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Chapter 29

Students as Co-Researchers: A Collaborative, Community-Based Approach to the Research and Practice of Technology-Enhanced Learning

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Abstract

This chapter explores community-based approaches to student engagement in researching their own practices, in particular, when this involves the use of digital media in their learning. Student engagement has been described as active involvement in one's own learning, emphasising individual agency (Trowler, 2010). We argue for a relational view of agency (Edwards, 2005) involving dynamic realignment of thoughts and actions between different actors in response to problems and challenges. This has led to the development of a collaborative model of inquiry, with students and staff working on authentic research and knowledge production projects within disciplinary communities. This methodology involves students acting as co-researchers in researching their own digital media practices. Digital practices often cross formal and informal boundaries, making authentic accounts difficult to obtain. Involving students as partners increases validity and shared purposes. Students can engage in meaningful research and reflect back on their own practice. Three co-inquiry projects are presented, reporting on aims, methodologies and practical implications and challenges, including incentives, rewards, assessment constraints and equality of involvement. The findings demonstrate the need for continual re-negotiation of roles, rebalancing power relations and motivation within co-inquiry models. Addressing these more explicitly would ensure a more negotiated set of outcomes. We conclude that co-inquiry models are not quick fixes to student engagement but part of a longer term relational shift which takes time and mutual commitment to the process. Despite these challenges, this model offers potential as a more inclusive approach to scholarship and more authentic forms of student inquiry.

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29.1. Introduction

This chapter aims to explore the possibilities and challenges for students to engage in researching their own practices, in particular, when this involves the use of digital media in their learning. There are many possible benefits to this, for the students themselves, for researchers in developing new lines of research inquiry, teaching staff in ensuring greater student engagement in learning and for universities whose concerns over enhancing the student experience are well documented (see Trowler, 2010).

The desirability for including research and inquiry-based activities in the undergraduate curriculum has been well rehearsed in the literature (see Healey & Jenkins, 2009; Spronken-Smith & Walker, 2010; Zimbardi & Myatt, 2012). The renewed focus on ‘the student experience’ in higher education suggests that students need to ‘be active partners in shaping their learning experiences’ (HEA, 2011).

Yet, others are calling for a more radical positioning of students as members of a community of scholars. Brew (2006, 2007) has argued that research is typically restricted to particular categories of people within universities, and influenced by the hierarchical relationships between academics, students and support staff which suffer from a kind of ‘academic apartheid’ ‘where some people (students and also support staff) are denied access to certain kinds of power and resources’ (Brew, 2007, p. 6.). Students need to be engaged in a search for authenticity in learning where being critical and enquiring are key elements and where ‘such criticality is achieved in the spirit of research’ (Barnett, 2007, p. 126). Indeed, ‘inclusive knowledge-building communities’ should be fostered, in which we reconsider who the scholars are and how different groups might work in partnership (Brew, 2007).

The recent ‘student as producer’ movement (Neary & Winn, 2009) also argues for a radical realignment of roles and a rethinking of what constitutes ‘the student experience’. Reconceptualising students as producers involves: ‘undergraduate students working in collaboration with academics to create work of social importance that is full of academic content and value, while at the same time reinvigorating the university beyond the logic of market economics’ (Neary & Winn, 2009, p. 193). These ideas suggest that designing curricular to include research or inquiry-based activities might only be a starting point.

The challenges associated with researching students’ digital media practices in both practical and meaningful ways were also influential in the development of our approach. Obtaining authentic data and sustained accounts of how students engage with digital media has become very challenging because this involves continual boundary crossing between personal and private, formal and informal, institutional and personal spaces (Timmis, 2012). This means that traditional research methods such as interviewing or capturing data from institutional environments, such as virtual learning environments (or learner management systems) will not always adequately address research questions that explore the lived experience of students using digital media (*ibid*). There are also many ethical concerns associated with capturing digital data that is created outside of institutional ‘walls’. Therefore more participatory forms of research and inquiry also offer opportunities for collecting

more authentic and situated data as well as providing a more radical positioning of students as co-producers of research and new knowledge.

