

Abstract

This paper is a response to Cotton, Miller and Kneale's 2017 paper on the current state of higher education research within UK universities. It seeks to contribute to the debate surrounding inclusion of pedagogic research (PedR) via SoTL in the UK's Research Excellence Framework (REF) in the context of researchers who reside within a disciplinary context. The inclusion of PedR in the REF continues to be contentious, despite recommendations in the Stern Report which could make its inclusion more feasible. This paper focuses on PedR which is conducted, published and disseminated by academics situated within Life Science departments, rather than Schools of Education. The twenty-one teaching-focused academics in this study discussed their commitment to PedR integral to their academic identity, the challenges they faced in carrying out PedR, and their thoughts on REF 2014. Their opinions and conclusions give food for thought on decisions regarding inclusion of PedR in REF 2021.

Keywords: teaching, pedagogic research, higher education, scholarship of teaching and learning, research excellence framework

Background to this paper

Cotton, Miller and Kneale published a paper in 2017, titled “The Cinderella of academia: Is higher education pedagogic research undervalued in UK research assessment?”. Based on their 2016 HEA Report, the paper is a critique of research into higher education pedagogic research (HE PedR) and how it fared in REF 2014. Both the paper and the report discuss the problems that HE PedR encounters, in terms of status and value placed upon it, and the barriers to its inclusion in REF. Cotton et al’s work focuses on academic staff working within Schools of Education and Academic Development Centres where HE PedR is the disciplinary research area. This paper further contributes to the discussion by exploring the experiences of academics working in Life Science university departments who carry out PedR under the guise of the Scholarship of Teaching and Learning, rather than those who carry out HE PedR in a school of education or centre for academic practice (Larsson, Mårtensson, Price, & Roxå, 2017). I carried out this research for my PhD thesis, but should declare that, at that time, I was employed as a teaching-focused academic in life sciences, which is how the study was conceived.

The Scholarship of Teaching and Learning and its relationship with Pedagogic Research

The Scholarship of Teaching and Learning (SoTL) has been a presence in Higher Education since before the term ‘Scholarship of Teaching’ was coined by Ernest Boyer in 1990. Originally conceived as an appreciation of how to teach in a scholarly and informed manner, SoTL is now recognised as an international movement of enquiry into teaching and learning. The definition of SoTL is contested (Boshier, 2009; Boshier & Yan Huang, 2008), and many of the criticisms aimed at its lack of clarity are well-founded. However, definitions of SoTL include the need for pedagogic research (PedR) in one’s practice, with the resultant benefits to student learning (Trigwell, Martin, Benjamin, & Prosser, 2000). This has come to the fore in UK academia as a contractual requirement of an increasing number of teaching-focused academics; that is, those academics who are employed as teaching fellows, with a requirement to ‘engage in scholarship’, or those academics on a teaching and research contract who choose to carry out pedagogic, rather than disciplinary research. SoTL, as PedR, has become an integral part of the teaching-focused academic’s repertoire, aided by the introduction of the postgraduate qualification in higher education which is required by most higher education institutions in the UK as part of academic probation (Smith, 2011), although post-PGCert support for SoTL remains inconsistent (Tierney, 2016).

SoTL within disciplines has a distinct disciplinary flavour. This may be explained by Shulman’s work on signature pedagogies (Chick, Haynie, & Gurung, 2012; 2005), and by work on academic tribes by Becher and Trowler (2001). Pedagogic researchers who reside within their disciplines inevitably draw from their own experiences when carrying out their research (Scott & Tierney, 2018). Similarly, teaching students in a discipline has elements which are unique to that discipline. Pedagogic Research may benefit from being done by Life Scientists when dealing with large data sets and statistical analysis. It may be more challenging for Life Science teaching-focused academics to embrace qualitative paradigms, methodologies and data analysis (Tierney, 2017; Webb, 2016). However, Life Scientists have insight into their students’ needs and have disciplinary expertise, both of which puts them in

an ideal position to carry out pedagogic research, despite what might be thought of as challenges. The nature and extent of the challenge faced by scientists and engineers engaging with SoTL is explored by Kelly, Nesbit & Oliver (2012), who go beyond the operational challenges of methodology. They identify the length of time it takes to master the complexity of SoTL, and the emotional cost of accommodating different ways of working which goes beyond the nuts and bolts of using an unfamiliar methodology. However, they are at pains to point out that it is not impossible and support can help with empowering teaching-focused academics to embrace SoTL beyond the confines of the PGCert (MacKenzie et al., 2010).

