Rethinking professional development for public engagement with research: A way to improve uptake and impact of training?

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Rethinking professional development for public engagement with research: A way to improve uptake and impact of training?

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Abstract

Training is often cited as key to embedding public engagement in universities. The literature and professional discussions on public engagement training tend to focus on the training intervention itself (for example, the content and delivery formats), rather than on the learner (for example, current levels of public engagement practice, longer-term career aspirations, and workplace environment). In this article, we share our reflections on putting the learner first. We draw on our own general experiences and in particular our ChallengeCPD@Bath programme (funded by UK Research and Innovation through the Strategic Support to Expedite Embedding Public Engagement with Research call). We argue that many of the challenges associated with the provision and uptake of training and professional development for public engagement with research are not unique to public engagement but relate more broadly to perceptions of training and professional development that exist within the academy. However, putting the learner at the heart of professional development means understanding their public engagement needs, their broader academic/career goals, their disciplinary/institutional cultures of training and their disciplinary/institutional cultures of public engagement. It also entails a shift in how we evaluate interventions, moving beyond measures of satisfaction or enjoyment towards long-term evaluation, in particular accounting for the extent to which learning can be, and is, applied on the job, or looking at how it might change behaviour in the workplace.

Keywords: training, professional development, public engagement, academic culture

Key messages

- The challenges of devising and delivering effective training and professional development for public engagement are not unique to public engagement.

- We need to move our thinking from the training intervention to the individual learner: putting the learner first.

- Putting the learner first means helping learners identify relevant existing skills and experience, understanding their longer-term career aspirations, and understanding the broader research culture in which the learner finds themselves.

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Introduction

Over the past decade in the UK, public engagement has become increasingly recognized as an important part of the life cycle of research and a feature of the university landscape. For example, it is now more frequently cited in institutional strategies, with a doubling in the number of institutions that have developed separate strategies for public engagement (RCUK, n.d.; Hill, 2015; Owen *et al.*, 2016). Researchers are increasingly likely to see public engagement as an important part of their role (Mellors-Bourne and Metcalfe, 2017; Vitae, 2015; TNS BMRB, 2015) and there has been a growth in both institutional and departmental recognition and support (Owen *et al.*, 2016). A recent survey by Vitae (Mellors-Bourne and Metcalfe, 2017) highlighted that it was leading the pack of competing priorities (after publication) for which researchers feel recognized and valued by their institutions.

In the past ten years, we have seen ongoing investment in creating a culture of public engagement within the research community and their institutions, for example through the creation of the Beacons for Public Engagement (2008; see NCCPE, 2018a), the National Co-ordinating Centre for Public Engagement (2009; see NCCPE, 2018b), Research Councils UK (RCUK) Catalysts for Public Engagement with Research (2012; see NCCPE, 2018c), the Wellcome Trust Institutional Strategic Support Fund (2012; see Wellcome, n.d.), RCUK Public Engagement with Research Catalyst Seed Funds (2015; see UKRI, n.d. a) and, most recently, the UK Research and Innovation (UKRI) Strategic Support to Expedite Embedding Public Engagement with Research (SEE-PER) programme (2017; see NCCPE, 2018d). (For a timeline of investments up until 2016 see Owen *et al.* (2016). See also Kevin Burchell's (2015) literature review for factors affecting public engagement by researchers, which provides a much richer overview.) There have also been a number of broader policy shifts, such as the inclusion of impact in research assessment, which some suggest has acted as a catalyst for further embedding engagement in research (Watermeyer, 2012; King's College London and Digital Science, 2015; TNS BMRB, 2015; Townsley, 2016; NCCPE, 2016). In their review of the evolving policy and practice of research engagement, Duncan and Manners (2014) posit that despite these efforts, public engagement is still largely seen as an add-on or peripheral activity, but that we are now at a 'tipping point' where our universities stand on the edge of placing societal engagement at the heart of research. It is notable that during this time, despite a shift in culture to a point where engagement is more valued and recognized, we have seen very little movement in the overall number of researchers engaging (TNS BMRB, 2015).