This chapter discusses issues raised above in relation to our work in developing community-based models of research inquiry. We begin by exploring the concepts of student engagement and agency in relation to communities of inquiry. This is followed by an outline of the methodology we have developed before three illustrative case studies are then presented. Finally limitations and challenges are discussed before we offer our conclusions on the potential of this approach to scholarship and researching digital media practices.

29.2. Student Engagement and Agency

In this section, we discuss our understanding of ‘student engagement’ and its relationship to the concept of agency, both of which are key aspects of our approach but can be understood in different ways.

Student engagement is high on the policy agenda internationally but it is often unclear what is meant by this term and how and in what circumstances students are to become engaged? On the one hand, this may mean students’ involvement in community or institutional projects (Kuh et al., 2007) or it can equally refer to students’ motivation and involvement in their studies or university life. The concept of ‘engagement’ suggests not just involvement in activities but ‘requires feelings and sense making as well as activity’ (Harper & Quaye, 2009, p. 5.) so that to be engaged involves both commitment and attachment. Yet, many of the definitions of student engagement also imply normative ‘requirements’ where behavioural, emotional and cognitive engagement is seen as the means to improve individual attitudes and learning (see Trowler, 2010). Hu & Kuh (2002) suggest that engagement is ‘the quality of effort students themselves devote to educationally purposeful activities that contribute directly to *desired* outcomes’ (p. 555, emphasis added). This seems problematic because it raises questions of ownership and authority: what kinds of desired outcomes are valued and by whom? We need to be careful of viewing engagement as an expectation and adherence to prescribed activities.

Closer to our own thinking is the idea of *epistemic engagement* (Larreamendy-Joerns & Leinhardt, 2006; Shea & Bidjerano, 2009). This concept was developed in relation to engagement in online and distance educational environments; knowledge and learning are viewed as practices within the structure of a domain and a disciplinary community. Larreamendy-Joerns and Leinhardt (2006) suggest this kind of engagement involves initiating and participating in epistemic or knowledge building practices typical of disciplinary communities through a wide range of opportunities for intellectual engagement and interaction. Related to this, is Ludvigsen’s (2012) idea that a core aim of education is to foster participation in specialised discourses. Participation in specialised discourses always involves understanding and embracing the culture and practices associated with disciplinary communities. This suggests a more communitarian view of engagement, where students are seen as partners in the

educational project rather than the objects of it. It is this view of engagement that has informed us in developing the model of co-inquiry outlined in this chapter.

In addition to this more egalitarian understanding of engagement, a different perspective on agency underpins our model. Agency is frequently individually conceived, relating to self and the 'powers of ongoing reflexive monitoring of both self and society' (Archer, 2002, p. 19). However, this individualised view of agency has been challenged by a number of people, working in different areas. Jones and Healing (2010) argue that in considering how learners engage with digital media, our understanding needs to be expanded towards a collective form of agency, active at all levels of an activity system, in order to avoid technological determinism and reducing agency to one individual. Edwards (2005) has also argued that we need a more relational understanding of agency and introduced the concept of 'relational agency' that is shared and distributed. This involves 'a capacity to align one's thought and actions with those of others in order to interpret problems of practice and to respond to those interpretations' (Edwards, 2005, p. 169) enabling a dynamic realignment of thought and action between different actors in response to particular problems and challenges.

To summarise, we consider engagement and agency as underpinning our approach but from a community-based, authentic and relational perspective where students are valued as members of a community of scholars engaged in joint actions as part of the educational project. In our case, this has focused in particular on developing approaches to researching digital media practices amongst the students through co-researcher models.

29.3. Collaborative, Community-Based Approaches to Research into Digital Media Practices

This section discusses the methodological approach that underpins the co-inquiry work that we have been undertaking. Broad methodological influences are summarised before the different elements of our approach are outlined.

