tutor to explain the solutions on the board. This trend was also observed in tutorials. Here, the small number of students allowed more space for discussion, but any dialogue had to be led by the tutor. As the semester progressed and the examination period came closer, dialogue practically stopped. Notably, the last tutorial of module B consisted of answers being presented by the tutor while the students took notes.

All these observations showed that despite the willingness of the tutors to adopt a discursive model of teaching and learning, the didactic paradigm was still firmly established. Carr wrote in 1995: "look into any classroom and it is entirely probable that what is going on will bear little resemblance to the educational philosophy of the teachers or of the school" (Carr, 1995, p. 56). In the interviews following the observations, one of the tutor participants spoke of the need for more training and experience in order to facilitate effective dialogue. Without it, the

tutor commented, it felt "safer" to use a didactic model. Most tutor participants mentioned that dialogue was better with smaller groups. Contributions, tutors found, were encouraged when the tutor explicitly told the students that expectations were broad, e.g. that "any thoughts" rather than only "correct thoughts" were welcomed. While expectations for contributions were kept broad, it was found that questions that were closed and specific were easier to answer and hence useful for initiating discussion.

Lecture observations allowed us to acquire an objective view of the terrain of teaching and learning for the first-year Chemistry students and understand the tutor's perspective. We hoped that the questionnaires and the focus group discussions and interviews would help us to understand the student perspective.

The Questionnaires

The students were invited to answer two questionnaires in each module, one at the beginning and one towards the end of the semester. We received 34 answers for both questionnaires of module A and 32 answers for the second questionnaire in module B. The first questionnaire for module B was only answered by 14 students.

The first question aimed to ascertain what the students intended to achieve in a lecture. The students had to choose all that was relevant from these options: (a) "to receive the new material"; (b) "to take notes"; (c) "to critically evaluate the material (against prior-learning)"; (d) "to understand and learn the new material rather than passively receive it". The first questionnaire in module A showed that most students intended to understand and learn the new material and only six out of the 34 students considered evaluation against prior learning. Five other students were mainly interested in listening and note-taking and for the purposes of this analysis they were classified as "passive learners". In the second questionnaire, while the number of "passive learners" was maintained at 4, the intention to "critically evaluate the material" was chosen by 10 students. The results were very different for module B. Both questionnaires showed an almost equal number of students intending to "critically

evaluate against prior learning" and intending to "understand and learn". There were no "passive learners" in the first questionnaire and only two in the second.

The next two questions asked the students to state whether they agreed that in the lecture there was adequate time for discussion and also that discussion improved understanding. Most students in both questionnaires in both modules agreed that discussion improved understanding, with only seven responses across all questionnaires indicating uncertainty and one response indicating disagreement. However, most students also implied that the time for discussion was not adequate. The response to the following question showed that most students in both modules were willing to participate in discussions and were happy to ask or answer questions in class. On the other hand, whereas most students valued other students' contributions even if they were later shown to contain errors, the students were unsure as to whether their own contributions were valuable and were very hesitant to offer contributions themselves that could contain errors.

The sample of students taking part in the survey allowed us to sketch an outline of how the students perceived active participation. The questionnaires showed a difference between modules A and B in that more students intended to be active learners in the latter. This could be a consequence of the content of the modules or of tutor traits. We also saw that most students were willing to participate in discussions but did not consider that the time allowed for discussion was adequate. This again was surprising given that lecture observations showed a definite hesitancy to ask or answer questions. Could that be due to the students being unsure about the value of their contribution and concerned about making mistakes? We hoped that further discussion with the students in focus groups and personal interviews would help to fill in the picture.

The Focus Group Discussions and Interviews

Six students attended the focus group discussions and five of them also took part in the interviews. The focus group discussions aimed to contextualise the trends seen in lecture observations and derived from the

questionnaires. The interviews allowed space for personal reflection and offered time to expound on the focus group discussions. The participating students seemed to value the opportunity to reflect and give feedback on their lectures and also to appreciate the broader experience of the student researcher. (She, as a second-year student, had progressed through the modules and had a better understanding of the department.) The experience was valued enough for the students to ask whether the conversation could continue, in some form, outside the scheduled times and, perhaps, after the end of this research.

The view expressed by the students was that dialogue helped to maximise understanding. They stated that through dialogue they "learn by having to explain", they "get reassurance that they are on the right track" and that they understand "the basics" and also "how topics are linked together". Another argument was that dialogue helped to create a common language. "It is important", the students said to find people that "speak the same language as you" where "you can understand each other's explanations and interpretations". Tutor input in the discussion was considered important because it allowed students to understand the tutor's interpretation of the content.

The group acknowledged, however, that students were hesitant to speak in lectures. One of the reasons, they said, was lack of familiarity both with the tutor but also with their peers. This was the first semester of their studentship and they did not feel they knew their peers well enough. Familiarity with the tutor, they said, depended significantly on tutor traits. They particularly valued the tutors who appeared composed, confident, clear, enthusiastic, caring and had a good sense of humour. They also appreciated tutors who linked the theory with other modules and with practical experience from their research. They found that anecdotes made the theory clearer and more interesting. Tutor traits were also mentioned in a study by Mustapha, Rahman, and Yunus (2010, p. 1083) as a very influential factor in encouraging participation The researchers mentioned traits such as "being encouraging, understanding and approachable" and also positive non-verbal tutor behaviours such as "smiling and nodding" to acknowledge answers. Lecture observation did also show that students were less hesitant when the tutor took time to acknowledge and stress the value of each answer.

Lecturing style was considered important. Our participants valued a slow pace with specific breaks for questions to and from students. Allowing adequate time for this was very important as personal reflection on the content was necessary before any question or answer could arise. As one student put it, the students needed time to "understand what they did not understand". The students commented that they often felt "under pressure" or that the tutor moved on too soon. One of the participants stressed the importance of the tutor being able to interpret the students' body language correctly not only in order to regulate the time for questions, but also in order to understand when question breaks should be initiated. The same student spoke about the experience of interpreting the tutor's body language and how this helped to appreciate the tutor's point of view.

Our participants stated that another reason for limiting discussion time was the pressure of content both in terms of amount and in terms of degrees of difficulty. They commented that as the difficulty of content increased, dialogue in lectures decreased and almost disappeared. This was in total agreement with findings from lecture observations. Towards the end of the semester lectures involved "simply the tutor giving information". As a result, our participants said that students used time after the lecture to discuss their questions privately with the tutor. The decrease or total loss of dialogue towards the end of a module was also mentioned in a report by Lancaster who attributed the reason to "the pressing need to complete delivery of the material" (Lancaster, 2015). Cutts, Kennedy, Mitchell, and Draper (2004) recognise the sacrifice of discussion time to didactic content delivery to be a consequence of the didactic mind-set. We found from discussion with tutor participants that it was often considered "safer" when the material was personally delivered by the tutor in lectures. However, if we accept that "knowledge" involves the creation of "concept chains" and "networks of understanding"[2] it can be inferred that delivery of information does not necessarily constitute delivery of knowledge.[3]

Our University's Educational Strategy states as "objectives" the provision of learning environments that would allow our students to "gain

excellent critical, analytic and practical capabilities" and develop "personal attributes including knowledge, opinions, independence and self-confidence" and that our curricula seek to be "student centred, co-developed with students and inclusive" (Powell, 2018). To achieve these objectives, we need to encourage a strong, independent and confident student cohort. One way to do this is by reducing the reliance on tutor input and by encouraging a strong student voice in academic discussions within lectures.

The Way Forward—Some Practical Considerations

The general trends described above indicated possible practical considerations for learning environments that would encourage dialogue.

Tutor Traits

This study highlighted the value of positive tutor traits in providing clarity and maximising understanding of the information offered in lectures. Such traits mentioned by our student participants were integrity, confidence and enthusiasm, as well as the ability to provide links with other modules and with research. Positive tutor traits also included good humour, anecdotes and more direct care by specifically inviting a broad range of contributions (e.g. stating that "all thoughts are acceptable").

Familiarity of Students with Peers

Increased familiarity helps to develop a sense of comfort and comradeship. Opportunities to develop this could be through more "ice-breaking" activities, especially with the first-year students in their first semester. Encouraging smaller group discussion also provides a less threatening environment for discussion.

Allocated Time for Discussion

Our students asked for a slow and confident pace in the delivery of the academic content that allowed adequate space for questions to be initiated and discussed. They commented that breaks for questions needed to be specific and of adequate length to permit time for personal reflection. A significant obstacle to this, we observed, was the quantity of the material that was covered. The adverse effect of the quantity of material to dialogue was also stressed by a significant number of tutors in other institutions (Fagen, Crouch, & Mazur, 2002). Fagen et al. (2002) as well as our student participants indicated that "flipped learning" could increase the space for dialogue in lectures. The Flipped Learning network defined this approach as the movement of direct instruction from the group learning to individual learning space thus the "resulting group space is transformed into a dynamic interactive learning environment" (Flipped Learning Network, 2014).

Dealing with Difficult Content

This study found that not only the amount, but also the difficulty of content, had a detrimental effect on dialogue. With difficult content, the students limited themselves to note-taking, deferring reflection for a later time. However, we cannot ignore the importance of participation and dialogue to the development of meaningful connectivity.[4] Dialogue could help to unravel difficult content, leading to more fruitful personal reflection. Thus we would expect difficult content to increase rather than minimise dialogue.

Conclusion

This research highlighted the tenacity of the didactic model with discussion time being sacrificed to tutor-led delivery of content and note-taking by the students. However, both tutors and students valued dialogue and

were very willing to support the transformation of a didactic to a discursive paradigm of teaching and learning. This research, although limited to one cohort of students and to one semester, has tentatively suggested practical considerations that could support such change. We envisage that further research will examine our findings with different and perhaps larger cohorts of students.

Reflective Vignette

Saima

Working alongside Dr. Ridge and seeing the project through was an invaluable experience. Dr. Ridge provided guidance and showed great interest in the points I raised and was always open to take my comments on board—this allowed a good flow of dialogue between us when discussing our research. From this we were able to develop an even better working relationship. An area I particularly enjoyed was leading the focus group and interview discussions with the participants as I had the opportunity to understand ideas directly from the students' perspective.

Katerina

Working with Saima provided an essential element in this research. Her care and enthusiasm helped to enliven the interviews and focus group discussions. Our student participants were inspired by her openness and this encouraged them to seek to continue the discussion beyond the time limit of this study. They also understood the value of talking more with students in other year groups and they often spoke about the importance of creating opportunities to facilitate this. On the other hand, Saima brought new perspectives and fresh ideas to the interpretation of the findings of interviews and discussions and also of lecture observations. Moreover, our partnership resulted in a closer relationship and we found that our discussions continued after the end of this research.

Research through student–staff partnerships is relatively new within our department and, at the beginning, there were doubts as to whether the time dedicated to this additional work would compromise the student's academic attainment. We certainly found that we had to be very careful to manage time efficiently and we did this quite well. In fact, even after the end of this particular study, we still take time to talk about time management. This, our first project that included co-enquiry between a student and a tutor, enabled us to ask, discuss, plan and act together and cultivated familiarity, cooperation and trust.

Notes

1. For a comprehensive review see the work by Amineh and Asl (2015).
2. Terms used by Kinchin and Cabot (2010).
3. Gamache refers to "objective knowledge" as being "philosophically redundant" but "culturally persistent" (Gamache, 2002).
4. For further analysis of this argument see "Introduction" at the beginning of this chapter.