While SoTL as PedR is required from a growing number of teaching-focused academics, it is still seen as a Cinderella pursuit, even for academics for whom it is their disciplinary area (Cotton, Miller, & Kneale, 2017). There is little funding for HE PedR, less so for teaching-focused academics within disparate disciplines, and in many cases no time in one's workload to pursue it to any great extent. Studies tend to be local, and done on one's own students, which is at odds with the guidance of REF 2014. PedR is done in our own time and done on a shoestring budget. SoTL PedR is often described as a 'hobby' or 'cottage industry', and with good reason, as the research infrastructure which surrounds disciplinary research in Life Sciences is not replicated for PedR. Despite this, there is still a great deal of SoTL activity within the Life Science community. The purpose of carrying out, and dissemination of pedagogic research by practitioners involved in teaching in higher education is for the improvement of practice, which leads to improvement of student learning (Larsson et al., 2017). However, in the context of REF, SoTL PedR is the poor relation to the HE PedR described by Cotton et al (2017).

Education research in the REF

Cotton et al's (2017) paper is a response to mixed results in the 2014 Research Excellence Framework (REF) for Unit of Assessment (UoA) 25: Education. REF is a periodic review of the quality of research in UK higher education institutions (Higher Education Funding Council for England, n.d.), conducted by the four UK higher education funding bodies. The results of REF informs allocation of research funding for the coming cycle of 5-7 years. In REF 2014, there were thirty-six separate Units of Assessment (UoA), based on disciplinary areas. Education was UoA25. For REF 2014, each academic included in a REF submission was obliged to have four separate peer reviewed papers in one UoA. In addition, for the first time, institutions were also required to submit 'impact case studies' to demonstrate the impact and value of the research.

While REF 2014 included submissions from 154 institutions, only 76 submitted to UoA25 (Kneale, Cotton, & Miller, 2016). While there was a higher than average 4* paper rating in UoA25, there was also a higher than average 1* and 2* paper rating, which is concerning, as low grade papers do not attract funding from REF. Within the 76 submissions, only 9% of papers and 8% of impact case studies submitted related to higher education. Similarly, of 106 named research groups, only five had 'higher education' in their title. While this is disappointing in terms of UoA25 as a whole, and the contribution of studies into higher education teaching and learning in particular, it may also offer an opportunity for the next iteration of the REF, in terms of originality of research topics and related impact. Cotton et al (2017) concluded that the lack of higher education pedagogic research in the REF was

because it was undervalued by those making decisions about its inclusion. Three possible explanations for undervaluation were unearthed: failing to meet the quality threshold for REF; lack of understanding by UoA co-ordinators and political issues surrounding higher education pedagogic research paper submission to REF. This appears to agree with previous work (Cotton & Kneale, 2014; Macfarlane, 2011; Yorke, 2000) despite Tight's (2012) work suggesting the improvement in quality of higher education pedagogic research over time.

Some of the concerns raised by Cotton et al's (2017) paper are addressed in The Stern Report (2016) which seeks to simplify the process of preparation and submission to REF in 2021. Of the seven main recommendations of the report, Recommendations 1 and 7 (pp.19, 23 & 36) offer the most likelihood of facilitating higher education pedagogic research into REF 2021. Stern recommendation 1 states that 'All research active staff should be returned in the REF.' This is open to interpretation, and the question must be asked if a teaching and scholarship academic who publishes in SoTL journals is research active or inactive. Stern also recommends that impact case studies should include 'impacts on teaching'. Broadly interpreted, this is more inclusive of higher education studies than the current requirement that 'Impacts on students, teaching or other activities within the submitting HEI are excluded' (HEFCE, 2011).

