Support Centre for Open Resources in Education

SCORE Fellowship Final Report
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Investigating the Use of Open Educational Resources among Early-Career University Lecturers

Gabriel's project ran from 2nd January 2011 until the 31st December 2011, the aim of the project was to explore in some depth the ways in which OERs could be used in traditional university settings for innovative teaching and learning in various fields and disciplines. It was conceived as a design-based research project that sought to work with early-career academics as they explored, planned, and potentially implemented open educational resources in their teaching practice.
http://www8.open.ac.uk/score/fellows/gabriel-reedy

Activities

Among the many pressures on new university teachers, many of whom have little or no previous teaching experience, is the now-widespread requirement of achieving a higher education teaching qualification during their initial probation period of employment. However, many programmes, while providing an initial exposure to teaching practice, often focus more on tools, tips, and teaching theory, rather than on innovative pedagogies and new technologies for the benefit of student learning. It is in this early developmental phase of an academic's career that their approaches to teaching are most fluid and open to change. This teaching fellowship explored in some depth the ways in which OERs could be used in traditional university settings for innovative teaching and learning in various fields and disciplines; it did so by engaging early-career lecturers in a participative enquiry project on the implementation of open educational resources in their practice. The project takes inspiration from a design-based research approach, one that has bases in educational technology and in the growing field of the learning sciences. Instead of conducting lab-based experiments about learning technologies, this approach holds that much

more valuable and relevant data can be found from designing an educational technology intervention and conducting naturalistic enquiry on its use in educational practice. Building on this idea, the fellowship recruited a small number of early-career university teachers from various fields and disciplines in traditional university settings that are part of a postgraduate teaching certification scheme (PGCHE or PGCAP). These participants engaged with the researcher to identify ways of integrating OERs into their teaching.

Using a combination of e-mail networking and personal networking with colleagues around the UK, early-career university teachers from various fields and disciplines in traditional university settings were recruited to participate in this project. In an effort to embed the project in a particularly useful context to early career academics, participants were part of a postgraduate teaching qualification scheme (PGCHE or PGCAP). Though they represent a relatively recent innovation, these HEA-governed programmes are a central pillar of attempts to improve teaching in the Higher Education sector. At most universities, early-career academics are now required to complete these programmes as part of their probationary contract. As the experience is now becoming ubiquitous for early-career academics, it is an ideal point at which to encourage innovative practices like the use of OERs.

Participants in this project included five early-career academics in various academic subjects, including mental health, nursing, education, classics, and computer science. Initial contact with potential participants was made by email, and followed up by a telephone screening interview to explain the project and determine whether the participant was interested in participating. Following this initial contact, semi-structured, topical interviews were conducted with participants about their experiences with OERs, the nature of their teaching responsibilities, what they hoped to achieve by participating in the project, and what they hoped OERs could add to their teaching. Subsequently, an email containing links to potentially applicable OER materials was sent to the participant, for them to peruse and explore in their own time. This list of resources included background material on OERs use in teaching, creative commons licensing, and links to both general and subject-specific repositories. Participants were encouraged to contact the researcher with any questions or assistance while exploring these links, and in most cases a series of additional telephone and e-mail conversations were conducted, focused on helping participants to explore the available resources and evaluate their potential for use in their own teaching. At the participants' convenience, further follow-up interviews were conducted, again using a semi-structured topical format. These interviews focused on what participants found in their search, how they went about evaluating its fitness for their own teaching, and how they found (or did not find) OERs that could be implemented in their own teaching practice. In most cases, although not all, it was these secondary interviews that were most enlightening about the nature of OER as a potential tool in traditional

university settings: most participants discussed the various difficulties they had with OERs, and the barriers that they saw in integrating OERs into their teaching. In some cases, participants explained that they had carried through their use of OERs into their teaching, which was explored in the interviews, while in others they found the barriers too high, or determined that they could not make effective use of OERs—a situation also explored in depth when possible. The later interviews and conversations sought to understand ways in which participation in the project, itself an educational intervention for participants, may impact their perceptions regarding the use of OERs, especially their suitability for traditional university teaching. The qualitative data, which consisted of interview transcripts, field notes, notes of telephone conversations, and email conversations, was analysed for emergent themes and analytical codes were refined over the course of the data collection and analysis. The final set of codes were representative of an inductive analytical process, and pointed to emergent themes across the corpus of data that related to the questions posed by this research. These themes, which generally fell under two broad categories, will be analysed in the next section, and discussed further in the final part of this paper.