So what is needed to take us beyond our current standing? And what is next for public engagement, should we breach this tipping point? It is widely recognized that culture change cannot be imposed on a professional community. It takes time to change deeply embedded organizational practices, behaviours and values, and long-term commitment to deepen and sustain those changes (Duncan and Manners, 2014; Bolden *et al.*, 2008; Andriopoulos and Dawson, 2009). Typically, 'change initiatives' in higher education are accompanied with a range of incentives, including funding, measurement, benchmarking, reporting, professional development and, in some instances, penalties. An earlier review we conducted for the Wellcome Trust and UKRI suggested that the change tools being used in public engagement are somewhat softer than those used in other change initiatives, such as those put in place for researcher development, teaching excellence, and equality and diversity (Owen *et al.*, 2016). While it was beyond the scope of this earlier work to assess the success or otherwise of these initiatives, we did note some differences compared with our (public

engagement) culture change story. For example, we found that there is very little by way of penalty or repercussion for institutions that do not put in place measures to support public engagement. This can be compared to the Athena SWAN award, which is more clearly tied to external funding. We also noted that investment in the quality of public engagement is significantly less than, for example, initiatives linked to promoting excellence in teaching (Owen *et al.*, 2016; Trowler *et al.*, 2013). A third aspect that we identified in this work, and the one on which we would like to focus in this commentary, is the role of professional development in both driving change and potentially stifling it.

Recent reports have shown how training and professional development can both further public engagement with research, by advancing participation and confidence, and also act as a potential barrier to engagement through a perceived lack of availability or relevance (Owen *et al.*, 2016; TNS BMRB, 2015). Informed by Owen *et al.* (2016), UKRI's Strategic Support to Expedite Embedding Public Engagement with Research (SEE-PER) programme invited calls for two types of project from institutions: Embedding projects and Challenge projects. The former aimed to 'enhance and embed an institution's approach to supporting PER, building on the learning from the Beacons for Public Engagement, RCUK PER Catalyst and Catalyst Seed Fund programmes'; the latter sought 'Proposals which address a specific challenge in supporting PER effectively, building on the challenges identified in the recent State of Play report and which expand the existing knowledge base about "what works" in effectively supporting PER' (SEE-PER call guidance (UKRI, n.d. b)). Owen *et al.* (2016) identified several challenge areas, with five being prioritized for SEE-PER: governance, middle management commitment, researcher motivation, quality of PER, and take-up of training and continuing professional development (CPD). The take-up and impact of training and continuing professional development was the focus of three projects funded through SEE-PER (UKRI, n.d. b).

In this article, we will share some of the key learning to emerge from one of these projects, situated at the University of Bath. We will outline why professional development emerged as an important priority for our work in supporting researchers, the challenges we sought to overcome, and the lessons that we have learnt in the processes of trying to address those challenges. We highlight some 'quick wins', such as reframing our language about CPD and training, piloting co-produced training and developing self-assessment tools. We have also invested in longer-term development plans, for example, rethinking how we develop our training so that it *really* puts the learner first, and rethinking how we evaluate our CPD offer. We end the paper with some recommendations for future work in this area.

Together we bring two perspectives to this commentary: one of us (Helen Featherstone) leads on public engagement with research at the University of Bath (a research-intensive university in the South West of England) and has a specialism in developing and delivering high-quality training and professional development; one of us (David Owen) is a consultant specializing in developing new systems insight into public engagement across the sector. We are both committed to, and work towards, embedding public engagement into the culture of universities. In Helen's case, her own institution, and in David's case, in the wider sector. We spend time opening out public engagement as something that anyone can do to improve their research.

The interventions we described earlier that have been used to embed a sector-wide culture of public engagement are not prescriptive about what 'counts' as public engagement with research. The definition developed and used by the National Co-ordinating Centre for Public Engagement (NCCPE, 2018f) is very broad and allows for

all forms of academic/non-academic interactions to be 'counted'. This broad definition allows institutions to develop their own priorities and rationales for supporting public engagement with research. We recognize that each institution will have its own take on what counts as public engagement, and that there are associated areas of activity with different labels (for example, patient and public involvement), so for this article we will use the term 'public engagement' in the way the NCCPE does.