The interviewees in Cotton et al's (2017) paper comprised individuals involved with the 2014 REF UoA25. All of the participants in the study came from an education or educational development background, with the exception of one who was a Dean of Research and Innovation, responsible for the institutional REF submission (Cotton, 2017, personal communication). This paper adds another dimension to the debate surrounding the inclusion of pedagogic research into the REF; that is the inclusion of pedagogic research from teaching-focused academics within disciplinary departments. Whereas schools of education or academic development units would be expected to produce high quality pedagogic research suitable for inclusion in REF, teaching-focused academics working within disciplines would not normally be expected to produce 4* pedagogic research papers for inclusion in REF. However, they may publish in peer-reviewed journals, specifically those which deal with discipline-based pedagogic research. Much of this research is based on sharing of practice, which itself is subject to criticism (Macfarlane, 2011). Nonetheless, it does appear in peer-reviewed journals and does have impact on the students included in the studies, and pedagogic research and dissemination is buoyant in UK universities.

Teaching-focused practitioners in Life Sciences departments

This study focuses on twenty-one discipline-based teaching-focused academics in UK Life Sciences departments and their experience with SoTL and pedagogic research. The academics were all in full-time, permanent posts, in universities designated Ancient (8), Red Brick (8), Plate Glass (2) and Post 1992 (3). Fourteen of the group were on teaching and scholarship (TS) contracts, with seven on research and teaching (RT) contracts. The group was composed of fifteen women, eleven on TS contracts, with four on RT contracts, and six men (3TS; 3RT). Interviews were carried out in the summer immediately before REF 2014 submission deadline. None of the academics interviewed were considered for submission either in UoA25, or within their discipline, although several of them had been involved in previous iterations of REF via their disciplinary research. Interviews took place face to face,

via Skype or phone. All interviews were recorded and transcribed. Transcripts were returned to the interviewees for checking prior to thematic analysis. Engeström's (2000) Activity Theory was used to investigate the themed data. Activity Theory is a useful framework in this study because it allowed me to look at the tensions which exist in a complex organisational structure, in particular how Rules, and, to a lesser extent, Division of Labour, impacted on teaching-focused academics and their interactions with SoTL. Although not a large enough sample to generalise results, the findings contribute to the debate of the inclusion of pedagogic research in REF, and the position of discipline-based teaching-focused academics in that debate.

Thematic analysis of the data uncovered four main themes: Lack of organisation to make a REF submission to UoA25 and resulting exclusion; status of SoTL PedR; the pressures of REF on academics, and the purpose of SoTL and PedR. Each of these themes are explored in the following sections of the paper.

Organisation to make a REF submission to UoA25

In this section, we explore the lack of organisation at an individual and institutional level to make a submission of SoTL work to UoA25 by life science teaching academics. None of the academics interviewed were considered for inclusion in UoA25 in REF 2014, although several of the group had been included in a disciplinary UoA in previous incarnations of the REF. There was no consensus of opinion on the inclusion of SoTL PedR in REF 2014. Although several participants had considered it within their context and it had been suggested within institutions, none had progressed with the idea.

Lack of organisation

Lack of organisation is one of the reasons discussed for a lack of pedagogic researchers from disciplinary backgrounds making a submission to UoA25. This is seen as a failure, both of the pedagogic researchers themselves, and of their institutional management. While disciplinary departments have a clear focus of the UoA they will be submitted to, and the members of staff submitted to that UoA will be situated within a discrete department, organising PedR teaching-focused academics distributed over the entire institution is an order of magnitude more complex. Cotton et al (2017) identify the difficulties of inclusion of HE PedR from education departments. In a life sciences department, these difficulties are magnified, as is expressed in the excerpt below.