Outputs

This project did not seek to create an OER as part of the outputs.

ALT-C 2011 Workshop (0194) Enhancing synergies between technologists, learning support specialists and academics utilizing Open Educational Resources. (With 4 other SCORE Fellows who also worked in arena of academic staff development, showcasing various OER approaches.)

Results from this work are being prepared for publication in a peer-reviewed academic journal with the assistance of my mentor, Chris Pegler.

Findings

Early-career academics in traditional settings need—and want—OERs

Across the participants, one theme that emerged very clearly was that there was a need for high-quality, innovative, interesting, and engaging learning resources. Regardless of the discipline or mode of teaching, participants discussed how they faced a shortage of materials for teaching and new ideas for how to teach particularly difficult subjects. Interestingly, though all the participants were appointed at "traditional" universities, they each were responsible for teaching in various modes, from seminars to lectures to clinical face-to-face teaching, as well as online teaching that consisted of local- and distance-learning students, self-directed online tasks, and blended activities supporting face-to-face teaching. One participant described the many different kinds of teaching she was responsible for and her optimism for

OERs in this way: “I hope that, whether it’s in terms of the e-learning, or something in terms of seminars or lectures, that we can use resources in a way that allows students to engage in the learning while they’re there, rather than just try to cram the information that we’re giving them.”

Participants discussed the need for resources that they use in their teaching to have a clear and traceable provenance, and OERs were appealing to them in sense that they promise resources from trusted academic sources that are usable without worrying about licensing issues. In many cases, participants had already used other OER or “nearly-OER” resources without having any association with the concept. Among the list of sources that were named included items from the BBC; the British Library; several universities in the UK including the Open University, Nottingham, Manchester, and Oxford; professional licensing bodies like the Nursing and Midwifery Council (NMC); and many other sources. Additionally, every participant mentioned searching for resources using search engines like Google, and using non-OER resources like YouTube videos in their teaching.

Across disciplines and fields, participants spoke of their willingness to use resources that came from reputable sources, and there was a recognition that such use could potentially save significant time while providing a valuable learning experience for students. As one participant explained:

> “…there is no need for me to recreate what is already out there, probably in a better format than I myself can do. So, you know, there’s… That’s a waste of time… I’m not a technophobe, but I’m certainly not somebody who’s very well versed in all the details of e-learning and how you do it and things like that. So, if I can find something that’s been done before and that suits my needs, that’s absolutely fine with me.”

But academics in several fields were clear that a reputable provenance was no guarantee of high quality content. As one participant explained,

> “What I have found looking at some of the content is… even those that have come from very good sites – because obviously there is always a danger when using something that’s out there as open source – that it’s not quite the quality that you want it to be. But even those coming from very reputable sources, I’ve found it’s very dangerous to assume that the quality of the information, or indeed the way that things are demonstrated, are the ways that we would want students to learn.”

In discussing the benefits of searching for OERs, one participant went on to explain that she enjoyed the "hunt" for other resources, and that it gave her ideas for what to incorporate into her teaching. Many participants echoed this notion, pointing out that they often went looking online for ideas:

> "I may have ideas about what I want to include in content, and sometimes you'll search for that and you may find something that suits very well. Other times, you're doing a general search and actually what is out there gives you ideas about what you can use. You may see something that's quite innovative or quite different and you think, actually, that could be quite useful for students in certain contexts. So that's really useful."

There was also a clear sense of pedagogical needs that arose among participants in this project. They discussed various ways in which the resources they were looking for needed to help them accomplish some very specific learning goals. These goals were often specific to disciplinary contexts, but in other ways they could be conceived of as transcending those contexts. The participant from classics, for instance, discussed the value of having high-quality images as reusable resources, but pointed out that these were especially useful when they could be placed in a context that helped students make sense of their social and cultural significance—something that the images on their own was less useful for. One academic in nursing, however, expressed an almost identical concern over OER images she found. The image, she noted, had to have a contextual significance in order for it to be useful in her teaching:

> One thing I did find was some very good pictures in terms of wounds, which I thought would be very useful for my wound healing lecture next year, but again, what was interesting… [navigates to resource] Now, I wouldn't use that because, first of all, I'm not absolutely convinced that it's a real arm… there's nothing to contextualise what you're seeing. There's no information there to go with it, and also it may be that they're demonstrating this for an immune-neutropenic or a very immunocompromised patient, but there's no reason you would have full gown and gloves on for removing, for taking blood… And it may be that, actually, in some situations it may be perfectly appropriate, but given the fact that there's no information there to contextualise what they're seeing, that would be particularly difficult.