Finally, we want to stress that the points we raise in this article are very much a work in progress as we have only just begun to reframe and implement our practice, and to evaluate it. The points we raise have been informed by our professional experience, the literature, the support of a peer group and advisory board, and critical reflection on all this data. We present this article as an opportunity to 'think aloud'; we feel this is an effective way both to share our practice and also to invite you to share yours as part of an ongoing conversation.

The role and place of professional development for public engagement with research

Reflecting on our practice over the last seven years (for Helen) and ten years (for David), the dominant dogma driving our work in training and professional development is weighted towards increasing participation in public engagement with research. We develop formal training, which is often focused on introductory training, helping researchers to make sense of the agenda, highlighting what counts as public engagement and some basic principles of good practice. We have also developed and delivered training on more sophisticated topics, for example, 'evaluation' and 'advanced methods', which are frequently in response to a request from a researcher or department who have come to realize that they have reached the boundaries of their skill and knowledge, and have identified the need to progress further. We have used pilot public engagement activities, led by us, as a way of driving good-quality practice and providing opportunities to learn through doing. But these are labour intensive, as they require effort to encourage people to participate, stay involved and invest the time to really develop their practice. The reality of on-the-ground embedding work is that it is hard to make spaces in which the professional practice of public engagement with research is addressed and recognized. This could be a feature of how, at an individual level, public engagement practice evolves slowly through repetition and reflection, resulting in incremental advances. We also find that the need to be supportive of people taking their first steps into public engagement, particularly as it is something not universally recognized as an essential aspect of academic practice, means that standards of public engagement can be below what would be ideal or considered 'best practice'. In such circumstances, we find that discussion of 'quality' is rarely addressed as often as we feel it could be, or is sometimes limited to a question of 'is it good enough?' Without a clear and objective measure of what is 'good enough', we often rely on a mix of professional and personal judgement. We may ask ourselves, will this proposal advance the goals and objectives of the research in a mutually beneficial way for those involved? Are there any 'red flags' or 'warning signs' that need to be attended to? How can we bring them into the awareness of the project team prior to an activity taking place?

Aside from the occasional times where individuals and teams recognize their need for advanced training and development, the majority of the support on offer to researchers to promote quality is informal and responsive. It takes place in one-to-one conversations, in passing, in corridors, and outside formal meetings. We exchange

ideas, offer access to networks and people who can help or support their work, but most frequently we are the first port of call for testing ideas and offering advice and guidance that we hope will improve the overall quality of the work. Much of this work happens below the radar and is not often thought of in terms of developing someone's professional practice. Therefore, if we were to ask researchers 'Have you had training that supports your public engagement?' (as happens in surveys investigating attitudes and behaviours associated with public engagement), it is highly likely that they would say 'No', unless they had also attended some of the formal training sessions that we offer.

We recognize that we are using a variety of terms – training, learning, professional development – somewhat interchangeably. As we outline later in this article, the terminology is still a tricky area, and one with which we are beginning to grapple. We did not find a simple solution that would accommodate the breadth of activity we devise and deliver, so we have tended to use the range of terms throughout this article, reflecting our own language and current practice. As a rule of thumb, we tend to use 'training' when referring to a particular intervention (for example, a training workshop) and 'professional development' to encompass a broader set of interventions (including public engagement activities and one-to-one conversations) that may enrich a person's professional skills or career. Finally, we refer to 'learning' as something that emerges from activities, actions and interventions.