As mentioned already, Brew's (2007) work on inclusive knowledge building communities has influenced our thinking on how students are positioned within research into teaching and learning in higher education. Co-operative inquiry, research undertaken '*with* people not *on* them or about *them*' (Heron, 1996, p. 19) has also influenced the design of this research. Co-operative inquiry operates on two levels of participation, full and partial. In the full form:

... all those involved in the research are both co-researchers, who generate ideas about its focus, design and manage it, and draw conclusions from it; and also co-subjects, participating with awareness in the activity that is being researched. (Reason, 1994, pp. 41–42)

The intention in our research was to aim for this full form, with students acting as research partners, working alongside researchers and others, on a range of

research activities. In some cases, this has also involved tutors and others providing institutional, subject or professional expertise. The aim was to develop a collaborative working environment where students and researchers work together on the planning, execution and outcomes of the research. Despite our aims that students would have equal status as co-researchers in a community of inquiry, it is important to acknowledge that achieving this was challenging. Students do not necessarily come into the community with pre-existing research expertise and therefore require support as they acquire the skills and experiences that will enable them to engage meaningfully as researchers and become full members of the community (Wenger, 1998). Additionally, the initial research aims were introduced by the researchers and not the students. Although these were adapted and students gradually began to take initiative and demonstrate growing confidence, it was found that this ownership of the 'project' had a continuing effect on power relations. This is discussed further in the section below on 'The challenges of adopting more inclusive approaches to research'.

Our focus has been on students' *own* digital media practices in different contexts and on knowledge creation activities that they initiate and sustain. Students' use of digital media frequently crosses boundaries between the institutional and the personal through the multiplicity of tools that are used both together and separately across different time and space configurations (Timmis, 2012; Wenger, White, & Smith, 2009). Obtaining authentic accounts of such practices using traditional data collection methods therefore becomes difficult because of the personal nature of some of the data and the potential for intrusion. This is particularly the case if the research requires investigation of 'naturally occurring data' (Silverman, 2006), such as communications rather than relying solely on accounts of practice, for example in interviews. This is also problematic in terms of recording personal experiences such as collaborations or studying practices which might take place in a variety of different settings and in particular may occur outside of institutional walls. Zamorski (2002) conducted a study into the relationship between research and teaching, where students were recruited as a parallel group to academic staff and asked to undertake an active role in the research. This allowed privileged access to data from key participants, namely students, and provided a distinctive learning experience for those taking part (Zamorski, 2002). Zamorski's study demonstrates how involving students themselves in research can be helpful in accessing authentic accounts of student experiences and of giving them a voice and influence over the research design where they play a critical role in obtaining such accounts.

In summary, this approach to working with students as co-researchers can be characterised as participative and collaborative. We have not sought simply to involve students but to work together on developing shared goals, where everyone is involved in shaping the project and its outcomes have relevance for students own work and development. The approach is also longitudinal rather than focusing on short term 'snapshots' and seeks to influence and change practice over time. Finally, we aim to conduct research involving students own digital media practices 'in the wild' across and beyond institutional boundaries. This means that outcomes are more open ended and include students' own views and

understandings of the research agenda in how digital media can influence and benefit higher education.

29.4. Putting the Approach into Practice: Three Case Studies

We now introduce three different cases and provide a detailed account of how these projects were conducted. In all cases the importance of introductory support, induction and familiarisation with key methods and approaches are emphasised as well as the fostering of students own ideas and understandings of the nature of the research problem. Planning and designing the research as a collaborative process were also critical to the success of the projects. Each project will now be outlined in turn, followed by a wider discussion of the challenges of adopting this kind of approach to researching digital media practices.

29.4.1. Case Study 1: Investigating Undergraduate Online Communication and Collaborative Practices

The first case centres on how existing studies can be expanded and reconfigured to involve students in research activities, particularly where this includes their own practices. In this first study, third year undergraduates who were based at a large, teaching-focused UK university,¹ were invited to take part in a project aimed at investigating collaborative work using digital media. The students were studying one of two optional 10-credit modules in Information Systems. The teaching and learning activities on both modules included fortnightly lectures and a collaborative group project conducted in online special interest groups (called Sigs). The project involved between three and six students working together to form a group and identify a topic of common interest from within an overall set of themes. Groups were tasked with researching this topic collaboratively, communicating online (and off line if they so chose) using any digital tools or online spaces that met their needs. At their first lecture, students were invited to take part in an educational research study investigating how students engaged in the co-creation of artefacts and shared knowledge building practices and how the digital tools and online spaces mediated such practices.