In practice-based fields (computer science, education, nursing, and mental health) academics discussed various perspectives on the theory-practice gap: their pedagogical aims often centred around bridging that gap in some way, and of helping students make sense of theory as it pertains to their practice. As one participant explained,

> "It would be quite nice if we had something… which would help speed up that process. Kind of, think about evidence-based mental health, think about treatments, think about patients and how that might apply to real people. I think it's… because it's very theoretical, and you're looking at the evidence of what treatment works, we need to link it in a bit more with practice, so it's not all theory."

Another participant, from computer science, explained that his goal was to use OERs as a way of embedding the world of practice into the classroom experience. "The idea," he explained, "is that when they go into industry, they have to write code and work with existing code. If they have some experience with playing with existing code, then that will be really helpful."

Many participants took the pedagogical aims further in discussing the kinds of resources that might be useful, and retreated to the epistemological bases of their fields in discussing what they needed from OERs. One participant explained that there are quite different ways to explore particular topics within her field, but that often those perspectives are incompatible with each other. Resources produced from one perspective, therefore, are less useful to her practice:

> "You might be looking at a site about children with additional needs, but it's got a very medical model way of looking at disabilities, whereas our philosophy is far more inclusionary, kind of a social model of disability. So there are those kinds of philosophical things around the resource that, you know…"

Participants also discussed how, ideally, online learning could support classroom discussion in a blended mode, setting students up for the more limited time in the classroom and potentially scaffolding new concepts or ideas. Studying images of classical artefacts, for example, was a way that one participant encouraged her students to prepare for the seminar portion of their course—where discussions would focus on how to make the connections between the artefact and the historical and cultural relevance.

In explaining their needs for high-quality resources, however, academics across all fields discussed how the specific needs of their student population, their particular programme or module, and their ways and means of teaching. In a sense, the theme centred on a recurring theme among academics: the peculiarity of their contexts. Each participant explained, in their own ways, how their teaching was unique and different to what their colleagues did—both within and outside their institutions. As such, what they needed more than anything else were resources that were suitable for their peculiar teaching requirements. In the words of one participant:

> "I remember finding what potentially was a very good source on the use of PCA, patient controlled analgesia, which when I read the description sounded fantastic. It looked at all the different aspects of care that you may need to consider for these patients, but when I actually accessed the resource itself, I found it too busy. There was too much going on, and as a nurse very experienced with the use of patient controlled analgesia, I found it difficult to follow what was happening. And whatever I put out there for students has to be easily accessible… Some of our students, especially, without wishing to stereotype, but some of our older students may not be as experienced with IT as some of the others and they may struggle to access some of these resources. So it needs to be almost point and click, really, for a lot of them."

Significant barriers to OER use exist in traditional academic settings

The other significant theme that arose, perhaps not surprisingly, within the data were the number of barriers that participants faced in attempting to find, evaluate, and use OERs. In the main, participants in this study found that they were not able to successfully complete the cycle of implementation or reuse of OERs in their own teaching practice. The barriers were diverse in the sense that they did not all emerge in the same ways for each participant; however similar barriers frequently emerged across multiple participants' experiences with OERs.

The most significant barrier to OER use for participants in this study remained technological ones. Though participants frequently played down their own technological expertise, in the main, they proved to be quite capable with technology. However, even the most technologically savvy participant (a computer sciences lecturer) experienced problems accessing, downloading, and working out how to use resources from well-known repositories that were clearly packaged for academics. During one session, for instance, a package downloaded from the Jorum site that purported to be examples of Java code ended up to be a Flash video, which could not be opened by software on the participant's computer. Another package, which was supposed to be example code, generated an error message when it was opened in an appropriate programming package.