An additional challenge is that this is all taking place in some form of vacuum. Yes, we often urge the people we work with to focus on mutual benefit and to evaluate their practice. But the systems and processes that really recognize and reward good quality are missing. There are few established extrinsic motivations for doing public engagement well. The ecosystem for developing and advancing good-quality public engagement is less developed than, say, it is for research and teaching. In both research and teaching, we have a rich set of external measures and metrics such as the National Student Survey or systematic module-by-module evaluation for teaching, publications, funding awards, numbers of studentships, QS rankings, and other aspects that make up the culture of world-leading research and teaching. Institutions draw on these, alongside established traditions and recent achievements, to create narratives of quality that resonate both externally and through the institutions themselves. Staff draw on these not only to measure success, but also to drive professional development. In comparison to universities, other large publicly funded institutions, such as the BBC, museums and other cultural organizations, have clearer and more established measures for quality that must be adhered to as part of their commitments to the public. In doing so, they arguably become a custodian of high-quality engagement by, for example, becoming recognized internationally for their programming, in the same that way that some universities are recognized for their research or teaching. While the inclusion of impact in the Research Excellence Framework (REF) and the development of the Knowledge Exchange Framework (KEF) is changing our relationship with public engagement and bringing into focus cultures of excellence, these practices are largely emergent, and in some cases there are still profound questions over their utility for those outside the higher education sector (NCCPE, 2019).

Challenge CPD at the University of Bath

The University of Bath Public Engagement Unit was established with RCUK Catalyst funding (2012–15) and was very successful in creating a positive, embedded culture of public engagement with research, which continues now. The Public Engagement

Unit is an inward-facing unit that works to build capacity and capability for public engagement. The unit has four strategic strands of work, which work together to support researchers:

- **Public Engagement in Practice**: opportunities to try public engagement by participating in organized programmes, small-scale funding for researcher-led public engagement, and innovative programmes led by the Public Engagement Unit.
- **Professional Development**: programmes, workshops, online guides and one-to-one conversations about all aspects of public engagement, including funding applications, creative thinking, practical delivery and evaluation.
- **Reward and Recognition**: Vice-Chancellor's Awards for Public Engagement, inclusion in generic job descriptions, inclusion in probation and promotion criteria, and internal communications to raise the profile of public engagement and the people who do it.
- **Leadership**: holding the agenda for the university, ensuring public engagement is integrated into other aspects of university systems, contributing to national discourse, and peer review.

Under the professional development strand, the Public Engagement Unit has developed, delivered and commissioned a wide range of training and development activities and interventions. Unlike the other three strands of work, which have developed into a regular annual programme, the professional development strand continues to be responsive and ad hoc, and changes annually based on need and feedback. Since 2012, participation in the professional development interventions has been varied and reflects the national picture in that there appears to be a mismatch between supply, demand and the value of formal training. Researchers who are not active engagers are not aware of the training available and see lack of formal training as a key barrier to engaging the public with research, and those who are active in public engagement tend not to view the formal training they have received as significantly contributing to their confidence in engaging the public. Training is asked for and offered, but not taken up. We have found that researchers tend to value 'just in time' training and support, including one-to-one coaching conversations. However, we suspect that these types of interactions are not often formally recognized (and therefore not reported) as part of professional development.

This current situation has been problematic for us in being able to identify where best to prioritize our limited time. The time we spend on developing and delivering training interventions is disproportionate to its actual and perceived value. Adapting, or developing new, activities and bespoke support takes time and resources. Frequently, when we deliver these sessions, it can be hard to ensure attendance, with many people dropping out at the last minute because of other pressures on their time. There are also times where we are unable to support these activities due to our limited capacity. This means that researchers are undertaking public engagement while feeling underprepared, creating risks in terms of visitor/audience/participant and researcher experience, which can result in non-participation in public engagement in the future.

In 2017, we were awarded funding from UKRI through its competitive SEE-PER call outlined above. We proposed to look at continuing professional development under the 'challenge' strand. As part of our ChallengeCPD@Bath proposal, we promised to make 'quick wins' – changes to our existing programmes of CPD – based on what we were learning through the overall programme of work. The ChallengeCPD@Bath programme provided us with the space to critically analyse training and CPD for

public engagement with research, and to understand the barriers and enablers to participation with the intention of increasing uptake, with the (much) longer-term aspiration of improving public engagement practice. The analysis was used to develop guidance, improve the quality of provision, and inform the development of new forms of professional development within the University of Bath and with the National Co-ordinating Centre for Public Engagement.