We, because we have never managed to build an institution-wide framework for those of us who are involved in SoTL, we don't have a multi-disciplinary organisation within the institution. We have not managed to get ourselves included in REF and that has been damaging to us. And that is a failure. It's a failure on my part, but I think more it's a failure on senior management, because there's a lot of people in this institution and most institutions across who do what I do, or something similar to what I do, and they're being sidelined in many respects. They're being thought of as lower level than they actually are. So, I've been talking about academic freedom, I've been talking about grants and publications and yet, you know, we are not regarded in the same way as laboratory researchers, because we have not organised ourselves as a community. - Research & Teaching TF academic, Red Brick university.

The academic identifies similar issues to those described by Cotton et al (2017) highlighting the difficulties of including SoTL PedR in REF. They identify that not being included in REF UoA is perceived as a failure of organisation, both at the level of the individual academics in self-organising and of institutional management in failing to support the co-ordination of a response. There is also the implication of failure of individuals *as* academics. This agrees with, and adds to the findings of Cotton et al (2017) who found that REF processes were opaque, decision-making unclear and pedagogic research outside Schools of Education undervalued (p.7). In addition, it appears that institutions are unable to co-ordinate UoA submissions which span the entire university as opposed to residing within a discrete department or departments. This puts teaching-focused academics outside schools of education at a distinct advantage compared to those within.

Exclusion

In the research-dominated culture of UK Life Sciences, those who feel excluded from the REF submission process align this with perceived failure, both in terms of their lack of disciplinary research, and not being included in UoA25. While these academics hold positions of responsibility within their departments, the over-riding research-focused culture works against them in terms of how they are perceived by colleagues so that instead of being celebrated for the contribution they make to teaching and learning within the department, their perceived lack of contribution to research is highlighted and their expertise criticised.

It's really, really demoralising. And then the other side of that discussion is that people say to me, well why are you not in REF then? For education? You know, you say you're so good in education, why are you not in REF for it? And I say I'm trying my hardest to do this properly but the sort of education at [institution] is a five star department where every single person is four star REF returnable, they ain't gonna put me in, so you're lost, you're trying but you're seen to be failing from both sides. - Teaching & scholarship TF academic, Red Brick university.

The excerpt above highlights the extent to which inclusion in REF influences departmental culture, resulting in a deficit model for those not included. It also exposes another layer of complexity in including PedR in REF, that, while a school of education or academic development unit may make a submission to UoA25, the perception of PedR produced by teaching-focused academics within a disciplinary context is not judged to be equivalent to disciplinary research.

Status of SoTL PedR

The second theme to be discussed is the status of SoTL PedR that is being produced by life science academics. Teaching-focused academics within life sciences departments are acutely aware that they are not full-time education researchers, such as those included in UoA25. The previous section on exclusion from REF underscores the lack of status that SoTL PedR has, which impacts teaching-focused academics in a variety of ways, as they perceive that they lack the expertise to compete with full time education researchers, and that, being teaching-focused, PedR is given the status of a hobby, or an extra-curricular activity.

I think because of that, if you are interested in the scholarship of teaching and learning, that you really want to spend your time doing that, I think some of my colleagues are almost having to do that as a hobby, in their spare time, and that's rather a shame, and that also engenders a feeling amongst other colleagues that maybe it's something that you do do as a hobby. And therefore it's not something that we do as a core part of our role and, you see what I mean? We get into a problem that way. So I think that's really how I feel about what we've talked about.

This excerpt highlights the additional hurdles that academics producing SoTL PedR face in terms of having their research and scholarship activities taken seriously within life science departments, where managers and decision-makers lack expertise to evaluate the value of the work. Cotton et al (2017) identify acknowledgment of the quality of HE PedR as an area of concern in schools of education, and this is replicated within life science departments.

Status also extends to academics themselves. Teaching-focused academics are aware that the exclusion of their work from REF impacts on them in terms of their status as academic.