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19

Using Mindfulness Meditation Techniques to Support Peer-to-Peer Dialogue in Seminars

Allan Kilner-Johnson and Edidiong Udofia

Introduction and Context

This chapter reports on a small-scale investigation into the relationship between mindfulness meditation techniques and peer-to-peer dialogue in the context of undergraduate English literature seminars. This research was a partnership project conducted by one academic (Allan) and one English Literature student (Edidiong). During autumn 2018, nine undergraduate students from the University of Surrey's School of Literature and Languages took part in a series of biweekly mindfulness meditation workshops. These workshops introduced the students to mindfulness practices, including conscious breathing and visualisation, which built over the course of the semester to 20 minutes of sustained silent meditation in the final session. Particular focus was given to how participants could integrate these practices into their daily lives,

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and, specifically, how these practices could be used either before or during academic seminars. Jon Kabat-Zinn (1990), one of the leading figures in the recent growth of academic interest in mindfulness meditation, defines mindfulness as "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment". Numerous studies (e.g. Brown & Ryan, 2003; Brown, Ryan, & Creswell, 2007; Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008; Carmody & Baer, 2008; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; Greeson & Brantley, 2008; Grossman, Niemann, Schmidt, & Walach, 2004; Walach, Buchheld, Buttenmuller, Kleinknecht, & Schmidt, 2006) identify the sustained cognitive changes created through mindfulness meditation practice. A regular meditation practice decreases undesirable states such as anxiety, distress, and anger (Brown et al., 2007; Greeson & Brantley, 2008; Grossman et al., 2004) and increases positive states such as joyfulness, inspiration, and contentment (Brown & Ryan, 2003; Cardaciotto et al., 2008; Davidson et al., 2003; Feldman et al., 2007; Walach et al., 2006). Key cognitive functions including attention, awareness, and the ability to make connections have repeatedly been shown to be enhanced through mindfulness meditation practice (Cahn & Polich, 2006; Hölzel et al., 2007; Jha, Krompinger, & Baime, 2007; Lutz, Slagter, Dunne, & Davidson, 2008; Tang et al., 2007). The primary aim of this study was to investigate the relationship between mindfulness meditation techniques and peer-to-peer dialogue in English literature seminars, and, more broadly, to investigate practical solutions to integrating mindful practices into teaching and student development. For the purposes of this study, the complex performative matrix of peer-to-peer dialogue was correlated to seven personal attributes that can be altered by mindfulness meditation practice: autonomy, interest, confidence, preparation, community, focus, and awareness.

Literature on the success of dialogic interaction has focused on the quantitative results of peer-to-peer and peer-teacher dialogue within seminars as opposed to the quality of this interaction (Goodman, Murphy, & D'Andrea, 2014). However, peer-to-peer dialogue is not volleying of conversation but purposeful co-constructed meaning (Alexander, 2008; Engin, 2017; Skidmore, 2000). This notion of productive dialogue is

particularly relevant in higher education where the seminar discussion is understood to form a significant part of the learning and teaching process (Michaels, O'Connor, & Resnick, 2008). The question of why some students contribute to peer-to-peer discussion—what Engin (2017) describes as "accountable talk"—while others do not, appears rooted firstly in their depth of knowledge (Michaels et al., 2008). A lack of knowledge on the subject, for many, subsequently results in a reluctance to contribute to seminar discussion. However, subject knowledge is by no means the only factor which contributes to peer-to-peer dialogue in seminar contexts. From a socio-linguistic stance, language possesses "the power […] to both imprison and liberate" (Evans & Jones, 2007). In dialogue-based seminars this is especially applicable, as demonstrated by Lefstein's (2010) typological examination of dialogic learning processes. Peer-to-peer dialogue necessitates the accountability of one student to another and the accountability of peer-to-peer dialogue supports debate-centred learning which challenges those who favour consensus and social harmony within the seminar room (Hardman, 2016). It is not so much that students should be treated as "active epistemic agents" (Skidmore, 2006), but that their peers create an environment in which they are treated as autonomous learners, able to produce and navigate parts of their own pedagogic experience.

There has been limited research on the impacts of mindfulness meditation practice in higher education and no work which has examined the relationship between mindfulness meditation practice and peer-to-peer dialogue. In aiming to better understand how training in mindfulness techniques contributes to the social and personal aspects leading to peer-to-peer dialogue, this project is informed by work in the field of integral education which considers how contemplative practices such as meditation can contribute to the learning experience. As Esbjörn-Hargens (2006, p. 22) describes, integral education

> provides a comprehensive means of integrating the four dimension-perspectives of objectivity, interobjectivity, subjectivity, and intersubjectivity (and their respective levels of complexity) with the major methodological families (phenomenology, empiricism, structuralism, hermeneutics, and systems theory) in such a way that avoids postulating pre-existing ontological structures.

Integral education builds upon the work of early-childhood educationalists Maria Montessori and Rudolf Steiner, nineteenth-century political theorist Charles Fourier, cultural theorist Jean Gebser, and spiritual leader Aurobindo Ghose to "[situate] progressive educational ideas within a larger transdisciplinary web of ideas about culture, psychology, philosophy, science, etc., and also [clean] up some shortcomings" (Murray, 2009, p. 96). Adams (2010) argues in favour of an integral approach in higher education, drawing attention to the correlation between the pedagogical frameworks employed by educators and the implicit models of the world that these create for students. The model provided by integral education provides a valuable tool in English literature pedagogy because of the expectation placed upon humanities programmes to prepare students holistically for their future careers, an aim that is often unconsciously undercut by pedagogical and administrative conventions (Wexler, 2005).

Given the clear evidence of mindfulness meditation's capacity to create sustained advances in cognitive, personal, and interpersonal attributes, this present study aimed to investigate how mindfulness meditation could impact peer-to-peer dialogue in English literature seminars. Peer-to-peer dialogue plays a significant role in the context of English literature seminars. Learning and teaching in these seminars addresses two broad areas of practice: (1) knowledge of key historical, critical, and artefactual contexts, and (2) independent interpretive capacity when approaching artefactual examples (Johnson, 2015, 2016). Humanities subjects, which are dependent upon "acts of continuous reinterpretation and revision" (Martin, 1999, p. 302), necessarily cast the tutor not as a purveyor of knowledge, but, rather, as a figure charged with refining and developing learners' own experience of knowledge. In this way, the aim of seminars is to encourage students to share, reflect upon, and refine their

own interpretations of texts by evaluating their textual and critical contexts alongside those of others. The orientation of humanity-based seminars, where students are likely to engage in dialogue moderated among themselves, consequently plays a role in silencing those that cannot keep up with this pace. For example, the Western Socratic method of argumentative debate differs from the passive involvement of the teachings of "Confucian Heritage Culture" prominent in East Asia (Hardman, 2016; O'Dwyer, 2017; Tran, 2013) and problematises contemporary internationalised classrooms which consist of an amalgamation of students with both educational backgrounds. This creates an individualised socio-linguistic dialogue within each seminar room that Connolly and Smith describe as "crucial" to concepts that govern discussion (Connolly & Smith, 2002). The necessity for seminars to support socially and psychologically conscious discussion among participants thus opens up the abilities developed through mindfulness meditation practice as a possible solution. Gibson (2010) describes the dialogic seminar setting as crucial for student-centred learning and teaching in English literature, a subject dependent upon the formation, testing, and re-formation of interpretative positions rather than the creation of materially new knowledge. This project thus examined how personal and social factors are impacted by students' engagement with mindfulness techniques, and, subsequently, how this engagement contributes to peer-to-peer dialogue in seminars.

Methodology

Nine second-year students in the School of Literature and Languages volunteered to take part in the study, and participated in five 50-minute mindfulness sessions led by Allan who has over 18 years of meditation training covering a variety of traditional and contemporary practices. These workshops focused on a classic mindfulness approach centred on attention, awareness, and breath, and built up sustained meditation from eight minutes in the first session to twenty minutes in the final session. The aim of the training was to equip students with the skills to independently practice meditation and to employ mindfulness techniques during and in preparation for their academic seminars. In each of the first four

sessions, a new technique was introduced and practiced before being put to use in a sustained silent meditation, with the final session used to recap previous exercises and complete an extended meditation:

- **Session 1 | Counting in and out**: silently count to six while breathing in and silently count to six while breathing out (eight minutes of sustained meditation);
- **Session 2 | Word focus**: silently repeat "as I breathe in, I breathe in" on the in-breath and "as I breathe out, I breathe out" on the out-breath (12 minutes of sustained meditation);
- **Session 3 | Tube of light**: imagine that the body is a tube; with each in-breath light is brought through the top of the tube and moved down to the bottom, and on each out-breath, the light is pushed back through the top of the tube (15 minutes of sustained meditation);
- **Session 4 | Laser focus**: with the eyes closed, the eyes are gently turned upward as if gazing at a point in the middle of the forehead. Focus is maintained on gazing on this spot without any additional visualisation (18 minutes of sustained meditation);
- **Session 5 | Putting it together**: participants reflected upon the techniques covered in previous weeks and learned how to draw upon this "toolbox" of methods to find their own style of mindfulness meditation (20 minutes of sustained meditation).

In addition to introducing new techniques each week, sessions also included discussion of how to integrate these practices into an academic context. Students were encouraged to begin using these techniques in their daily lives, and, in particular, were shown how these techniques could be unobtrusively employed at the beginning of a seminar. While the sequence of sessions was designed as a progressive movement from easier to more challenging techniques (and from shorter to longer periods of independent meditation), the adaptable nature of mindfulness meditation was indicated through discussion of its history and development which was covered across the five sessions.

A survey was delivered to participants before they began the mindfulness workshops and then again at the end of the semester after

they had completed the workshops. Multiple-choice questions were presented with a five-level Likert scale to capture self-reported perceptions of autonomy, interest, confidence, preparation, community, focus, and awareness. These questions remained consistent across both surveys in order to evaluate changes in perceptions. Open-ended questions in each survey aimed to record discursive accounts of understandings of mindfulness meditation practice and how it could (or did) impact upon academic performance. Of the original nine participants, one had to leave the project before its conclusion and a further two did not complete the second survey.

Findings and Discussion

Before undertaking the mindfulness workshops, half of the participants had practised meditation either "less than once a month" or "never" while the other half reported having previously practiced meditation "once a month". Following the semester of mindfulness training, the number of participants who practiced meditation outside of the formal sessions rose to five students who reported practising on their own "about once a week" and one student reported practising "a few times a week". All participants, therefore, were practising mindfulness meditation on their own more regularly at the end of the study, regardless of whether or not they had practised meditation previously. A longitudinal study would be required to determine if participants continued to practise mindfulness meditation after the end of the study, but this initial data suggests that offering a basic introduction to meditation for students will increase both the total number of students who regularly meditate and the regularity with which they practise.