As discussed above, investigating how students engage in study-related activities in online spaces is best undertaken in partnership with the students themselves, encouraging reflexive inquiry into how these practices influence learning. In addition, without access to authentic conversations and online contributions, there are risks that the research might not be able to investigate collaborative practices *in situ* and in sufficient depth, which is a common problem of e-learning research (Shih, Feng, & Tsai, 2008). Additionally, collecting data on personal conversations that

¹This university is not named as they wished to remain anonymous, all names used are pseudonyms.

take place across the institutional and personal boundaries could be intrusive and fraught with ethical and practical challenges. A participative approach aims to be both empowering and practical. Ethics procedures were conducted following university guidelines and informed consent was obtained from all students.

All students were initially invited to become part of a study group that would investigate their own practices over the course of the 12 weeks in which they would be involved in the collaborative projects. Work in the study group was in addition to the work they were doing within their modules. Around 10 from each group volunteered and these students were then invited to an initial meeting where plans and ideas for the research were discussed and students were encouraged to ask questions. Students were invited to collect and archive their personal communications data that related in any way to the work of the collaborative projects and using any digital media and how this might be conducted was discussed and agreed amongst the group. Timings, activities and methods of communication for data collection were agreed. Data was collected at key points over the course of the 12 weeks and in addition, students took part in group interviews. One of the students was appointed as chair and although an interview guide was provided, students were encouraged to explore any areas that they felt were important, drawing on the research questions. In addition, students were given a series of questions in advance to work through and reflect on, in order to support their thinking. Group interviews allow for a more negotiated set of outcomes and can produce rich, elaborated data which develops over time (Fontana & Frey, 2000). One frequently cited potential pitfall concerns the emergence of 'groupthink' — where individual voices and ideas converge and alternative positions are constrained. However, this suggests that interviews of any kind can uncover an independent reality. However, if they are understood as interventions which will always influence outcomes, they become 'negotiated accomplishments of both interviewers and respondents that are shaped by the contexts and situations in which they take place' (Fontana & Frey, 2000, p. 663).

Students responded very enthusiastically to these challenges and appreciated the consultation over timing of activities and experience of research it gave them. They kept in contact and were very reliable at turning up to meetings and reported that the research was helpful in helping them to reflect more on their own practices with digital media.

Doing a research project like this has ... helped understand that people do communicate in many different ways It has allowed me to assess the various technologies ... and solutions ... which might prove to be useful one day. (Lawrence)

In some cases, it helped students to make connections with other parts of their course and other disciplines:

It's an enjoyable experience and it's nice ... 'cause I do Psychology as well so I have to study a lot of research projects so its nice to actually take part in one as well. (Phil)

Some of the students were, however, more motivated by extrinsic goals. As participation was voluntary and tasks were conducted in addition to coursework, they were offered an academic reference should they ever need one, refreshments at all meetings and a high capacity memory stick as a small thank you gift. Several students commented on extrinsic motivators as contributors to their commitment, as shown by this conversation:

It's just something to put on my CV and also I could put Bristol University rather than BigCity University (...) (Alex)

So it is the putting it on your CV and the fact that I said I'd write references for you is that all? ... (Researcher)

... and the free food yeah. (Alex)

Clearly, the reasons for participation in extracurricular research projects, such as this cannot be assumed to be divorced from the wider context of student life and the heavy emphasis on assessment and employability goals.

There were also some ethical challenges in this study, in part because this focused on communications. Students in the study group collected their own communications but because these were always two-way conversations, it was necessary to obtain consent to use the data from the whole cohort. Some students did not give permission for their data to be used and therefore some conversations had to be removed from the data set. Because of the intermingling of personal and study related dialogue, it was also necessary to stress to study group members to review their own data and only archive material they were happy to share publicly. In addition to this, in one case some further discussion took place about a particular conversation, because of the highly personal nature of what had been archived.