Incompatibility of technologies—even supposed web-standard technologies—was a problem for many participants in this project. Two academics enlisted the help of learning technologists, whom they happened to have access to, in an attempt to work out how to access and utilise an OER package that they found interesting based on our initial searches. However, even these more technical colleagues were not able to make the package usable. As one articulates the problem:

> "Now one of the issues for us, on some of the sites, was iTunes. Some of the things only played in iTunes, and talking to [our learning technologist]… I can't open iTunes at all on my computer, which was annoying because there was actually some really good… little snippets of lectures and all sorts that would have been good… that we probably would want to use at some point, if I could open them."

In one case, a participant reported a well-known repository being unavailable over the Christmas holiday period, which was when she had "downtime" to do some curriculum design and planning.

> "Which of course actually, is an issue! At that time of year they were under development, so there were bits you couldn't actually get in and see anything… that's the time of our downtime, which of course is their downtime when they build the site, but it is a time when people like myself are reviewing what will be useful and picking up [resources]…"

In describing her own difficulties attempting to use various OERs that she had located, one participant explained the difficulty she had in downloading and trying to unzip a package from a well-known repository and put it into her VLE environment for further testing. During one of our sessions, we walked through it together, and indeed, the package seemed not to be usable without further specialist knowledge:

> "…In terms of a couple of practical things, there were some resources that I tried to download from Jorum, that when I downloaded them came as a zipped file, but then wouldn't open properly… Let me show you what I got…

Later, after consulting with her learning technologist, one of the resources was finally able to be loaded onto the VLE, but when accessed it did not display properly:

> "So, I mean, in terms of usability, it needs to be not just usable for the students, but it needs to be usable for me, because if I get completely lost in the technology then I'm not going to use it. [Our learning technologist] eventually managed to get this to go with the Blackboard, but couldn't download it on to other local machines. So let me just open up e-learning. [Pause]
> So we got this, which in terms of… that is great and we looked at the scenarios which may be suitable, but none of the pictures came up, none of the actual interactive bits. As I say, there were two of these that I attempted to download, one around learning disabilities, and I couldn't get that to sit at all. So I think one of the challenges is that maybe some of the technology that is used to produce some of these educational resources isn't as compatible with the technology we have available in the University, which presents particular problems."

Another participant explained that her frustration with the technology, while not a new or unique problem, needed to be addressed in order for OERs to move into the mainstream among academics.

> "I would imagine that most lecturers or teachers who are going to use open education resources are going to be pretty similar to me. They're going to be probably quite enthusiastic about the idea, but actually in terms of their tech know-how, very limited. So we either need to get a degree in IT, or we need people available who can deal with these kinds of problems for us. And I know we are very lucky, we have our learning technologists, but they're also very, very busy with many other things."

Further frustration occurred when participants tried to access and utilise resources that, although seemingly appropriate based on the associated description and metadata, proved to be less useful than they expected. Searching for and evaluating resources is a time-consuming task, and it was made more difficult for participants in this project who had to go to great lengths to determine whether an OER was potentially suitable for their use. This was a common complaint, and it was especially frustrating among packaged OERs that had no "preview" ability or clear list of included items. One participant's experience, and response, was echoed across the project:

> "So in this case, it doesn't seem like it has given you either the details or the information that you need in order to make sense of how to use it."

As participants moved on from an initial evaluation of a resource into a more substantive one, they frequently found other, more serious pedagogical concerns about the material. In some cases, this was philosophical or epistemological—a concern that was highlighted in advance for some participants, based on their previous experiences using other online resources. However, in other cases, these concerns were less ethereal: resources had no clear learning goals or outcomes, for instance; they were too busy or difficult for students to understand; they needed the material re-ordered or revised in order to be explanatory for students; or they were not current or accurate in terms of being representative of good practice. One participant explained that she felt the bar, in terms of pedagogical fitness, was higher for an online resource than it was for something you might use in the classroom. In the classroom, she noted, you could explain away elements and guide students' focus to particular aspects of the resource. But in an online setting, there is much less control of the student experience:

> "But what I found quite interesting was, I would never put, just stick that up there. I would always want to have something in my material that explained it more. And some of them really didn't, and I was quite surprised, actually, that some university sites didn't have that explanation…That matters. That matters very, very much, and so that's… because I mean some video out there is a

> student project. It's not, you know, I've got nothing against student projects, but it's not necessarily somebody highlighting it in the way you'd want it to come across to students."