Although participants independently meditated more regularly by the end of the study, there was a slight drop in their perceptions of how useful mindfulness meditation can be to academic work. Before the mindfulness training began, seven out of eight believed that meditation could be either "extremely helpful" or "very helpful" in their academic work, whereas afterwards three out of six reported that they believed mindfulness meditation could be only "somewhat helpful" in their academic

work with the other half choosing "extremely helpful" and none choosing "very helpful". This apparent drop in perception of efficacy is at least partially explained by a wider transformation, captured elsewhere in the data, from an instrumentalist view of mindfulness meditation as a tool with an intended outcome to a nuanced view of mindfulness meditation as a daily practice with diffuse yet positive effects. In response to the question "what do you consider the purpose of mindfulness meditation to be?" in the first survey, all participants indicated joining the project to learn more about mindfulness in order to improve specific aspects of their lives: three respondents indicated that they hoped the practice could improve their study skills, while the remaining participants spoke more broadly of dealing with uncertainty, stress, or lack of focus. This instrumentalist view gave way to a much more holistic account of the purposes of mindfulness meditation when asked "has your understanding of mindfulness meditation changed this semester?" in the second survey. As one participant described, "I see it now as a helpful daily tool that needs to be exercised regularly…as opposed to something that is only done when wanting the benefits". The recognition that mindfulness meditation is a practise that requires sustained commitment represented a significant change in how participants understood how it could positively impact upon academic work. Participants similarly began to understand the effects of mindfulness meditation in new and more comprehensive ways: "originally I thought it was just about reducing anxiety and stress, however it actually gives us the ability to focus our thoughts so we are able to apply ourselves to the best of our abilities". Part of this transformed understanding of the impact of mindfulness meditation comes down to the fact that most participants had only a partial understanding of what mindfulness meditation looked like in action. While all participants at the beginning of the study believed there to be potential benefits to their academic work, few understood what form these benefits might take. As one participant explained, "my understanding of mindfulness meditation has changed drastically. Before I attended the workshops, I knew very little about mindfulness meditation and the effects it can have on a person. Now, I consider the techniques I have learned to be powerful and useful tools both for my academics and for my personal life". Another participant expressed a similar reaction when they indicated that

"I didn't know much about [mindfulness meditation] before and it didn't seem very relevant to me. Now I know that it can be very useful for anyone in everyday situations to decrease stress or anxiety". Participant responses suggest that, although there is a recognition among university students that mindfulness meditation is a helpful practice with potential benefits for academic learning, direct knowledge of the techniques of the practice is limited or inaccurate. "I have began [sic] to see mindfulness as a legitimate strategy to ground and centre myself", a participant explained at the end of the project, "and as something which can have a tangible effect on my life". Knowledge and understanding of these techniques can be acquired in a relatively short period (in this case, across five 50-minute workshops). This data suggests that students are better able to integrate meditation into their daily lives after introductory training, and that the early process of meditation transforms it from an instrumentalist tool with an expected outcome to a holistic technique which contributes to various areas of life.

The increased ability to maintain focus is one of the most consistently reported outcomes of mindfulness meditation practice (e.g. Cahn & Polich, 2006; Jha et al., 2007; Lutz et al., 2008; Tang et al., 2007), a finding which was replicated in the present study. In the first survey, two out of eight respondents reported that their mind became distracted during seminars "occasionally" with the remaining six indicating that this happened "often" or "very often". In the second survey, five out of six reported that they became distracted "occasionally" with the remaining respondent reporting this happened "often". But, although important to the learning and teaching experience, concentration alone does not generate productive peer-to-peer dialogue. A notable increase in levels of interest in academic subjects was also reported in the surveys. In the first survey, five out of eight participants (62.5%) considered themselves to be "very interested" in their academic modules; after undertaking a semester of mindfulness workshops, five out of six (83.3%) participants reported being "very interested" in their academic modules. Because respondent surveys were not correlated, it is impossible to determine if the same five respondents described themselves as "very interested" in both surveys, thus indicating no material change. It is similarly difficult to identify any changes in reported levels of preparation for academic seminars—seven

out of eight respondents (87.5%) in the first survey and five out of six respondents (83.3%) in the second survey reported being at least "somewhat prepared" for academic seminars—and self-reported perceptions of participation remained the same with half of the respondents indicating they participate "somewhat actively" and the other half indicating "very actively" in both surveys.

In their survey responses, all respondents indicated that peer seminar discussion played at least a moderate role in preparing them for assessment, and there was a clear recognition among students of the role of peer-to-peer dialogue in the successful completion of their degree programme. As one respondent said, "it's an English degree, it's all discussion and suggestion". Seminar discussion was universally viewed as critical to the building of knowledge within the discipline. One participant succinctly explained that "it's important to get different perspectives, otherwise it's very likely you'll miss out on useful ideas that you may never think of". In the first survey, there was a clear indication that students perceived peer-to-peer dialogue as a potentially precarious undertaking correlated to the needs of "face" (cf. Goffman, 1967). "If I have any doubts I won't bother [sharing an idea]", one respondent reported, while another indicated that they feel comfortable sharing their ideas "if I know the people I am with well and feel encouraged by the seminar tutor". Before practising mindfulness meditation, two out of eight participants reported stopping themselves from sharing an idea in a seminar "very often", usually because of insecurities surrounding how their comment would be perceived (one described the "paranoia about being seen as too loud/brash/overpowering"). At the end of the project, no participants reported self-censoring "very often", with four out of six indicating they now did this only "occasionally". This data suggests the possibility of subtle transition in how students participated in seminar discussions that would support Hutcherson, Seppala, and Gross's (2008) findings that mindfulness meditation increases empathy and positive feelings towards others—as participants began to feel more compassion for others in their seminar group, they became less likely to self-censor their contributions.

Conclusion

This exploratory study aimed to investigate the ways in which mindfulness meditation practice may impact upon the behaviours associated with peer-to-peer dialogue within seminars. The data replicates the results of a number of previous studies into the cognitive impacts of mindfulness meditation; however, because of the diffuse nature of the benefits of meditation, it is not possible to directly correlate shifts in autonomy, interest, confidence, preparation, community, focus, and awareness to the mindfulness practises undertaken by students. However, the study does reveal a number of interesting insights into how students perceive mindfulness meditation. Foremost is the transition from an instrumentalist view of mindfulness meditation as a tool with specific objectives to a holistic view of mindfulness meditation as a practice. This transition was indicated both in the decreased perceptions of mindfulness's effectiveness in improving academic work and the specific indication in discursive responses of a different understanding of the outcomes of mindfulness. This project also suggests that the relationship between self-censorship and mindfulness meditation practice offers a viable topic for further research. Students reported being more willing to share their ideas with peers in seminars in spite of the levels of reported preparation for seminars remaining consistent, an outcome likely attributable to the increase in feelings of empathy experienced by practitioners of mindfulness meditation (cf. Hutcherson et al., 2008). While the collected data does not attribute this transition directly to the mindfulness training, further study into the relationship between mindfulness and self-presentation could provide valuable insights.

Most importantly, this study indicates that university-level students are aware of mindfulness practices as a way to enhance academic performance. The subtle benefits of mindfulness meditation are accumulated over time, so integrating a brief mindfulness exercise at the beginning of lectures and seminars can be a way to introduce students to the practice. The four exercises taught to participants in this project are well-suited to the higher education context. As the participants indicated in the survey taken at the end of the project, the benefits of mindfulness meditation

come through regular brief practice such as might be undertaken in the one to two minutes at the beginning of a seminar or lecture.

Reflective Vignette

Didi

The process of collaborating on the research project as a student with an academic background in literary studies proved largely significant in the balance of our research compilation. A lot of my initial contribution to the project came from much needed literary research on pedagogy and, more specifically, student dialogue which went into the literature review. While I was not directly involved in the mindfulness workshops that took place later on, attending a session in the middle of the project allowed me to place my contribution in a timeline of events as well as develop my understanding of the impact of our research. Allan's prior experience with writing academic literature was a helpful guide for my work, but I was really given complete autonomy in drafting and constructing the areas of the chapter that interested me. Notably, the balance we were able to strike not only as co-contributors but within the student–teacher relationship, enabled an efficient working environment for my first academic publication.

Allan

The ultimate shape of this project represents a fusion of the research interests that Didi and I had and which we discussed during the early scoping stages of research. Didi had a strong interest in student dialogue which aligned well with my interest in mindfulness meditation, and we saw the opportunity to investigate the relationship between these topics. The style of research and analysis undertaken in our field of literary studies is very different to the social sciences model utilised in pedagogical research, so many of our early conversations were about the aims of research more broadly and how we could translate our disciplinary approach in order to achieve different aims. Didi's first-hand perspectives of student dialogue and the experiences of students

in seminars provided the essential starting point for the research and was put to use in the survey design, and having her as a collaborator made sure that we were able to gather interesting and valuable insights from the survey responses. Undertaking this collaboration reminded me of the importance of the individual perspectives that each researcher brings to a project.

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Part IV

Staff-Student Partnerships: Reflections and Considerations

20

Creating Space for New Expertise: Considerations for Setting-Up Student–Staff Partnerships

Irina O. Niculescu, Simran Nagpal and Roger Rees

Introduction

In this chapter, we explore reflections of staff and students who were asked to discuss their experiences of participating in student–staff partnership projects. During our interviews, a number of important themes which are prominent in the existing literature in this area are confirmed. These included issues arising from power dynamics (Matthews, Dwyer, Hine, & Turner, 2018), perceptions of roles and identities (Deeley & Bovill, 2017), trust and vulnerability (Bovill, Cook-Sather, Felten, Millard, & Moore-Cherry, 2016) and also a lack of inclusivity and representation (Moore-Cherry, Healey, Nicholson, & Andrews, 2016) among student practitioners and researchers. In this chapter, we particularly seek to identify what can be learned from the experiences of our interviewees for others engaging in partnership work. This includes consideration of

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how to approach initiating partnership work, and also recognising and addressing challenges related to the different levels and types of expertise that students and staff bring to projects.

Methodology

A purposive sampling technique was used in order to increase the chances of interviewing people who "have the experience or the expertise to provide quality information and valuable insights on the research topic" (Denscombe, 2014, p. 41). As we were interested in reviewing experiences of partnership work, we had to make sure that our participants had already been involved in a project of this sort and that they would be comfortable to engage in a critical conversation about their experience. For this reason, each of the authors sent email invitations to people that they have met or have seen presenting over the past two years at conferences on the theme of "student–staff partnerships" and "student engagement".

It is important to note that, although in some cases, one or all of the authors were acquainted with individual participants, they had not previously discussed any of the interview questions and they did not know any information which could have influenced the study. Prior to the interview, the participants were told that they would be asked about the incipient stages of their work in the area, the evolution of their project(s) and the lessons that they had learned. The study included five participants from five different UK higher education institutions. All the participants had spent at least two years engaged in and/or researching staff–student partnership projects and three of them had experienced partnership both as a student and as a member of staff. All interviewees were able to identify one project or piece of work to focus on as the main subject of their interview. These can broadly be categorised as projects with defined outcomes, to do with enhancing and teaching (three projects) and those where the main focus was research (two projects) (Table 20.1).