Nevertheless, the study could be considered to be successful in engaging students in research that was not part of their assessed or formal work and that they found to be worthwhile and helpful towards future careers. It was also successful in investigating communications at the boundary between formal and informal practices which is usually an unknown territory.

29.4.2. Case Study 2: Medical Students' E-Learning Development Projects

This second case concerns the digital media practices of undergraduate medical students at the University of Bristol when developing technology-enhanced learning (TEL) materials as part of an inquiry-based e-learning² development initiative (Williams et al., 2011). Students take the opportunity to develop innovative online

²Technology enhanced learning or TEL has now replaced the term e-learning but it is included here for historical purposes as this is what the initiative was first called and is referred as such in student quotations.

learning resources on a clinical topic of their choice during set periods of independent study, as required by the General Medical Council (GMC, 2009). Bristol undergraduate medical students spend years 3–5 studying and learning the practice of medicine in a number of NHS-based Clinical Academies. Students rotate through the Academies receiving all their clinical teaching and experience, pastoral care and taking part in assessments. TEL through a range of interactive, digital learning resources, is an integral part of providing a consistent student learning experience across the academies where learning opportunities may vary. Students identify a clinical topic and area of need based on their own personal learning experiences and through researching those of their peers. They investigate and experiment to combine different media and interactive elements with a variety of software tools to achieve their objectives. The aim is to develop materials that will be used by their peers and embedded within the medical education curriculum for future use.

This inquiry-based learning initiative has been running for over 10 years beginning with one student developing an online learning package for their project and encouraging others to do similar work the following year. Projects are student-led with support from an academic supervisor and staff in the TEL development team in the Centre for Medical Education on an ad hoc basis. Over time, more comprehensive support and quality assurance frameworks have evolved, refined by student feedback and in response to changes in technology; so too has the sophistication of the resources as the students learn from their predecessors, further developing the practice model. Support offered includes preparatory workshops, drop in sessions to obtain advice and technical support, an online support course with a series of FAQs, how to guides with top tips for success and links to examples of best practice. Many students engaged regularly with the support opportunities available. Students are also asked what would be helpful to them during the development of their projects and some years, ‘show and tell’ sessions mid-way through their project periods have been requested to share ideas and progress and to gain feedback from each other on their designs. After the formal project timeframe, students continue to work with TEL staff, supervisors and other subject experts to refine their learning resources so that they can be integrated into the medical education curriculum and offered to other students.

In addition to their learning resources, students are assessed on a written reflective account offering insights into the process of developing their resource. Using Glaser’s (2001) grounded theory approach, analysis³ of a sample of 25 of these accounts together with reflective accounts from former students and TEL staff revealed how through the process of producing learning materials, students were researching their own digital media practices developing a range of skills; literature searching, technical/IT, media capture and manipulation, time and resource management and negotiation (e.g. consent and licencing). Students also articulated their rationale for their chosen topic and for developing educational materials. This was

³Previously this activity has been classed as teaching innovation. However, this designation is now changing and ethical approval will need to be sought in future.

frequently based on their own personal experiences of online learning tutorials and those of their peers, identifying gaps in their knowledge. Students were developing a personal inquiry, creative problem-solving skills and an understanding of educational theory and learning design setting learning objectives and evaluating these through user needs analyses, questionnaires and focus groups and researching the content.

The process of the researching, learning, designing and creating my own tutorial has provided me with a wealth of experience which I have used in my foundation years as a doctor. I have confidently taught medical students on several occasions, and often use the skills I learnt from researching for my tutorial to produce interesting and interactive slides for teaching sessions. (Student 1)

The same analysis also provided a rich picture of how students perceive interactive online learning materials, what they believe they contribute to their learning, how it compares to other forms of learning and how this kind of material is best designed and structured. As part of the partnership, TEL development staff have reported that, students bring new and fresh ideas and combine media elements and software tools in creative ways adding to the combined knowledge and digital media practices of both students and TEL staff. New models of TEL development have emerged whereby rather than 'just being on the receiving end', through researching their own digital media practices including researching the content, students are active participants in the development of their learning and meaning construction.