The frustrations that arose for participants in the project invariably meant that they spent much more time trying to find, assess, evaluate, and test OERs than they anticipated. As such, time associated with the reuse of OERs was a major barrier outlined by participants in this project. Participants reported that they felt the time spent on the project to be useful in terms of their learning, but as one person pointed out, the amount of time necessary for an ordinary academic to come to terms with OER use and to implement them in their practice had to be seriously considered. As she put it, "there's a kind of a cost-benefit analysis stuff around this, I think, isn't there?

> …I am sure every single person ever says this; it's time consuming, isn't it? I mean, probably if I totted up the number of hours, looking [for resources on one subject], sort of, at least a day's work probably. I mean, it's useful… but it's hugely time consuming, but everyone says that, I'm sure."

The participants in this project who had access to learning technologists found that they needed them, and made frequent contact with their colleagues for help during the project. Others, who did not have access to learning technologists, attempted to get along without them but noted that it was difficult to do so.

Further barriers noted by participants in this project were rather more to do with the nature of their own work as academics in a UK higher education system that is currently experiencing an unprecedented amount of change. As academics and institutions move towards the government's stated goal of a more marketised system, the potential gains and downsides of participation in OER can change. Indeed, though not part of this data corpus, one potential participant in this project was so disturbed at the thought of being asked to share any repurposed material back to the OER community that she withdrew from the project, citing her fear that the university management would not look kindly on her giving her work away for free.

One academic discussed the tensions inherent in bringing a market to what has traditionally been a relatively collaborative higher education sector. In particular, she discussed the need for her course offering to be unique and differentiated—and she pointed out that using material produced in other institutions would be problematic in terms of students' perceptions of the course's value for money. She also highlighted the tension in terms of using a "competitor's" material in your own "product", which is problematic in a market economy:

> "As we move to, let's face it, it's a very marketised model of university education, it seems. I think the idea that we collaborate and share knowledge between universities, etc… I mean, I'd like to think that kind of thing will carry on, but… the concern I have is that in this kind of marketised model, to make use of materials like that and embed them within our own programme… you know, in effect they are our competitors…That is the world that we are moving towards."

Reflection

My expectation in starting this project was that the disciplinary biases and "traditional" teaching approaches of most university academics would be the primary barriers to participation in the project and to the use of OERs. I was not expecting that this would not appear once in the data—not a single participant made any reference to the notion that a "proper academic in my field" would avoid the use of OERs. However, as an early-career researcher myself, I was surprised at how difficult it was to recruit participants for this project. I expected that the offer of assistance and guidance in finding, evaluating, and implementing teaching resources would be welcomed by early-career academics. I was wrong—apparently the time crunch that many academics feel means that they are barely keeping their heads above water on an on going basis, and have no time to participate in a project like this, even if it may have immediate and lasting benefits for their teaching.

I believe that the project has pointed to a number of potential directions for future work, one of which I highlight in my conclusion section below.

Dissemination

This project did not seek to create an OER as part of the outputs.

ALT-C 2011 Workshop (0194) Enhancing synergies between technologists, learning support specialists and academics utilizing Open Educational Resources. (With 4 other SCORE Fellows who also worked in arena of academic staff development, showcasing various OER approaches.)

Results from this work are being prepared for publication in a peer-reviewed academic journal with the assistance of my mentor, Chris Pegler.

The project is also being submitted as a paper for ALT-C 2012.

Conclusions

Several related themes emerged from the data gathered during the course of this project, and these themes appeared across participants, regardless of discipline and teaching role. These themes are outlined in turn here, but they cannot and should not be considered as wholly discrete: they are, of course, intricately intertwined in the experiences of each participating academic.

When interpreting these results, it is important to remember that the participants in this project are not what could be described as reticent to use OERs—indeed, they volunteered to participate in this extensive project focused on OERs. As relatively early-career academics, they are interested in innovation in their teaching and in providing an optimal learning environment within their respective disciplines and fields. The barriers faced by these colleagues are not driven by lack of desire to use OERs, or indeed, as part of this project, they are not barriers to do with having support or guidance in approaching OER use in their own practice. They are legitimate concerns and documented barriers from academics who would like to use to OERs as a way of innovating in their practice. If these highly motivated participants have difficulties bringing OERs into their practice, there is the potential that such difficulties might be magnified in more mainstream academics.