Prior to the data collection, the authors worked collaboratively to decide the methodological approach and design the interviews. The research was carried out using in-depth semi-structured interviews which

Table 20.1 Summary of participants and their experience of student–staff partnership projects

	Experience of student–staff partnership
Participant 1	Student: student researcher
Participant 2	Academic staff: module re-design project
Participant 3	Experience as student and staff Student: student researcher Academic staff: module re-design and research in staff–student partnerships
Participant 4	Experience as student and staff Student: student researcher Academic staff: research in staff–student partnerships and curriculum-related projects
Participant 5	Student: student researcher as part of a funded project

were conducted online using a video communication software (Zoom), which provides a collaborative space consisting of an online room and an interactive whiteboard. The method of online interviews via Zoom has some characteristics in common with face-to-face interviews but is most comparable to telephone interviews. We selected Zoom because of its whiteboard functionality which provided the opportunity for the interviewers to create a simplified representation of the interviewee's responses in the form of a timeline and notes (see below) which were also visible to interviewees during the interview. Each interview lasted one hour and was facilitated by two of the authors. Taking turns for each interview, one author carried out the interview while the other used the whiteboard to take notes and construct timelines.

The interviews consisted of three stages. In the initial stage, participants were asked to select and describe what they considered their first, or alternatively a formative, experience of working in partnership. They were asked questions such as "how was the project/partnership initiated?", "how was it advertised?", "what was its length?", "what were its main aims?", "who was involved/who was part of the team?" and "how did people join the team/how were they recruited?" In the second stage, the participants were asked to explore the project that they had selected by focusing on the stages and milestones, that they deemed significant, particularly the incipient stage, challenges, achievements and outcomes.

The answers were summarized using a timeline to represent the project being discussed in a clear and simple way. During the rest of the interview, which was less structured, the side boxes were colour-coded and were used by the facilitators to keep track of the participants' answers and to further develop timelines. The last stage of the interview consisted of exploring the participants' overall experience of staff–student partnerships; more specifically, considerations for future projects, lessons learned, and how their approach to student–staff partnerships had evolved. We used timelines to mark key stages, milestones, achievements and challenges and also side boxes to record key parts of participants' answers. In order to ensure our participants' anonymity, we have chosen not to share an actual example of a Zoom whiteboard. Below is a mock-up of the type of whiteboard we created to support interviews which contains placeholder text (Fig. 20.1).

Using the whiteboard to construct and share simplified timelines was partly chosen in order to overcome the challenges of establishing rapport during online interviews. The timelines did not form part of the data analysis which was conducted using transcripts of the interviewees' verbal responses.

The approach of using timelines was also chosen in order to create the opportunity to support the connection between "experience and recall" (Berends, 2011). As Berends (2011, p. 2) observes, timelines "facilitate recollection and sequencing of personal events…the significance and meaning attached to events may also be shown". As the interview lasted for 60 minutes, not enough time was left for participants to interact with the whiteboard or to review it in-depth, which may have provided the benefit of adding an extra opportunity for the participants to reflect on their experience in light of their responses during the interviews.

Qualitative Analysis of Interview Data

We chose to code transcripts of interviews inductively using thematic analysis because, "unlike many qualitative methodologies, it is not tied to a particular epistemological and theoretical perspective" (Maguire & Delahunt, 2017, p. 3352). This supported the process of working in

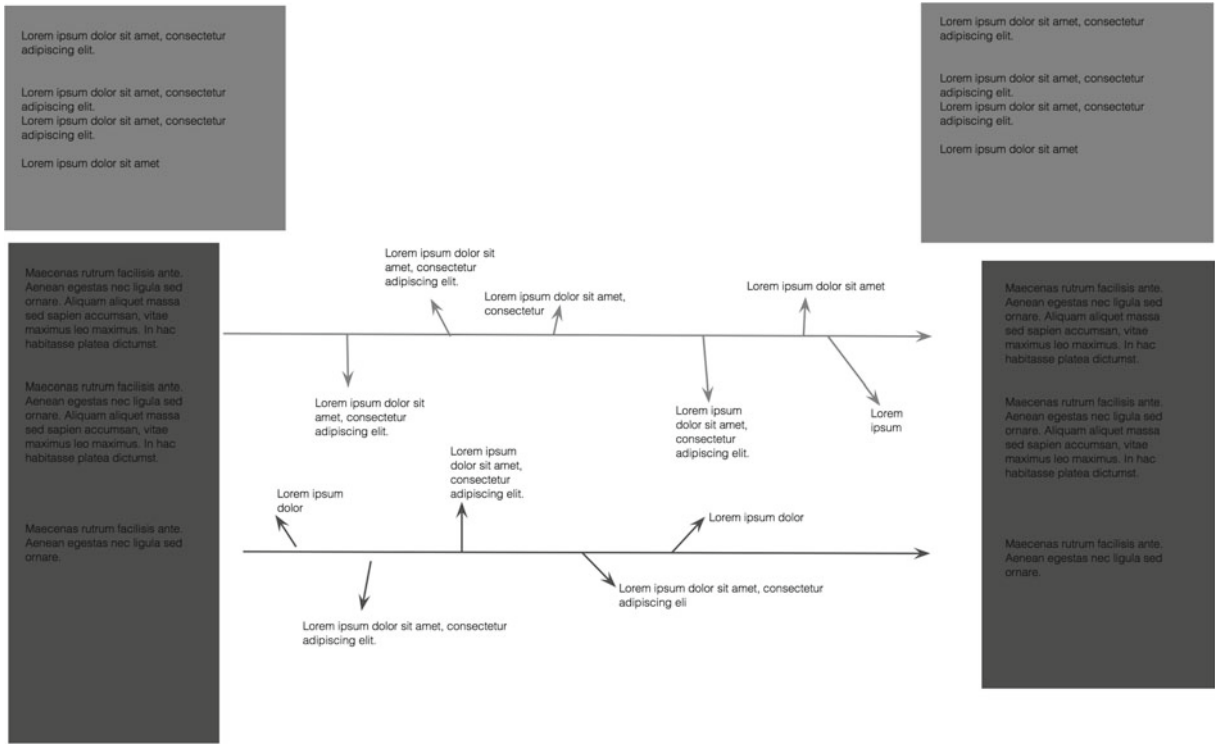

Fig. 20.1 A mock-up example of the Zoom whiteboard (please note that the text is illustrative)

partnership because it provided both theoretical flexibility and a rigorous way to analyse the data. It also encouraged the authors to express themselves without having to worry about their different disciplinary backgrounds, data analysis experience or occupations. The data was coded manually and analysed by all three authors, initially individually and finally as a group, in order to ensure collaboration and to draw out different perspectives and expertise. The final step required reanalysing the data after the themes had been identified. This was also undertaken both individually and as a group.

Findings

Setting-Up Student–Staff Partnerships: Advertising Partnership Opportunities

The interviews included discussion of how projects were advertised, the language and information used to describe the project and the way in which students were recruited. Interviewees who had taken part in projects as staff reflected mostly on the logistical aspects of securing funding and initiating projects by recruiting partners. The two interviewees who had taken part in projects as students provided valuable reflections on the recruitment process, such as the importance of a relatable job description and the use of accessible and engaging information about the project itself and partnership work. It became clear that, as student–staff partnership work is currently a niche job offering project type, the job title can play an important role in communicating the potential and importance of having a student as part of the project team: "being called a student researcher rather than contributor was quite nice. It felt like a real thing. It felt like I was an integral part of the process". Also, the same student participant flagged up the importance of using relatable words and being aware of educational terminology, which is unlikely to be readily accessible: "the initial advert was quite important, because it didn't use really long words, but minimal terminology".

In discussing their initial reaction to the job advert, both student interviewees said that it was important for them to easily identify whether

their current skillset could be used and be valuable. It was important for them that the job did not sound too challenging, as both of them observed that the student researcher jobs sounded like something they could do because they were able to identify existing knowledge and skills which they could make use of. This emphasises the need to advertise partnership opportunities in a way that minimises educational jargon and emphasises transferable skills that students are likely to have gained from other areas of work, their studies or extracurricular activities. In this way, the risk of portraying the work required by the partnership in a way which is divorced from their current experience is minimised. It is also important to remember, as the student participants emphasised, that "what the student brings is not just as students because we are fully rounded people".

Because student–staff partnership as an area of work was unknown to the student participants before coming across the job advertisements, they emphasised the need to provide more relatable information about this type of work. Based on a previous partnership project, one of the student participants suggested capturing the reflections of students who have worked in partnership by filming them:

> One of the things we actually did for the end of the project, we filmed some of the students talking about the experience of being student researchers and the things they enjoyed and things they were scared of.

When the staff participants were asked about how they advertised their project, they did not give that much information about their approach to introducing the projects to their colleagues. However, while reflecting on their overall experience, one of the staff participants acknowledged that it was a lot easier, at the start of their second partnership project, to trust working in partnership with students, as they had already experienced the benefits of collaborating during their first project:

> I now know what the benefits are of working in partnership with the students, I now know that you can achieve a lot more by working with them rather than just working on your own…because I knew what would be the benefits I went with a much more open mind of not knowing what

> the outcome would be but feeling very confident that we would have a good outcome.

This suggests that capturing staff reflections of working in partnership might also be beneficial to setting-up partnership work as it would provide key information to staff about this type of work.

Creating Space for Collaboration: Initial Project Briefing and Introduction

In most cases the staff interviewees had instigated taking a partnership approach. This meant that they felt some responsibility for ensuring that the challenges associated with this way of working were addressed. A number of the challenges discussed were described as being the same as those associated with any project, such as finding a suitable time to meet, communicating among the team and agreeing priorities. However, these challenges were exacerbated by additional ones associated with working within a student–staff partnership. While reflecting on their previous experience of working in partnership as a student, one of the staff participants said that for them, when working in student–staff partnerships:

> You're always aware that staff have more power than you even if they pretend that they don't, that doesn't mean that institutionally they don't. So, this needs to be discussed and explicitly acknowledged.

This highlights the importance of paying attention, especially at the start of a project, to the power asymmetries that can emerge as part of student–staff collaboration (Cook-Sather, Bovill, & Felten, 2014; Marquis, Black, & Healey, 2017). However, it is also valuable to consider whether power asymmetries play out differently as a project advances and to analyse successful ways of tackling challenges which emerge from this–on both the student and staff side. While talking about the assumptions they had at the start of a job as a student researcher, a student participant said:

> My expectation, when I applied, was that I would be a resource that I'd be somebody who would just go and do what they told me to do…but that wasn't exactly what happened because when X first brought us and she was very much, you know, "you've got some expertise to work with us" and she was just really open about what the project was, what we're trying to achieve and what the limits were and that felt like I've been trusted.

Tackling power asymmetries directly in this way, along with the students' assumption about "being told what to do" and about being just a resource, required the staff who initiated the project to invest time in explaining the project as a whole as opposed to focusing only on the parts that the students could/had to do. Having had an introduction to the project and all the areas of work, including challenges and limitations, provided the students with the opportunity to share ideas about other parts of the project, even if they were not involved in all aspects. The participant said that this helped her and other students from the team to have a better understanding, to feel trusted and like an integral part of the process.

Approaches to Student and Staff Training

All staff interviewees recognised that both staff and student participants would benefit from guidance about potential challenges and ways of working. The approach that staff interviewees took to providing training differed. One of our participants provided a one-hour workshop at the start of the project for both staff and students, to introduce them to the literature on partnerships, definitions about what partnership might mean and how it can occur (Healey, Flint, & Harrington, 2014). While reflecting on the approach taken, staff interviewees said that, since working on their first project, they have changed their approach to training. For example, one suggested that in the future they would:

> Break down a lot more what individuals think as opposed to necessarily what we did which was to introduce the theory, but think about what

> partnership meant to others and then develop a partnership agreement from that.