They take ideas and materials from a variety of sources and produce something that is very different, and very much their own. For us this represents the creative process working at its best. Our students have provided us with a variety of inspirational and professional products and have incorporated many of their ideas into our own online learning material development. (TEL staff member)

The above quote also begins to illustrate the multiple collaborations and partnerships that have emerged through the reflective accounts. The quotes below illustrate the empowerment and relational agency that the students report as part of these activities:

I felt a strong sense of partnership with my supervisor, who as a consultant radiologist could offer the expertise and core knowledge, knowing that I was bringing an idea of what kind of information and learning experience we needed as students. Through creating learning content for the first time, becoming an active contributor rather than just a passive user, I felt a new partnership with the faculty which had previously been a distant, didactic presence in the course at Bristol. The following year many students in the year below asked me for

advice on creating an e-tutorial and so I became involved in a partnership with them, sharing ideas and offering advice. The faculty offered technical support with the basics of using software, and an opportunity for others creating e-learning tools to meet and share problems and ideas. This created a healthy sense of community and helped prevent isolation. (Student 2)

I think the whole process of creating my e-tutorial for my eSSC was a partnership between various different people. (Student 3)

However, not all students reflect on the collaborative aspects of developing online educational materials, and for some the project is simply a means to an end. This is discussed again in the section below on Challenges.

Brew (2006) in investigating the relationships between teaching and research and the implications for inquiry-based teaching and learning in higher education argues for academic communities of practice in which relationships between teachers and students are renegotiated. In this research and development, we argue that students and staff are mutually engaged in the production of knowledge and inquiry.

29.4.3. Case Study 3: Understanding Students' Uses of Digital Tools When Working on Placements

This case study also focuses on undergraduates medical students at the University of Bristol. In this example, students were in their third year, when they become fully immersed in clinical practice. Medical students have to learn to operate across multiple learning environments involving informal, formal and hidden curricular (Monrouxe, Rees, & Hu, 2011) and learning will vary according to local specialisms and different clinical and workplace contexts (Wenger, 1998). As mentioned before, the medical programme at Bristol has adopted a Clinical Academies model, which means that teaching takes place in geographically dispersed academies, attached to hospitals across the South West of England, making differences and variations in educational experiences more likely. Work they carry out on clinical placements, the teaching that they experience and their own studying practices are all likely to involve multiple engagements with digital media but we argue that these practices and how students manage them and how digital media may help or constrain learning and studying are poorly understood and often part of the hidden curriculum because they take place in different space and time configurations. This study aimed to understand how, when and why medical students used ICT to support their studies both formally and informally across different settings during clinical placements. Following on from our experiences in the two previous case studies discussed above, we planned to build a community of inquiry (Brew, 2006), where we would work in partnership with a group of students and involve them, as far as possible in all aspects of the research design, planning, collection and analysis and writing up results and subsequent papers. The student co-researchers would be able to explore

their experiences firsthand, investigating their use of ICT in everyday situations, choices and decisions.

Students were invited to participate through an email introducing the study. Six students from three academies, following different specialisms, took part. Data collected was longitudinal and in-depth, collected over six months and represented experience of all four teaching units in the year three programme. Ethics procedures were conducted following University of Bristol guidelines. Consent forms were distributed and signed and an initial research plan was discussed, adapted and agreed at our first meeting. In a second meeting, we discussed qualitative research methods, research design and general principles of action research in order to help the students become more familiar with educational research methods which were very different to the research methods they had experienced previously as medical students. We agreed that keeping video diaries would enable students to record what they were doing and how they were using digital tools in their work and studies over time.