And I think that if you are REF returnable, that gives you a certain status, I do think that, and you know, I want to contribute. I want to know that my outputs do actually contribute to that area, actually. I feel somewhat frustrated that there isn't a better, joined up approach. Having said that our school is taking a very different approach to REF this time, so they are, they will not be returning as many but making sure that what they do return is A1 type standard. So you know, and I feel it a little bit frustrating as well that the teaching research journals, they don't have great impact factors and it's, I can guess that it's difficult then to kind of stand up and say – hey, I've done this paper, you know we're only allowed to submit to papers which then go round other people, unless they're a certain, three star and above type of thing. I mean, again, I find that kind of frustrating. There's a lot of really good work that goes on below the radar. – Teaching and Scholarship TF academic, Red Brick university.

This academic touches on a number of important points; inclusion in REF which equates to increased status, exclusion of academics from the process, “impact” of education journals compared to life science journals, the subjectivity of identifying a three-star quality education paper for REF, and the SoTL PedR work which is hidden from view because it is not included in REF.

Pressures of REF on academics

The third theme to emerge from the analysis of the data is the pressure to be included in REF, and the consequences of inclusion. Despite the importance of REF, there are questions as to the need for SoTL PedR to be included in REF, because of teaching-focused academics' observations of their research-focused colleagues. Despite the advantages of being included in REF, in terms of status, the pressures that inclusion put on research-focused academics is something that teaching-focused academics do not envy.

I think if they'd asked or prepared us in advance there's no earthly reason why we couldn't have been included in either a separate subject area, in education, or even in the subject-specific... Having said that, it's so horribly competitive I'm quite glad I'm not required to, I don't... I think it's a terrible threat hanging over people's heads, whether they're in the REF or not... because they have to focus on doing the work that will get them in the REF, because that's how they're judged. So they just don't have the time [to devote to developing their teaching] and I think I feel very lucky that the

colleagues I work with who are very active researchers, a lot of them are still very good teachers, and still aim to do a good job in that as well, but I think that if the chips were down, they'd have to concentrate on their research, which is understandable, because their jobs depend on it. - Teaching & scholarship TF academic, Ancient university.

This excerpt raises a number of interesting points. A question has to be asked as to what preparation is required for disciplinary-based PedR to be included in institutional REF submissions. Cotton et al (2017) point to PedR being both undervalued and under-represented in UoA25 submissions. In addition, these teaching-focused academics are not producing papers and other outputs with the specific aim of being included in REF, resulting in a lack of strategy regarding reputation of journal, or impact and reach of their innovations. REF is also seen as one of the reasons for academics being diverted from teaching. It is an accepted norm that teaching takes second place to disciplinary research, and that in order to be able to produce enough high quality publications for REF, an academic's focus has to be on research.

I think he [research-focused colleague] was very directly told to not, that he had to get more grants, get more applications and to be less involved in the teaching. Whether or not that means he pulls out of his teaching or not I don't know, but it certainly limited his involvement in peripheral goings on. - Teaching & scholarship TF academic, Ancient university.

This distinction separates research-focused and teaching-focused academics, and, indeed, teaching-focused academics on a teaching and scholarship career path could be seen to be a product of the REF, emerging as a response to the need for research-focused academics to eschew teaching in favour of the demands of disciplinary research. For teaching-focused academics to now concentrate on PedR, rather than teaching and learning, would be a paradox, and undermine their role. Figure 1 demonstrates the competing priorities for research- and teaching-focused academics, showing how it is impossible for teaching-focused academics to devote the same time and energy to SoTL PedR as disciplinary academics devote to research.