Another staff participant provided training only to students which consisted of sharing literature on the benefits of working in partnership and on the area of learning and teaching that the project focused on including the educational jargon associated with it. On reflection, this interviewee said: "I wasn't expecting them to read anything, but they all came very well prepared with ideas and questions".

A critical stance on the subject was taken by one of our staff participants who questioned the extent to which students should be trained:

> because if you train them too much you are actually losing the student identity or student perspective, by training them up in the way in which we think, and I'm not quite sure what the happy medium is for that - to build confidence but also to allow the original insights which perhaps don't come if you are trained into that system already.

This highlights that while it is clearly an important consideration there are not any simple prescriptions to training that can be readily put in place. Also, it is important to emphasise that focusing on providing training to students should not lead to neglecting the induction needed for staff to working in partnerships. The need to provide training, either formal or informal, to staff at the beginning of a project was important to our staff participants. As one of the staff participants observed:

> I had to train the staff to be able to listen and allow the students to express their ideas and as academics we have the tendency to talk too much and just take over the conversation…it is almost like a culture shift from working on your own, which is what academics usually do to working with others and especially working with students.

Another interviewee referred to the need for staff to make themselves vulnerable and to create space for different forms of knowledge by acknowledging that:

> I like to create space for individuals to reconsider all the things they bring and to question the things they think I bring and to be able to make myself vulnerable and to show them that I don't know everything, which I think some students put staff up on a pedestal and that's not useful.

The same interviewee talked about "pushing back against the notion of a singular expertise". Another talked about how space and time had to be created for students to bring in "their expertise of learning" and referred to times when "students weren't able to contribute too fully because they weren't aware or concerned about some of the things which were very important to staff".

There was no consensus about how to design induction and training as each project had taken different approaches. However, it is clear that there is a need to invest time, particularly at the start, of a student–staff project to explore power dynamics and to create a collaborative working environment where students can be comfortable to make contributions and where staff are willing to approach their subject area from a new perspective.

Overall, analysis of the findings revealed numerous considerations which have been categorised into two themes and subthemes (see Table 20.2).

We acknowledge that our findings are tentative and our considerations require further empirical testing, but we hope that they can serve as indicators for future research and inspire new conversations.

So far, we have focused on practical considerations and suggestions for initiating partnerships and promoting them in ways that are likely to encourage students to participate. In the next section, we propose that an even more critical challenge relates to questioning predominant models of expertise and finding ways to bring in new perspectives. This challenge can have an impact on every stage of the partnership but, as our findings suggest, it is paramount to review this in relation to the incipient stages of partnerships, as it can impact on the nature of collaboration between staff and students and ultimately the overall partnership.

Table 20.2 Themes, subthemes and considerations

Theme	Subthemes and considerations
(1) Setting up student–staff partnerships	1.1 Advertising and recruiting Consideration 1: The job title and language used in the advertisement should be relatable and emphasise the opportunity to work 'with' rather than 'for' someone. It should also emphasise transferable skills that can be used and/or gained Consideration 2: In order to make partnership work more relatable, testimonials from staff and students should be included in the communications about the job/project
(2) Creating space for collaboration	2.1 Initial project briefing and introduction Consideration 3: The team, including all staff and students, should be offered the opportunity to understand the project's context and overall aims, even if these have been pre-determined by staff 2.2 Approaches to student and staff training and/or induction Consideration 4: Student and staff training and or/induction should not be neglected in any type of partnership project. Approaches to this should be reviewed and adapted in accordance with the project type and, if possible, shaped by staff and students involved

Discussion and Conclusion

An important underlying theme of all the interviews related to how to create authentic "space at the table" from the very first stage of the partnership so that student participants' knowledge and expertise could contribute fully to the development of a project. This is a challenge particularly because, compared to students, staff tend to have greater

experience and expertise in many of the areas of work involved in university projects. Research on differences between novices and experts is potentially of value in understanding this challenge. As summarized by Bransford, Brown, and Cocking (2000), when approaching problems, experts will tend to discern patterns and utilise concepts which have been developed and internalised through experience. Clearly the advantage of this is that experts can relatively quickly and fluently make judgements. However, the fact that these judgements are automated and that the underlying conceptual structures are often out of conscious awareness means that they are not likely to be amenable to discussion. This challenge is exacerbated in student–staff partnership working, because differences in experience and expertise are likely to overlap with disparities in power. As Christensen, Hansen, Krøgholt, and Stage (2016) observe, projects where team members have different occupations, experiences and ultimately forms of expertise, raise the challenge of finding a way of collaborating through which knowledge can be shared. For example, two interviewees discussed how in curriculum design projects there were significant challenges in finding ways for staff and students to recognise the contribution that students could make.

As discussed in the findings section above, a number of interviewees recognised that in order to foster constructive discussion, all participants need to recognise and move beyond their assumptions about where expertise lies and how it should be applied. It was also clear, from the reflections of the interviewees, that addressing this issue presented significant challenges and was not an area in which the literature or existing practices provided enough support or practical recommendations. Therefore, we suggest that those working in this field should consider the potential limitations of an "expert-driven scholarship" and develop alternatives to the predominant "expert-centered models" (Thurber, Collins, Greer, McKnight, & Thompson, 2018). Until we do so, these are likely to limit the space for students to consider working in partnership, to make contributions or to foster trust between teachers and learners (Huxham, Hunter, McIntyre, Shilland, & McArthur, 2015). While referring to participatory action research (PAR), Heron and Reason (2001, p. 370) explicitly discuss how it is important for projects and participants to question and to actively explore and practice alternatives to "models of

education and research which both pre-suppose and foster the value of dissociated intellectual excellence" and the associated overdependence on critical, analytical forms of knowing and representation. PAR approaches are a useful reference point because they overtly seek to develop equitable working relationships between partners with different levels or forms of expertise. Reason and Bradbury (2008, p. 4) observe that this type of research

> seeks to bring together action and reflection, theory and practice…in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities.

Although approaches to using PAR vary considerably (Cohen, Manin, & Morrison, 2007), they share a common aim, which is to generate new practice "in which all participants work together in an inquiry group as co-researchers and as co-subjects" (Heron & Reason, 2008, p. 366). This is a potentially valuable source of insight into ways to create space for different sources and forms of expertise.

In this chapter, we have emphasised the value of reviewing how partnerships are set up and of considering how the incipient stages can be better supported. We have argued that in order to further enhance and scale up partnerships, it is necessary to disseminate recommendations which can be used to establish student–staff partnerships in ways that create space for new forms of expertise. Analysis of the interviews has revealed considerations for advertising, initiating projects and providing training to both staff and students. The approach of using online interviews to build timelines of the participants' experience supported the interviewees in putting their experience into perspective and sharing considerations which could support partnerships.

Reflective Vignette

Simran Nagpal

Using my own personal skills and skills I have learned from my degree in sociology, I was able to put those research skills into practice whilst participating in this project. But due to the size of the research and as it was my first project, I did face some challenges. For example, whilst interviewing, I struggled to answer certain questions the participants had. But because I was conducting the interview with my colleague, they were able to chip in which helped me for the next time I was interviewing. Being involved in the project from the beginning helped me shape my own research project—my dissertation for the final year. I was able to see first-hand how interviews were conducted, transcribed thematically and then taken out to be analysed. These skills enhanced my current skills allowing me to further progress in my research project.

Irina Niculescu

The experience of co-researching and co-writing about student–staff partnerships with a student and another member of staff made the process feel authentic. At the start, I was too optimistic about how easy it would be for the three of us to let go of our "staff" and "student" roles. There were moments when we struggled to discuss something without one of the staff members taking over. So we decided to first, individually reflect on something by writing it down, and then sharing that before moving on to a group discussion. This created space for our voices to emerge. This partnership was different from ones I've had in the past but then again, every work experience is different as it is shaped by the values and knowledge of the people involved. I don't start a project thinking that, because I'll be working with a student, certain things will happen—it's important to create space for uncertainty and vulnerability. However, in all my previous student–staff partnerships, I have noticed, that during the first few meetings, people tend to perform a "student" or "staff" role in one way or another. What I find helpful during that stage

is to remember that identities fluctuate, especially if honest and thoughtful actions take place.

Roger Rees

I had some ideas about how useful and rewarding student–staff partnership work can be. This came to some degree from literature on the subject but mostly from previous experience of working in this way. This was on longer projects though so I hadn't thought that much about how it would work in a smaller more contained research project. There were different challenges but I still found it rewarding, stretching and enriching. For example, when writing the research questions, which we did individually first and then discussed; because I have done similar research before, I initially found it challenging to create space to listen to other ideas from Irina and Simran. When I did, I found it really helpful to engage with different perspectives and also to try to explain my ideas and to recognise some of the assumptions I was making. Testing out how to put our ideas into practice in online interviews was also really helpful and just the sense of collaborating made this more rewarding and meaningful.

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21

Student–Staff Partnerships in Higher Education as Process and Approach

Ameena Khan Sullivan and Marion Heron

Introduction

This chapter builds on some of the main themes discussed in Chapter 2 of this edited volume (Ollis & Gravett, 2020, this volume) and we have drawn on the ideas of Healey, Flint, and Harrington (2014) and Marquis, Black, and Healey (2017) to develop a framework based around the dichotomies of process-product and activity-approach features of student–staff partnership work. One perspective of student–staff partnership is that of process. "Partnership is essentially a process of engagement, not a product. It is a way of doing things, rather than an outcome in itself" (Healey et al., 2014, p. 7). In the literature we see examples of many projects which are described as essentially a process, yet on closer scrutiny what we see are examples of student–staff partnership products or outcomes (Marie & McGowan, 2017). When partnership is conceived

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as a process, it will be central to all work with students, not just specific, single projects, as "partnership is not a one-off exchange but an ongoing process that should characterise the whole student experience" (Carey, 2013, p. 258). This notion suggests that partnership goes beyond the specific activities in the classroom, beyond the partnership project and permeates all areas of student life. In parallel to this discussion of process-product is the conception of partnership as either an activity or an approach. In other words, partnership can be viewed as a series of collaborative activities, or an approach in which all aspects of learning and teaching are collaborative (Marquis et al., 2017). Figure 21.1 depicts how partnership work can be plotted according to these two sets of dichotomies.