In order to make diary keeping easy to manage and to capture richer data, we obtained low-cost, handheld video cameras and each student maintained a video diary from February to July 2010, recording entries approximately weekly. To show our appreciation of the extracurricular efforts made, we agreed that students could keep these 'flip' cameras for personal use. Students recorded over 100 entries, totalling over 500 minutes. Diaries included observations, demonstrations (of resources), contextual information and reflections on data. They described and demonstrated (on camera) how they used digital tools and resources including problems and resolutions. The longitudinal, video-based design enabled comparisons across time and contexts and it also facilitated collaborative analysis (Büscher, 2005). Video data was reviewed by the whole group but independently transcribed to obtain verbatim transcripts that were then checked for accuracy. The analysis was jointly conducted by the whole group, staff and students working together through regular group analysis sessions, following a five-step thematic framework (Ritchie & Spencer, 1994, 2004). Summaries of key findings were then prepared by the students and again discussed collaboratively. Following this, students and staff have worked together on two conference presentations, posters and a journal article that is currently under submission to disseminate the findings from the study and our approach. As we met on a fairly regular basis, usually during evenings as this was easiest for the students involved, we gradually became more familiar with each other, with our ways of working and individual strengths and weaknesses. Students contributed more and more ideas and took ownership of the project and its outcomes.

The co-inquiry group has worked together for three years and now that the students have graduated, we have plans for further work with them as they move into becoming doctors and then doctors that teach. The original group of six students was joined by two others in the second year of this work and while there were benefits to this, it also resulted in some challenges in terms of group dynamics and inclusivity. This is discussed more fully in the section on challenges below. Nevertheless the longevity of involvement and continuing commitment of the individuals, now

graduates, to this project has been outstanding and has made this a very rewarding experience for all concerned. It has also resulted in research with detailed insights into how students engage with digital media across multiple boundaries and settings, the challenges this involves and the ways in which students adapt to such challenges.

29.5. Summary of the Three Case Studies: Authenticity and Agency

Authenticity is revealed in different ways in these case studies. Case studies 1 and 3 show how students researched their own practices with opportunities to shape research about the use of digital media in higher education. In case study 2, the focus was on working with professionals and disciplinary experts to produce new knowledge that has equal status with other teaching resources. Students engage in research as part of the ongoing process of knowledge production that their projects involve. Despite contrasting aims, in all three studies, students were engaged in researching their own practices, harnessing research skills and expertise and producing new knowledge as part of an epistemic community. These case studies illustrate how co-inquiry projects embody *relational agency* which necessitates that you work with others to interpret problems of practice and take appropriate action (Edwards, 2005).

29.6. The Challenges of Adopting More Inclusive Approaches to Research

While many positive aspects of the studies outlined above have been highlighted, there have been challenges in adopting more inclusive or student-led approaches to research and knowledge creation initiatives.

This handbook is about engagement so it is important to note that not all students were fully engaged and the reasons for engagement were diverse. In the case of the student e-learning development initiative, not all students fully engaged with the support offered throughout their project periods, some of these are self-starters and go on to develop outstanding educational materials. Others appear to see the project simply as a means to an end and it is evident from their learning resources and reflective accounts that closer relationships with the TEL staff would have been beneficial. Equally, in the first case study with Information Systems students, the numbers involved in the study groups reduced over the course of the work from around 12 people starting off to eight continuing through to the end. With self-selected, extra-curricular activities such as these, there is, of course, no compulsion and therefore some level of attrition can be expected. Also, as discussed earlier, of those who took part throughout, some of their reported motivations were more extrinsic, driven by the rewards and credit that involvement offered, rather than the

pursuit of new knowledge and insights. In the student e-learning development projects, further support is often provided through encouraging students to evaluate their learning resource further and submit conference papers and journal papers which are more tangible outcomes. There has been some success with this, where students have won awards at major international medical education conferences. Therefore, it needs to be recognised that students will not all respond in the same way when engaging in projects or initiatives to those that were envisaged and a collaborative approach requires that we understand and address this, while still working towards broader aims.