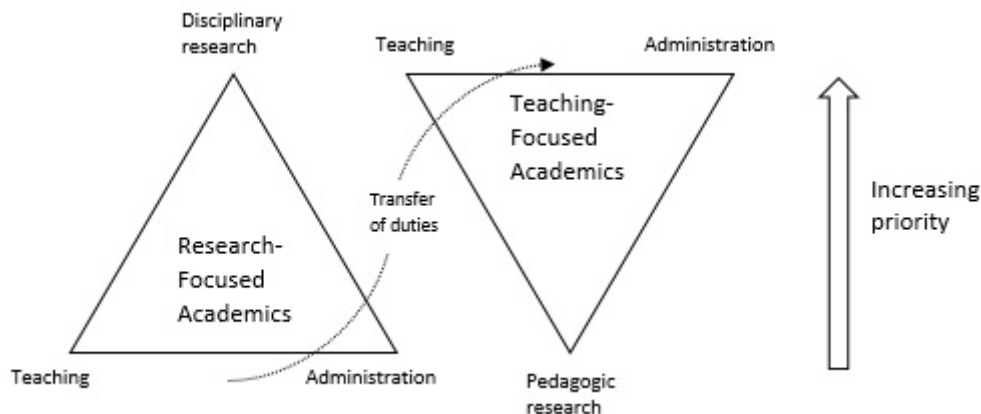


Figure 1. Competing priorities of research- and teaching focused academic roles

Some teaching-focused academics express their reservations that PedR would be taken seriously even if it was included in REF, underlining the influence of REF on departmental culture, and the vulnerable position of teaching-focused academics.

If people want learning and teaching research to be taken seriously, then it needs to be properly taken seriously by everybody. And they love to bang the drum about, you know, they've got all of these learning and teaching strategies about how they want to move forward with improving learning and teaching, and all these ways that they're going to do it, but until they give staff recognition for it, then perhaps it's not going to be given as much of a priority, both with funding, with staff time, with everything. So I think it should be REF returnable but I'm aware that it's not REF returnable. – Teaching & Scholarship TF academic, Ancient university.

The paradox remains, therefore, that REF is so ingrained within departmental culture that it is inextricably linked with value and status, and that in order to be taken seriously, teaching-focused academics' PedR needs to be included in REF. However, in order to be included in REF, teaching-focused academics have to shift their focus from the teaching and learning, to research of teaching and learning. The question remains, therefore, if they become PedR research-focused academics, who does the teaching? Following the US model, there is a real possibility that universities move ever toward casualization of teaching, with adjuncts (Hall, 2015), teaching assistants (C Park & Ramos, 2002; Chris Park, 2004a, 2004b) and zero-hours contracts (Grove, 2014) becoming the norm.

There are huge pressures for institutions to maximise their returns on REF, and many strategies are employed in order to do this; separation of teaching and research-focused academics, discrimination in who is put forward, and who is not, or moving individuals to academic-related contracts. Hardest hit in these circumstances are the post-1992 universities, who traditionally have concentrated on teaching, learning and the student experience as their strengths. Pressure to become more research-intensive results in an institutional identity crisis, which then impacts on individual academics, as post-1992 institutions invest more time and energy on disciplinary research, in order to compete with research-intensive institutions.

I think what has changed is that our university was a good new university, it was a good polytechnic before that and I think maybe because higher education has effectively been privatised, there is a push to become a more research-focused university. And it's a mistake, I don't think it's actually going to help. You know, even if you just want to be hard headed in terms of income, research income tends to come in and then come straight back out because it's already earmarked for certain projects, and the majority of our income comes from undergraduate student fees, and it just seems a bit daft to me to sideline that in favour of something that's not going to help the university financially. – Teaching & Scholarship TF academic, Post-1992 university.

While post-1992 institutions may want to prioritise REF, the danger is that this is done at the expense of teaching and learning, which may be a huge price to pay. In the case of post-1992 institutions in particular, this may be perceived as a gamble, as institutions move away from their traditional strengths into unknown territory.