The aim of Fig. 21.1 is to highlight how partnership may be conceived in terms of process/product and activity/approach. Quadrant A describes partnership work which is embedded in the curriculum and evidenced in the teaching approach, but with a focus on a particular outcome. This is often seen in short-term student–staff projects. Quadrant B describes

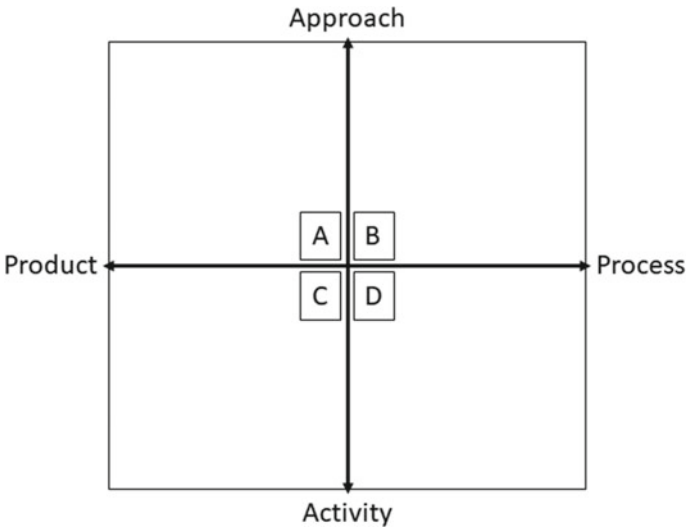

Fig. 21.1 Partnership as process-product/activity-approach

partnership where values are evident in the curriculum and the teaching approach, and there is a focus on long-term development of student voice and participation. There may be no specific outcome. Quadrant C describes partnership work which may be evidenced by short-term projects with specific goals, and where students are engaged in a series of activities. This may be separate from the curriculum, and a stand-alone project with a specific outcome. Finally, quadrant D reflects partnership work in which there may be no particular outcome, less project-based, but with a focus on developing students' skills to become partners, for example, in preparation for a project. It is important to point out that partnership work is not static and will move across quadrants at different stages. For example, the student–staff partnership work which has culminated in this chapter was reflected in quadrant C at the beginning, with a timeline of a single activity—researching and writing a chapter. However, despite the need for a product (this chapter), the approach has become more valuable through dialogue, co-creation of text and peer feedback and as a result our work has moved into quadrant A.

In this chapter we use a process/approach model to explore the themes of terminology, roles, values, power dynamics and inclusivity and provide a comparative and critical reflection of partnership work.

Terminology

A key theme running through the literature and accounts of student–staff partnerships is the importance of defining terms. How "partnership" is conceptualised is markedly different across institutions and disciplines. Some researchers and practitioners have argued that there are both positive and negative aspects of a more fluid understanding of the term "partnership". One benefit of a non-static definition is that there is room for flexibility and adaptation according to contextual needs. Flint (2016) argues that the terms "student engagement" and "students as partners" are often seen as umbrella terms, and so form "broad, 'fuzzy' concepts" (p. 3). Although broader definitions can provide opportunities for adaptation and flexibility, the lack of common vocabulary can also result in

a lack of shared understanding, often then relegating student–staff partnership to liminal spaces (Land, Rattray, & Vivian, 2014; Usherwood, 2018).

Clarity and agreement on definitions is necessary in order to negotiate roles, demarcate these roles, assign responsibility and ultimately evaluate the project. A plurality of definitions can impact on how participants perceive their roles and responsibilities in the collaboration and lead to difficulties in evaluating projects. Similarly, differences in conceptions of practice can impede the working relationship between partners (Matthews, Dwyer, Hine, & Turner, 2018). For example, in Marie and McGowan's (2017) account of a number of different, small-scale partnership projects, the authors conclude that a likely reason for the unsustainability of many of the projects was the lack of explicit discussion of roles, responsibility, expected outcomes and expected ways of working. A further example can be found in the report on the challenges faced by participants in a summer school on Students as Partners (SaPs) (Marquis et al., 2017). Three main challenges to the definition of student–staff partnerships were discussed by the participants. The first was that the definition itself is complex and multifaceted. Secondly, it was noted that the concept can change over time, and finally, that student–staff partnership can be defined as both a mindset and a set of collaborative activities.

Unpacking the roles of student and staff (Flint, 2016) can provide opportunities for dialogue in student–staff partnership work. All partnership work is context-dependent, and it is important that institutions and participants agree on what the different terms mean in their own context (Matthews, 2016). In this way, discussion of roles becomes embedded in the student experience and therefore part of the process and an approach to learning and teaching (see Fig. 21.1).

Roles and Identities of Students and Staff

Student–staff partnerships have impacted the wider discourse on the purpose of universities, and the subsequent roles of leaders, students and staff therein. There is a vivid contrast between contemporary views of

"students as consumers" (SaC) and the literature on "students as partners" (SaP). The implementation of tuition fees and neoliberal agendas in higher education has afforded students a consumer identity (Guilbault, 2016), that of passivity, existing within a complaints culture, transactional learning processes and a lack of opportunity to be agents of change (Raaper, 2018). However, partnership approaches challenge this assumption and identity by altering the social, relational aspects of the university (Ollis & Gravett, 2020, this volume). Research highlights how student–staff partnerships can be a cultural change against traditional, neoliberal values in universities (Marie & McGowan, 2017).

Bovill (2017) reports that collaboration in learning and teaching mandates a radical shift in the role of students and their value in co-creation, which positively challenges prevailing market values in higher education. Allin (2014) argues that students should not be seen as just "sources of data", typical in the SaC perspective, as this restricts SaP approaches to being tokenistic and rigidly fixed within a context of neoliberalism. An output or product-based approach to student–staff partnerships reinforces neoliberal models of the university by reinforcing competition and a consumerised education. Such an approach would be reflected in quadrant C and therefore neglecting a longer-term empowerment of students. Thus, impactful student–staff partnerships should be framed as a process, rather than a product, and align with Healey et al.'s (2014) set of values.

A SaC perspective also projects an "us" and "them" perception between staff and students, where students are excluded from staff contexts that directly affect them, for example, decisions about curriculum or assessment methodologies. In this way, differences between staff and students become problematic and this creates an "othering" effect. Cook-Sather (2015) argues that when a partnership approach is pursued, the difference is not erased, but leveraged as a learning tool. Students and staff working in partnership overcome this "othering" effect by fostering dialogue across the differences in their roles. This builds greater empathy and openness, ultimately enabling parties to reach mutual goals in learning and teaching (Cook-Sather, 2015).

Roles need to be established and discussed at the outset of partnerships commencing. A key reason for this is that the very diversity which is promoted through student–staff partnership can also cause possible tensions

over expectations. Shared goals may be difficult to achieve due to varied experiences and perspectives (Marie & McGowan, 2017). Therefore, whilst on the one hand a variety of perspectives is considered beneficial and stimulating, it may not work pragmatically. When participation exceeds or does not meet expectations of all partners, distrust, disengagement and disenfranchisement from the process may follow (Bovill, 2017).

Roles are socially constructed and changeable, and are the output of many influences (Bovill, Cook-Sather, Felten, Millard, & Moore-Cherry, 2016). Mismatched institutional norms and practices can render partnership, such as co-creating, learning and teaching projects, "countercultural", because it falls outside of traditional roles of staff and students (Bovill et al., 2016; Ollis & Gravett, 2020, this volume).

Research tends to examine the ways in which staff are wary of challenging prevailing norms in academic roles. Carey (2013) reports resistance originating from attitudes that seek to maintain established habits and avoid perceived risks. Bovill et al. (2016) explain that staff may be cynical of the underlying values of student–staff partnership agendas if projects are perceived to be based on lip service rather than academic merit (Troschitz, 2017). There can be an initial scepticism to redefining student and staff roles, with questions from both sides pertaining to legitimacy and expertise. Staff may see partnerships as relinquishing power, and maybe wary of students, perceiving them as incompetent (Murphy, Nixon, Brooman, & Fearon, 2017). Matthews, Mercer-Mapstone, et al. (2018) explain that academic staff may feel threatened by student–staff partnerships because they see it as a reproach of their expertise, are dubious of change, and may react to vulnerability and job security. Bovill (2014, p. 20) reports that staff found embarking on SaP projects as "nerve wracking".

As such, there is a need to generate "buy in" from staff, especially those who are not familiar with the pedagogical literature, to dispel wariness (Murphy et al., 2017) and enact partnerships with explicit and shared values (Kinchin & Winstone, 2017). Murphy et al. (2017) go on to argue the importance of training and cultural change in order to support student–staff partnerships. Co-creation of learning and teaching frames the role of staff as facilitator and negotiator (Bovill, 2017) rather than

transmitter and assessor. Professional development for supporting staff in developing their roles as facilitators is part of an overall approach perspective to partnership work (see Fig. 21.1).

Power Dynamics

Seale, Gibson, Haynes, and Potter (2015) argue that there is a tendency for the literature on student–staff partnerships to gloss over issues of power and resistance. They suggest that what is deemed as "passive" behaviour could in fact be students adhering astutely to their perceptions of what student–staff partnerships should be. In their research, students argued that despite the partnership approach, and despite being told their opinions were valued, they felt they could not disagree with those who held power. Issues of power exemplify the type of cultural and institutional barriers that prevent student–staff partnerships from being genuinely empowering (Allin, 2014).

Student–staff partnerships encourage people to question "inherited" power hierarchies (Cook-Sather, 2015). Participants must critically reflect on power relationships, otherwise collaboration is confined to traditional, tokenistic relationships—with students ultimately at the bottom of the hierarchy (Weller & Mahbubul, 2018). There seems to be a large variation in the extent of equitable collaboration across projects and how this is reported (Allin, 2014). Marquis et al. (2017) demonstrate that the way to achieve genuine empowerment is to implement partnerships as a cultural change. This is to ensure sustainability in the face of top-down institutional structures, student graduation and high student and staff turnover. It is argued that institutional managers may be hostile to partnership in order to preserve hierarchies within the university (Matthews, Dwyer, Russell, & Enright, 2018). Senior leaders are often removed from the classroom level, and thus unable to identify the transformative aspects of student–staff partnerships. They conceive the purpose of student–staff partnerships within neoliberal rationalism as evaluative and as a means of quality assurance. This view is problematic as "the sense of agency and ownership that SaP enables for students and staff through the principles of shared responsibility and reciprocity

are lost in a neoliberal understanding of SaP" (Matthews, Dwyer, et al., 2018, p. 9). Therefore, to secure the transformative aspects of student–staff partnerships we argue that they are most robust when they are conceived as approaches (see Fig. 21.1). Ultimately, it is a process—approach perspective that is more conducive to sustainability and meaningful outcomes as it is a mentality that endures in the face of transience and practical constraints, rather than product—activity perspective.

Inclusivity

A further key theme developed in the literature on student–staff partnership relates to the extent to which student–staff partnerships are inclusive. Not all students have access to partnership work. This may be due to practical reasons, although a more fundamental reason may be related to issues of student voice and access to cultural and linguistic capital (Walker, 2007). Partnership work often favours those with cultural capital (Felten et al., 2013), i.e. the appropriate cultural background and dispositions. Those students with cultural capital also possess linguistic capital, that is "fluency in, and comfort with, a high-status and world-wide language" (Morrison & Lui, 2000, p. 473). Students with linguistic capital have access to the resources (such as registrally appropriate vocabulary and terminology) to be able to have a voice and engage in partnership work (Heron & Palfreyman, 2019). The large body of research on student voice argues that "doing" student voice work ethically and morally requires equitable participation (Robinson & Taylor, 2007, p. 66) and we would argue that the same principles for student–staff partnership work apply.

However, many accounts of partnership projects find that those students who participated were the most vocal and most likely to interact with curriculum issues (Marquis, Jayaratnam, Mishra, & Rybkina, 2018; Matthews, Mercer-Mapstone, et al., 2018). In particular, students who are most likely to be invited are those who are academically strong and who come from privileged backgrounds (Marquis et al., 2017). A lack of access and inclusivity can undermine the very principles on which student–staff partnership is based. Healey et al.'s (2014) model includes

inclusivity as one of its eight core values, which is defined as embracing "the different talents, perspectives and experiences that all parties bring, and there are no barriers (structural or cultural) that prevent potential partners getting involved" (p. 14). Bovill (2017) distinguishes between "selective" approaches and "whole cohort" approaches to co-creation of learning and teaching. To avoid the selection of only those students with cultural and linguistic capital, we need to incorporate more cohort approaches to recruitment (see Niculescu, Nagpal, & Rogers, 2020, this volume, for further examples of a cohort approach).