In the third case study, the group was again self-selecting. In this case, we found that tension was generated through the inclusion of additional recruits rather than a lack of engagement. This occurred when two further students approached the academic staff involved and asked if they could join. Seeing this as a positive outcome and a mark of success, we readily agreed. In doing so, we made an assumption that newcomers would be welcomed by the existing group. However, as we had all worked together for over six months at this stage, existing student researchers were unhappy and did not want others to be involved at this later stage. They felt the group had become a strong and trusting community and did not want this disrupted. This was a key learning point for us because we realised that through these actions, we had unintentionally disempowered the existing group and resumed our 'leader' roles. We sought ways to negotiate this amongst the group and to ensure that existing members were able to take back some control and decision making. This has made us reflect on how challenging it is to work collaboratively with students on research projects when the balance of power is so often still in the hands of the initiators. Rebalancing power relations, or at least attempting to do so, requires continuous attention as part of the ongoing, dynamic realignment of relationships that a relational agency perspective embodies (Edwards, 2005).

There are also issues in giving credit to students for the work that they undertake in such partnerships. If the work is extra-curricular as in case studies 1 and 3, then how can student effort be acknowledged and rewarded? In these studies it was felt that we should provide some tangible rewards, offer help with travel and other expenses, provide refreshments and small thank you gifts. Some might argue that asking students to devote extra time without payment for their services is exploitative but without external funding this may not be feasible and may also conflict with university policies. Furthermore, university rules and assessment systems which are almost completely geared towards giving credit on an individual basis can conflict with the aims of collaborative projects and initiatives such as we have outlined. There have also been problems in our third case with authorship for students on papers and posters because the Medical Training Application Service (MTAS) application, a points-based system which new medical graduates apply to for their first post, will only award a point for the first author on a conference presentation or paper. For some involved in the research, this was a strong motivation for participating and so there were real difficulties in ensuring an equitable distribution of dissemination activities and outputs. Universities and professional bodies may therefore need to think more carefully about rewards

and incentives if they are serious about student engagement in research and other scholarly activities.

Finally, it should be noted that the activities included in these case studies have established partnerships and collaborations which have themselves generated further collaborations with others, which we have worked hard to foster and because of this, there has been no real end point to these activities. While ongoing partnerships are obviously welcome, it will be important to consider how such collaborations are sustained and nurtured over time and how they can become part of a wider, more systemic change in the research and practice activities in universities.

29.7. Conclusions

The three case studies have outlined different approaches to fostering student partnership and community involvement in research. Each of these was conducted over a different time period and variable lengths of time. They had different aims and the way that students were involved in these studies was distinct and tailored to particular groups and research interests. The approach outlined previously, builds on the work of others involved in the development of undergraduate research, inquiry-based and empowerment models (Brew, 2006; Healey & Jenkins, 2009; Neary & Winn, 2009). However, our emphasis is on students working in collaborative partnerships with each other and with staff with varying roles across the university and beyond where the focus is on researching their own digital media practices. Students reported on their desire to develop something unique, taking pride in their achievements bringing a sense of ownership and empowerment. This authenticity is, we believe, a powerful aspect of the work we have done. In constructing their own meanings through investigating their own practices and creating new knowledge, students have been able to become more fully engaged in the practices of an epistemic community (Larreamey-Joerns & Leinhardt, 2006; Shea & Bidjerano, 2009).

There are, however, particular challenges in the negotiation of roles and addressing power relations within co-inquiry models and we found that tensions can emerge where staff or students retain existing positions, sometimes unconsciously. Furthermore, it cannot be assumed that everyone necessarily shares the same goals and finding ways to address this more explicitly could ensure a more negotiated set of outcomes. As Edwards (2005) argues, relational agency requires the ongoing and dynamic realignment of roles. We also maintain that time to develop these new relationships is essential so that multiple roles and positions can be accommodated and adapted. We conclude that co-inquiry models are not quick fixes to student engagement but part of a longer term relational shift which takes time and mutual commitment to reflection on the process. Nevertheless, we argue that, with due attention to the issues raised, this approach to engagement can lead to the development of new relationships, knowledge and research expertise, where the roles of educator and educated are repositioned, and the opportunities for authenticity are increased.

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