Purpose of SoTL pedagogic research

The final theme identified in the analysis was the purpose of SoTL PedR. This is pertinent because of issues raised over quality of HE PedR in general, and the issues pertaining to REF raised by Cotton et al (2017). All of the academics interviewed in the study, with the exception of two, are actively engaged in SoTL PedR. There are a range of outputs and a range of audiences that TF academics recognise as being legitimate within the sphere of SoTL/PedR. Rather than carrying out PedR with the intention of writing peer-reviewed journal articles, sharing of practice with colleagues is viewed as a priority. Collegiality, co-operation and collaboration is identified by participants as being vital for teaching and learning, and contrary to the complex realities of competition within REF. As Sayer (2014) has previously identified, REF undermines collegiality, as success within REF calls for the success of the individual. Teaching-focused academics, in contrast, view collegiality as being necessary for them to carry out their roles as teachers.

I don't feel like Scholarship of Learning and Teaching should be a competitive field, actually, ideally, I don't think Research should be a competitive field, but I know because of trying to get money and all the rest of it, it does become a competitive field but I think for a lot of what we do, we don't need to compete for grants for most of what we do. We should be able to do the Scholarship of Teaching just as part of our job, so I don't think we should be competing on that. I think it should be more of a sharing environment, and if I found something that worked well in a class, I'd be the first to want to tell everybody – oh, try this, this has worked really well as opposed to being like – oh that's worked really well for me, I'm going to keep it a secret so I look brilliant and everyone else looks rubbish. I don't think that belongs in teaching, cos it should be about the greater good of the students, and you can't do that with competition. – Teaching & Scholarship TF academic, Ancient university.

The variety of SoTL outputs and audiences aligns with Trigwell, Martin, Benjamin & Prosser's (2000) Model of Scholarship, which recognises the breadth of activity that could be classified as SoTL PedR. This includes conversations with colleagues, presentations of practice at conference, and high quality papers in disciplinary pedagogic journals. However, when viewed through the lens of REF, much of what the teaching-focused academics are doing can be perceived as being unworthy, as it does not pass the requirements for inclusion in REF. That does not mean that it has no intrinsic worth. The exchange of practice is highlighted as being the reason for many of the TF academics' engagement with SoTL, and their primary purpose is not to have peer-reviewed journal papers for REF. In this respect, disciplinary based PedR has an intrinsic worth. It could be argued that it would only take a little work to develop a conference presentation into a journal paper. However, the teaching-focused role of these academics means that often time is not included in their workload to facilitate such actions.

SoTL pedagogic research: to be or not to be in REF

This paper is a response to Cotton et al's 2017 paper on the quality and quantity of pedagogic research being put forward in UoA25 of the 2014 REF. It adds to the debate by examining the

case of PedR researchers whose main role is teaching within a life sciences discipline, but who now may be facing increased institutional pressure to be included in the next iteration of the REF in the face of Stern Report (2016) recommendations.

Challenges to inclusion

Several challenges to SoTL PedR inclusion in REF 2014 have been identified in this study. The challenges may be structural to REF or borne from perceptions of SoTL. Overcoming these challenges requires strategic will at a variety of levels.

There is an argument in favour of including SoTL PedR in the next REF. Stern (2016) has somewhat addressed some of the structural barriers to its inclusion, and, as Cotton et al (2017) identify, with only 9% of papers in UoA25, there may be an opportunity for SoTL PedR to be included. However, there are other barriers yet to be addressed, in terms of perceived quality of output (Cotton & Kneale, 2014; Macfarlane, 2011; Yorke, 2000), impact case studies which have to be developed, and a question over whether SoTL PedR pertinent to a disciplinary area is better included in the disciplinary UoA.