To foster these approaches, (critical) dialogue with teachers and peers is necessary. In the area of student voice, researchers and practitioners have argued that for equitable participation students need to be taught strong oracy skills (Heron & Palfreyman, 2019), since so much of student voice work, and student–staff partnership, rests on the ability to communicate, and in particular engage in critical dialogue (Fielding, 2004; Lodge, 2005). Students need to be explicitly taught the academic skills which underpin effective student–staff partnership and voice work (Felten et al., 2013; Heron & Palfreyman, 2019), in particular effective communication skills, research skills and asking critical questions in an academic context. The development of such skills could be part of a wider approach which incorporates specific, focused activities (see Fig. 21.1). Although activity-based, it is part of an overall teaching approach, thus incorporating the development of skills throughout the partnership work.

Whilst we would agree that not all students want to participate in student–staff partnership work, the scholarly literature on this topic needs to reflect more features of reflexivity. For example, Carey (2013) describes a curriculum project in which students were "invited" to a meeting. Although he briefly addresses the non-participating students, he provides no reflection on why this was the case and offers no critique the recruitment methods used in the project. We would argue that reflection on approaches to recruitment is key to the transparency of the student–staff work and underpins inclusivity. As part of this, more attention can be given to reasons for willingness and reluctance to participate in student–staff partnerships. There is currently a lack of understanding of the motivation for engaging in partnership work (Diaz et al., 2015). This is

an area which would benefit from further research, as student agency is fundamental to the ethos of student–staff partnership work.

Conclusion

Drawing on Fig. 21.1 in this chapter, we encourage participants in student–staff partnership projects to conceptualise where their partnership might be plotted and how it might change over time. The negotiation between product and process, and activity and approach, requires consideration of the roles, values, power dynamics and terminology at play. The semantics of a partnership will vary according to the conditions and contexts of each partnership. What is most important is an open and transparent dialogue about key concepts and expectations within each individual partnership. Student–staff partnerships challenge traditional roles in higher education, and challenge is accompanied by risk and potential resistance. However, these can be managed as the change in identities that partnership brings about presents many positives, and transforms difference into a learning tool rather than a divisive mechanism. Through co-creation of learning and teaching and the explicit value-based practice of partnership work, students and staff are enabled to be equitable actors in learning, research and teaching activities. Positively, there already exists a sincere motivation to move away from traditional hierarchies as transformative education is highly valued, but institutional inertia and discrepancies between student, staff and manager perceptions may inhibit this. To overcome these inhibitions and uncertainty, and achieve a shift in power dynamics, critical reflection that is open, honest and unbiased is necessary. In particular, student–staff partnership approaches must work on being inclusive and ensure meaningful participation and access for all students.

Reflective Vignette

In terms of core values, authenticity is paramount to the partnership model (Healey et al., 2014) Authenticity is defined as "all parties have a meaningful rationale for investing in partnership, and are honest about what they can contribute and the parameters of partnership" (p. 14). In other words, all participants maintain clear communication channels and are open about their experiences. In this section, we reflect on our experiences of the co-creation of this chapter. As noted in the literature, co-creation can be risky (Bovill, 2017), yet descriptions and evaluation of student–staff partnerships are often "overly laudatory" (Kehler, Verwoods, & Smith, 2017, p. 4). We, therefore, report on the positives as well as the tensions. Although research continues to guide practice, we believe it is also critical reflections of those participants engaged in partnerships that ultimately inform the transformative potential of partnership approaches.

Ameena

Embarking on this project has been a transformative experience, signalling growth in my identity. I certainly feel more involved in the university ***community****, having now participated in both learning and research. It has enabled me to deeply reflect on my academic career, personal capabilities and perspectives on education. I now feel more* ***authentic*** *in my voice. In the paradigm of "partner" I was afforded more power, coupled with* ***responsibility****, and not confined to a passive role. I tremendously enjoyed moving away from traditional "staff" and "student" roles; chiefly, the opportunity to contribute and direct the literature review. From this freedom I derived* ***empowerment****.*

Reaching this destination was not an easy process because before arriving at these feelings, a certain amount of cognitive dissonance had to be navigated. The role of "partner" required the unlearning of old habits, such as moving away from notions of perfectionism and having to hide my perceived failures, to a more "organic" thought process. I am incredibly grateful to now

see the difference between performative and genuine approaches to work—and a reaffirmation that student–staff partnerships should prioritise being a process rather than a product (this chapter, for example).

At times I felt overwhelmed and illegitimate, which caused tension as I did not know how to articulate and bring up these insecurities. I think these feelings originated from not being sure whether I was underperforming or overstepping boundaries. This illustrated the need for demarcating the project in its initial stages. Resolution was facilitated by Marion's support, I had ***trust*** *in her feedback and guidance. Through dialogue, we established the division of labour for this book chapter. Instigating and sustaining this dialogue came as a response to tensions, rather than existing from the outset. It was a skill that had to be learnt. Dialogue fostered feelings of security and a means to address* ***challenges****. In this process, we established* ***reciprocity****. I see this positive evolution of our approach as a natural response to acclimatising and operating within new power dynamics and work practice for the first time.*

Marion

I would like to think that ***empowerment*** *was a main positive from this project. Although the topic of our chapter was provided by the book editors, Ameena and I were able to focus it according to our interests. Ameena was given complete freedom to develop the literature review. We had regular update meetings in which Ameena took* ***responsibility*** *and agency for identifying key themes. These themes became the basis of the chapter. At this point I think Ameena felt more responsibility than I did, due to her short-term research assistant contract. I think that having produced the literature review and the contract finishing, Ameena felt less responsibility and that passed over to me as staff member. This is a great example of the fluidity of roles in a partnership project (as described above). However, there were tensions when I felt that I was exploiting her goodwill after she was no longer being paid.*

I think our partnership was ***authentic*** *to a certain extent. I had a meaningful rationale for the partnership, and invested to a certain extent due to previous working experiences with Ameena. Part of the positive aspect of authenticity was the* ***trust*** *we had with each other. We had worked together*

on a previous project, but that was very different; how well did we know each other for this type of work? Did she trust me? One area in which I think we could have developed further is honesty over contributions. This was more to do with not setting explicit expectations at the beginning (also due to lack of experience of co-writing in this way). I believe one of our greatest strengths in the partnership was ***challenge****: Ameena challenged my thinking, and I enjoyed our conversations. Did I challenge her? I would like to think so, but probably more in a work way than an academic or intellectual way. Importantly though is the question of how would I know if I had challenged her?*

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22

The Future of Student–Staff Partnerships

Ian M. Kinchin, Karen Gravett and Nadya Yakovchuk

Introduction

Within higher education, we are very used to the idea of using students as data points in our research. This is firmly established in the use of instruments such as the National Student Survey (in the UK), where we quiz students anonymously and deduce whether or not the university is doing a good job based on the analysis of their responses. However, such an impersonal, metrics-driven evaluation of our professional activity seems to be based firmly within the neoliberal agenda of accountability

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and managerialism rather than any real sense of enquiry about students and how they relate to staff, or to the wider health of the higher education sector. It is reminiscent of the quote offered by Dharamsi (2013) from a woman describing what happens when researchers come to study her community in Ecuador:

> They study our ways and collect our stories. They do tests and ask a lot of questions. Then they go away and get their degrees and publications, and nothing improves for the community.

In part, our ongoing motivation for engaging with the idea of students as partners is to move away from a perspective of students as disposable assets providing data points for reflection. However, if asked, the staff members who have acted as co-authors and research partners in the projects reported in these chapters will offer a range of additional reasons for engaging in this work. For some it was just curiosity ("what is it all about?"). For others it was a desire to answer a research question that is only accessible with the support of a student. For other colleagues, it was an opportunity to enter the world of Scholarship of Teaching. Whilst some members of staff just wanted a fresh challenge. Whatever the motivations of staff and students, we have found that the idea has sparked interest and discussion. It has caused excitement and anxiety. It has forged new professional relationships and caused colleagues to question their assumptions about the whole teaching endeavour. It also helped students to develop confidence and new skills while making their voices heard in an authentic arena. Many of these gains (for staff and students) are only becoming apparent after the projects have been completed and we start to notice subtle changes creeping into the dominant discourses in teaching committees and classrooms. So whilst all the projects included here have considered their results and offered conclusions, there are more general gains for the academic community that will only be noticed later—long after this book has been published. As such, this book is part of an evolving dialogue about the nature of learning in university and the role of partnership work in the future.

What Are the Challenges of Partnership?

Whilst the idea of working and publishing with students as co-researchers in the disciplines is not new (e.g. Kinchin & Keeler, 1996), there has been growing interest in the literature about how to develop partnerships with a focus on pedagogy, and this has gained momentum in recent years (e.g. Bovill, 2019). Whilst the adoption of partnership models in some institutions may be related to neoliberal, managerial agendas, in other cases it may be part of a reaction against this agenda, and an attempt to reassert teaching values (e.g. de Bie, Marquis, Cook-Sather, & Luqueño, 2019; Gravett, Kinchin, & Winstone, 2019; Wijaya Mulya, 2019).

Whatever the initial motivation for institutions to engage, student–staff partnerships cannot be set up with a click of the finger, with the expectation that they present an instant, unproblematic solution to the problems of the university. It is a venture that provides a route forward requiring effort and commitment for its success. The partnership route is strewn with assumptions:

> As an idea, partnership speaks to an institutional culture that values students as participants in knowledge construction, as producers of knowledge, within the university learning community. This translates into students being active participants in their own learning …where students and staff are working together – as colleagues, as partners, as trusted collaborators – with shared goals. (Matthews, Cook-Sather, & Healey, 2019, p. 24)

However, there is a chicken and egg question about "the institutional culture". Is the culture ready for student–staff partnerships, or is the student–staff partnership route a way to change the institutional culture? Is the institutional culture homogeneous across the entire campus, or are certain disciplinary areas more ready than others? What are the indicators for readiness, and is anyone looking? These questions all presume that we know what we mean by "partnership" in the first place. One of the working assumptions underpinning chapters in this volume is that "partnership" represents a stage in the evolution of student–staff relationships

that goes beyond representation or voice (e.g. Sutherland, Lenihan-Ikin, & Rushforth, 2019). However, if we were to wait for certainty and consensus about these issues, then we would probably never attempt to undertake student–staff partnership projects. Even in the most well-prepared institution there is always likely to be a dissenting voice that will see nothing but problems and negative outcomes. There are some challenges that we can predict with a degree of certainty:

> Staff workloads will most probably increase, while some students may find it difficult to adapt to a different learning experience particularly in the initial stages. Hence good communication between the staff and the students, as well as from the university itself, is crucial. (Saw, 2019, p. 68)

As is the case for the success of any curriculum innovation, good communication and "buy-in" from key stakeholders are crucial. If there is a perception that the imposition of staff–student partnerships is just another managerial tool with which to beat academics over the head, then it will be perceived negatively as another "innovation-by-numbers" initiative (e.g. Liu & Pechenkina, 2019). The authors in this volume were all volunteers, responding to a call for anyone interested. As can be seen from the previous chapters, the call attracted projects from a range of disciplinary areas (sciences, humanities and arts), addressing a variety of research questions and employing a number of different methods and approaches. We hope, therefore, to have avoided any criticism of doing this "by numbers".