The following sections draw out some of the key lessons we have learnt before going on to explore where next.

Training for public engagement can be too narrowly defined

From our initial work, it became clear that any training intervention should be viewed as being one part of an ongoing process of professional development, fitting into a wider ecosystem of support, which includes both formal and informal support and experiences. There were two key aspects to this: the first relates to what we count as training, and the second to how support links in with professional identities.

In preparing for this project, the Public Engagement Unit developed a model reflecting a range of characteristics about the different types of training intervention (for example: one-off intervention versus ongoing support; independent versus linked to practice; and linked to the Researcher Development Framework (RDF) versus not linked to any framework). The model has 12 dimensions that we speculated could be affecting the uptake and value of the training (see Table 1). For example, based on our experiences, we think that uptake of training is more likely if it is linked to a practical public engagement opportunity. Depending on the learner and their needs, they may value training that relates to a stand-alone skill (such as taking photographs or speaking with the media), whereas others may value training that is more explicitly embedded in their research practice.

Table 1: Dimensions of formal CPD identified

One-off activity	⟷ Ongoing support
Stand-alone	⟷ Part of broader CPD programme
Closely linked to practical public engagement	⟷ No link to upcoming public engagement opportunity
Entry-level	⟷ Advanced
Stand-alone skill	⟷ Embedded in research
Internal provider	⟷ External provider
Individual	⟷ Group
Linked to RDF or other accreditation	⟷ No link to broader framework
Advancing the institutional agenda/goals	⟷ Supporting the individual's agenda/goals
Linked to stage in career	⟷ Linked to levels of experience of engagement
Badged as professional development	⟷ Not overtly badged as CPD
Skills based	⟷ Attributes based

In our early fact-finding it was noted that focusing on 'training' in isolation, without looking at the broader culture of research work and careers, may be problematic. For example, it is not uncommon for an academic to identify primarily as a historian, a physicist, a dentist or any of a multitude of other disciplines, and thus to ground their professional status and identity within their disciplinary community rather than their institution (Blackwell and Blackmore, 2003). Academics who feel their community comprises their academic peers in their global research group, rather than their institutional colleagues down the corridor, may turn to these colleagues around the globe for support, training and cultural permissions about how to progress. This can result in a loose connection between CPD at individual, departmental and institutional levels because individuals are not in the habit of looking for support locally. CPD and training can also be met with significant resistance within academic communities in particular because of its link to what is seen as an obsession with measuring performance (Stefani, 2013), in line with a growing encroachment on higher education and academic freedom (Bozalek *et al.*, 2014; Mockler, 2013; Kneale *et al.*, 2016; Dill, 2005). Although not as prevalent today as ten or twenty years ago (Mellors-Bourne and Metcalfe, 2017), some argue that there is a reverence for the doctorate degree and a presumption that it prepares researchers for other roles encompassed by the academic profession, such as management, leadership and teaching (Pilbeam, 2009; Brew, 1995; Murphy, 2014).

The Factors Affecting Public Engagement by UK Researchers study (TNS BMRB, 2015) highlighted formal training as a key mechanism for reducing the barriers to engagement for researchers. However, we found that the focus on formal training alone is unhelpful, and that we should think more holistically about the learning journeys of individuals: for example, how people get started and then progress, and how to transfer skills from different parts of individuals' lives, including work, leisure and volunteer roles. When we focus on formal training as an intervention that leads to participation, not only is this a mechanism about which the communities we wish to engage are largely agnostic, but we also risk narrowing the influence of our work, losing the focus on quality, reflection and continual learning. So, while we acknowledge that the factors listed in Table 1 are important, they are not sufficient to understand the challenges associated with developing and delivering training for public engagement with research.