Despite the domination of REF in the UK higher education sector, organising an institution-wide UoA25 submission of SoTL PedR has not been realised. This may be because of a lack of understanding of the quality of SoTL PedR outputs or the status of SoTL PedR within a department. It may also be due to the contrasting nature of an institutional REF submission to a departmental submission. UoA within REF operate at a disciplinary level, therefore the expertise to compile a submission is the responsibility of the department. However, compiling a UoA25 REF submission requires expertise and co-ordination at an institutional level, which may be missing. In preparation for REF 2021, if an institution were to embark on a SoTL PedR submission, there are two paths that they could follow. One is to include SoTL PedR, which is particular to a disciplinary area, within the UoA for that discipline. One of the ways that SoTL PedR can be used to advantage is by using it to demonstrate impact in a supplementary case study, providing evidence of impact with the public and wider community. Using SoTL PedR to highlight impact has the potential to raise the status of SoTL PedR without the resultant need for teaching-focused academics sacrifice their teaching contact time. In other words, the SoTL PedR is recognised for what it is, rather than secondary to disciplinary research. The second use of SoTL PedR would be to compile an institutional response. However, both Cotton et al's (2017) work, and this study, suggest that this approach is less likely to be successful.

Another challenge to inclusion in REF is the perceived pressures that REF places on individuals to publish. Teaching-focused academics in this study rejected the competitiveness of disciplinary research, preferring the collegiality of teaching (Tierney, 2016). Being outside the REF system is beneficial to teaching-focused academics' PedR as it allows them freedom to collaborate and explore, without being bound by the restrictions of being 3* or 4* quality for REF. This underlines the purpose of SoTL PedR, which is not to feed REF, but to improve teaching, and student learning. The disadvantage of the lack of status is of teaching-focused academics who find that they struggle to advance their careers in higher education via a teaching and scholarship route (Cashmore, 2009b, 2009a). As argued above, using SoTL PedR as a case study for disciplinary impact could improve the status of PedR, and the career prospects of teaching-focused academics.

The one opportunity that could be taken from this as it currently stands is that there is a dearth of higher education pedagogic research currently included in REF. While, at the moment, less than 10% of papers and case studies refer to higher education, there is a case to investigate the volume of higher education pedagogic research papers which are produced, but so far ignored by institutional REF submission compilers. It seems likely that higher education PedR based on one's practice is too small in scale to satisfy the requirements of REF, therefore lacking impact. However, at the moment, this remains an unknown quantity, as current numbers remain as an estimate (Cotton et al, 2017; p.3). However, if this type of research were to be included in REF as it stands, it would mean a substantial change of role for teaching-focused academics, as they transitioned to the role of pedagogic researcher.

The future of SoTL pedagogic research

This study examines the complexity of including SoTL PedR in REF, reasons behind the failure to include in REF 2014, and possibilities of inclusion in 2021. From the evidence presented it would be potentially detrimental to the benefits of SoTL PedR to include it in the Education UoA (UoA22) in REF 2021. Developing papers for REF requires it to be a priority activity (as seen in Figure 1) but the priorities of teaching and administration which teaching-focused academics have make it impossible for SoTL PedR to be treated in the same way. However, teaching-focused academics may be producing papers which can be included in REF, which is a decision each institution must make itself.

Teaching-focused academics themselves identify why they do SoTL; to share practice between colleagues, and subsequently improve student learning. Despite disadvantages in training, teaching-focused academics remain committed to SoTL PedR for this reason. Their pedagogic education may be confined to a one or two year part-time PGCert in higher education (Kelly et al., 2012), leaving them to face barriers to understanding SoTL without much support (Tierney, 2017; Webb, 2016). Much is alluded to regarding the quality of pedagogic papers, both in general, and those submitted to REF (Macfarlane, 2011). By and large, participants in this study did not have submission to REF as their primary concern for engaging in PedR. Instead, their primary purpose was to share practice, both good and bad, with the intention of helping colleagues and improving student learning. Given those parameters, SoTL needs to be judged on its own merits, not on the deficits placed on it viewed through the lens of REF.

In the research-dominated culture of UK higher education, the existence of SoTL PedR is uncomfortable. If higher education pedagogic research is a Cinderella topic, SoTL PedR is like the Frog Prince, abandoned, small and insignificant, but waiting for someone to recognise its true potential. Teaching-focused academics have done this. The rest of the Academy needs to catch up.

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