Although it was not a theme that echoed across all participants, there was some success in terms of implementing OERs in teaching—two participants in particular, both of whom had access to dedicated learning technologists in their departments, found resources that they went on to use in their own teaching, and attributed that use to this project.

Among those who were able to overcome the barriers and find material that they decided would be useful in their teaching was a nursing academic. She described finding an OER that had a powerful impact on her work, leaving her reflective about her own practice as a nurse, as well as reflective about her teaching.

> "I mean, this is a poem about, I think it's a little girl, who goes to see her very tiny little baby brother in neonatal intensive care, and you're reading through and absolutely dreading the moment that it says, you know, baby brother didn't come home, or something like that… Being a nurse or a doctor, I suppose you're always waiting for the worst to happen. But actually the ending is really lovely, and it really made me think about that experience and what I got out of that and how I thought about it. So actually something like this [resource], maybe rather than just the interactivity in terms of the technology, but actually putting information or resources up there

> that students can really engage with at a deeper level, rather than just learning how to do hand hygiene…just really having an emotional connection.
>
> And being critically aware of your feelings and thoughts about that helps you then to interact more successfully with your patients, your peers, your colleagues. And using something like this, where actually you look at reflection in terms of looking at the self, may be more useful. I really liked that bit of this activity. And I liked the activity as a whole, but I it needs some reordering."

In that sense, the project has been able to report not just barriers to OER use in traditional academic settings, but also the reality that in some circumstances OERs can be beneficial in what is a highly dynamic environment, where even face-to-face teaching now is accompanied significant elements of online study. It is this success that is most interesting in terms of future work: the fact that traditional universities are continuing to migrate to VLEs and to expand their blended- and distance-learning options means that the potential for OERs to be useful to so-called "traditional" academics will continue to grow. To the extent that these resources can be made useful and viable for academics, they will be reused and the cycle will continue; however, to the extent that the barriers remain high enough to keep colleagues from using OERs, the problem of OER re-use will continue.

Summary

The open educational resources (OER) movement has gone from a small, grass-roots effort to a global mission supported by powerful educational, non-profit, and non-governmental organisations around the world (Wiley & Gurrell, 2009). As the number of available resources continues to increase, problems of developing high quality resources have been surpassed by others: how can the use of OERs be encouraged, and barriers to their use be slowly broken down, so that a truly sustainable cycle of use and production can be obtained (D'Antoni, 2007). These problems are especially acute in traditional university environments, where innovative teaching practices and technology-enhanced learning are less common, and where OERs are very rarely a part of curricula in various disciplines and fields.

This teaching fellowship set out to explore in some depth the ways in which OERs could be used in traditional university settings for innovative teaching and learning in various fields and disciplines. It was conceived as a design-based research project that sought to work with early-career academics as they explored, planned, and potentially implemented open educational resources in their teaching practice.

Early-career university teachers from various fields and disciplines in traditional university settings were recruited to participate in this project. Participants in this project included academics in various academic subjects, including mental health, nursing, education, classics, and computer science. Semi-structured, topical interviews were conducted with participants about their experiences with OERs, the nature of their teaching responsibilities, what they hoped to achieve by participating in the project, and what they hoped OERs could add to their teaching. Further interviews focused on what participants found in their searches, how they went about evaluating resources' fitness for their own teaching, and how they found (or did not find) OERs that could be implemented in their own teaching practice. Data from the project show that early-career academics in traditional settings need—and want—OERs.

Across the participants, one theme that emerged very clearly was that there was a need for high-quality, innovative, interesting, and engaging learning resources. Regardless of the discipline or mode of teaching, participants discussed how they faced a shortage of materials for teaching and new ideas for how to teach particularly difficult subjects, a problem that OERs might address. However, there were a number of barriers that participants faced in attempting to find, evaluate, and use OERs. In the main, participants in this study found that they were not able to successfully complete the cycle of implementation or reuse of OERs in their own teaching practice. The barriers were diverse in the sense that they did not all emerge in the same ways for each participant; however similar barriers frequently emerged across multiple participants' experiences with OERs. The most significant barrier to OER use for participants in this study remained technological ones. If these highly motivated participants have difficulties bringing OERs into their practice, there is the potential that such difficulties might be magnified in more mainstream academics.