What Have We Learnt About Partnership Working?

At the outset of this project, a number of the staff participants found it difficult to adopt language (both written and verbal) that placed them as partners with their student collaborators—rather than referring to "them and us". This seemed to be out of habit rather than trying to impose any hierarchy in the roles. But it was also evident that when putting staff and students together in this way, they may be partners, but they are never

truly equal partners. As Kieran reflects (Chapter 16), "I was also very aware that, as the staff member, I was mostly in control of this negotiation, so he may not have felt able to challenge my suggestions". Clearly, the important thing here is that partners feel able to communicate with each other. As Simran reflects, "you're always aware that staff have more power than you even if they pretend that they don't, that doesn't mean that institutionally they don't. So, this needs to be discussed and explicitly acknowledged" (Chapter 20). Perhaps focusing more on the process, rather than the product, of partnership ("partnership is essentially a process of engagement, not a product. It is a way of doing things, rather than an outcome in itself" [Healey, Flint, & Harrington, 2014, p. 7]) can help "equalise" student–staff partnerships if not in terms of the existing power relations, then in terms of equal opportunities to contribute and learn from each other. As Julie and Cathrine observed in Chapter 15, "we both felt able to contribute equally, but in different ways".

Similarly, whilst a partnership mindset can be seen to be underpinned by a sense of inclusivity, an outlook that "inherently challenges normative notions of expertise – opening up exclusive conceptions of knowledge to embrace plural knowledges" (Mercer-Mapstone, 2019, p. 3), it may also be time to question how we can ensure that partnership communities really are inclusive in practical terms. How can we enable a wider diversity of both staff and students to take part in initiatives, and how can we ensure that partnership opportunities are available to all? These questions are not easily answered but are certainly worthy of further consideration as partnership approaches become more prevalent. Some solutions may include ensuring self-selection modes of recruitment are accompanied by "targeted methods to ensure that underserved students or staff perceive the scheme as 'for them'" (Mercer-Mapstone & Bovill, 2019, p. 12). Indeed, Mercer-Mapstone and Bovill also argue that "explicit consideration be given to how students and staff are invited to participate in, are supported in, and rewarded for, partnership in ways that acknowledge the privileges associated with certain social locations and identities" (2019, p. 15).

Crossing Thresholds

There is often concern expressed by colleagues about students' ability to cope with a partnership programme. However, we must also remember the risk involved for the teaching staff. Many of the staff authors in this volume experienced initial anxiety about the adequacy of their skill sets to engage in a research project that was outside their comfort zone. In particular, some of the authors whose home discipline is firmly within the physical sciences expressed concern about their knowledge of qualitative research methods, about their lack of familiarity of the supporting literature and about using the language of education when writing a book chapter. For some authors, particular writing requirements such as referencing in a new format were a source of uncertainty showing the sense of frailty that can accompany writing within a new area of practice, and how such seemingly straightforward practices may be "imbued with issues of power, identity and non-belonging" (Gravett & Kinchin, 2020, p. 84). In reflecting upon the issues of working across disciplines, Kneebone (2002, p. 514) comments:

> I believe that my difficulties were caused by a clash of world views – or rather, a clash between the comforting solidity of orthodox 'science' and the fluidity of those disciplines which challenge their own paradigms as a matter of course. As a late arrival at the social sciences party, I have only recently become aware of the crucial significance of alternative world views, and how an awareness of them is key to making sense of any literature.

In these instances, we have to ask, "who is the student in the partnership?" Where the student member of the partnership may have more experience of certain ways of thinking and acting, they may be acting as "accidental academic developers", with research as the pedagogy (Kinchin, Kingsbury, & Buhmann, 2018).

At the outset of this project, some of the academic partners in this work had concerns about the published output. Would it be of sufficient quality to be published? If it is not, then whose fault would that be? How do we know what the "acceptable standard" is? This reflects the normal

tensions in academic publishing where "authors are somehow instructed to be innovative and surprise the reader while at the same time being expected to abide by the normative boundaries of correctness" (Patriotta, 2017, p. 748). However, in the context of our student–staff partnership projects, many of the staff authors were working outside the framework of their home discipline. Not familiar with the language or conventions of writing educational research, many of the authors were not sure about how novel their work might appear or indeed, where the boundaries of correctness lay. This meant they had to have trust in colleagues specialising in academic development to act as guides in an often unfamiliar terrain—a role undertaken here by the editors of this volume.

The discomfort that was experienced and articulated by staff partners can be viewed as "troublesome" as the shift in the student–staff relationship is negotiated. Where staff partners have to review their perspective and find new ways of working to fit with the changing professional environment, they might be considered to be acquiring a threshold concept (Cook-Sather, 2014). The shift requires that staff adapt their understanding of the student learning process and their role within it. By having students and staff engage in research alongside each other, the students are more likely to move from watching us teach, to watching us learn—a stance that West (1966) has argued would be more profitable in terms of student learning. For this to work it requires a level of honesty and trust in the partnership to allow staff to display their vulnerabilities as they learn alongside the student.

By making the transition from "them and us" to an appreciation of partnership ("we"), colleagues might have some of their initial anxiety calmed where concerns have been expressed about a possible erosion of staff expertise. By adopting an authentic partnership perspective, staff might be able to appreciate the different skills brought to the projects by their student partners along with the freshness of a partner who is willing to ask fundamental questions about what we are doing and why. Edwards (2011) has considered the ways in which teams work together and comments that:

> There is no dilution of personal specialist expertise as a result of incorporating the motives and conceptual resources of others into specialist practice: quite the reverse. (p. 34)

And that:

> relational expertise is therefore based on confident engagement with the knowledge that underpins one's own specialist practice, as well as a capacity to recognise and respond to what others might offer in local systems of distributed expertise. (p. 33)

From this perspective, partnership can be seen as a way to develop different kinds of expertise as empowering rather than threatening, but it does require that participants have the courage to learn and to share the process of that learning with their partners. Each recognising the expertise brought by the other (e.g. Mihans, Long, & Felten, 2008).

Changing Perspectives

Engagement in and reflection on student–staff partnership activities poses various questions that lead one to re-evaluate some basic assumptions. For example, when we embarked on the projects described in this volume, the editors had an assumption that we were working within a student-centred framework. However, this started to jar somewhat when we were trying to ensure we used the language of partnership (i.e. "we" rather than "them and us"). Within a true partnership, it did not feel right to favour one partner over the other. Therefore the language of student-centredness seemed increasingly inappropriate. After all, if we were working together in collaboration, then we should be "centred" on the same thing. Students and academics were developing a shared gaze on the discipline—albeit from slightly different perspectives. A discipline-centred approach seemed more appropriate (as described by Kinchin & Kandiko Howson, 2019) as this assumes a shared (participation-centred) gaze (Fig. 22.1).

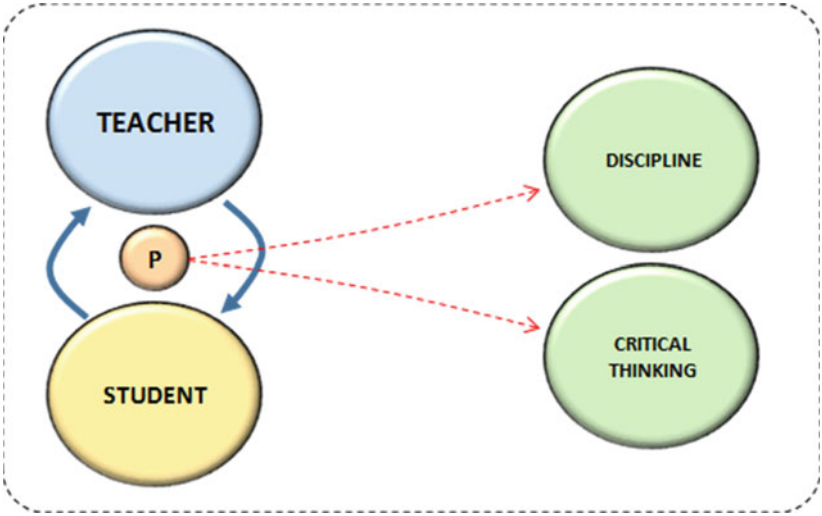

Fig. 22.1 Developing a "participation-centred" (P) gaze on the discipline and on disciplinary ways of thinking

Our partnership experiences can also be used as a window onto teaching more generally as highlighted by many of the comments made by staff and students when reflecting on their experiences. The tutors' desire "to not dominate the process" (e.g. Chapter 3), and recognition that "the true value of partnership was gained via the process of engagement" (e.g. Chapter 15), could equally refer to student-centred classroom scenarios. The one-to-one nature of the partnership interactions and the research orientation of the learning was seen to encourage "a spirit of curiosity" (Chapter 3). As Ameena reflects in Chapter 21, "the role of partner requires the unlearning of old habits, such as moving away from perfectionism and having to hide my perceived failures". This would enable us to move towards greater pedagogic flexibility by breaking down student–staff barriers (Bovill, 2017). Removal of these traditional barriers will require us to negotiate various ways of collaborating by recognising the value of "different experiences and expertises" (Chapter 20).

Future Recommendations

Partnership is clearly an ongoing, iterative and developmental process occurring within institutions. As such there can be no definitive conclusions here in terms of a generic, "best way" forward. However, this work has certainly raised a number of interesting considerations and issues to take forward. Arguably, a commitment to partnership initiatives requires the need to be explicit about the complementary roles of partners whilst celebrating the value of different experiences and expertises. Going forward with partnerships, there will also undoubtedly be a need to explicitly address how future initiatives offer ways for a greater number and diversity of students and staff to participate (Mercer-Mapstone, 2019), with the need to find innovative ways of allowing students to engage in this type of learning as a normal part of their programme of study, rather than as a special offering for a privileged few.

Overall, student–staff partnerships may provide a driver for development, promoting a sense of community and belonging among students and staff, challenging the "hegemonic waves of neoliberalism in higher education" (Wijaya Mulya, 2019, p. 89). The student–staff partnership model offers a challenge to the traditional views of "engagement" that might, in reality, refer to students listening patiently during lectures and occasionally offering a question at predetermined points in the teaching event. The partnership model requires a recognition of the messy narratives that should populate the healthy classroom (Mooney Simmie, Moles, & O'Grady, 2019), and that it is normal for pedagogy to be uncertain, appearing "not as an identifiable or prescribed event, and certainly not the exclusive concern of the teacher" (Fenwick & Landri, 2012, p. 5). Such profound challenges to the principles that underpin the professional identities of many university teachers will need to be addressed sensitively within the structures and processes that support academic development—which may, itself, need to be re-imagined to accommodate students as active agents (e.g. Felten et al., 2019), to address a variety of assumptions about working in partnership and the potential this may generate for resistance by individuals (e.g. Healey, Lerczak, Welsh, & France, 2019), and frailty in the system (Kinchin & Winstone, 2017). In summary, if we care sufficiently about our students

and their learning (*sensu* Anderson et al., 2019) to invest in activities that will enhance the learning experience, then student–staff partnership activities may be the catalyst we need to shake free from rampant managerialism and to re-engage with the student body in a meaningful and purposeful manner.

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Index

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