Positioning training and continuing professional development

It has been beneficial for us to rethink how researchers get started in public engagement, and how they progress, and therefore where we place our learning interventions. There are several dimensions to this. First, we must recognize how different interventions will be tailored to the level of confidence, experience and competence of the learner in relation to public engagement. Second, we must recognize the academic career stage the individual is at and is aspiring to progress to. Third, we must consider the workplace environment, including the opportunity to practise and gain support from peers and seniors. One advantage of the one-to-one coaching conversations that are so frequent in our work is that our support can be tailored appropriately across all of these dimensions simultaneously.

In our discussions about experience and competence, we found two frameworks that particularly resonated. The first framework was called the four stages of

competence, or the 'conscious competence' learning model. Originally developed by Gordon Training International in the 1970s, this model relates to the psychological states involved in the process of progressing from incompetence to competence in a skill:

- **Unconscious incompetence:** The individual does not understand or know how to do something, and does not necessarily recognize the deficit. They may deny the usefulness of the skill or training to develop the skill. The individual must recognize their own incompetence, and the value of the new skill, in order to take steps towards the next stage.
- **Conscious incompetence:** Although the individual does not understand or know how to do something, they recognize the deficit, alongside the value of a new skill in addressing the deficit. The making of mistakes can be integral to the learning process at this stage.
- **Conscious competence:** The individual understands and knows how to do something. However, using the skill or knowledge requires concentration; there is heavy conscious involvement in executing the skill.
- **Unconscious competence:** The skill has become 'second nature' and can be performed easily. The individual may be able to teach it to others, but not necessarily.

The second framework was adapted from Miller (1990), and further developed by St. Emlyn's (2019). Known as Miller's Pyramid, it is a way of ranking competence, both in educational settings and in the workplace:

- heard of
- knows about
- knows
- knows how
- shows how
- does.

Exploring these frameworks brought to light ethical considerations around practising public engagement as a mechanism to enhance professional skills and competencies – in particular where this benefit for researchers is implicit or undisclosed to community partners and members of the public, who are therefore playing a key role in the education and upskilling of researchers. This is largely an under-researched area, but to draw a parallel with student–community engagement, some studies have found that community partners engage with these schemes not because they primarily want to benefit from the resource and knowledge that the university has to offer, but because they see it as part of their core mission to work with students as future leaders and influencers, and educate them about the needs of their service users and communities (Stoecker *et al.*, 2009).

Reflecting on these frameworks also gave rise to questions about the licence to practise public engagement with research, and how this is assured. Currently, the 'licence to practise' comes via the doctoral research degree, peer review and ethical procedures, and although there is an engagement lens to the Researcher Development Framework (Vitae, 2011), arguably the processes are less robust for public engagement with research than they are for, say, pure research. It raises questions about the need for training at doctoral levels or in the undergraduate curriculum. Also, with so many researchers coming to public engagement through many different paths and career

stages, it highlights a weakness in our current quality assurance mechanisms for those already practising.

After considering the experience and competence in public engagement, the second consideration is that of the academic career stage, and how this might map on to the level of experience of public engagement and the roles that researchers are expected to play within their community, for example, as head of department, supervisor or early career researcher. The optional nature of public engagement means that we cannot expect researchers at a more advanced stage in their careers to be more competent engagers; and this has implications for the support that is offered through more usual peer/academic community development. In reflecting on these dynamics, it emerged that we needed a more sophisticated map of the professional development needs of researchers that reflects both their public engagement *and* their academic career development.

A third and final aspect relevant to the positioning of CPD is the manner in which we create an environment for researchers that is conducive to learning. Through our involvement in the Catalyst programme, we have been fortunate to have our support for researchers evaluated by external consultants (Coleman *et al.*, 2015). One key finding we have taken away from this, and from subsequent evaluation, is that we generate value for researchers through enabling collaboration, connecting people, and facilitating their learning and reflection. The skills and capacities that are brought by members of the Public Engagement Unit (and, indeed, all enablers of public engagement) are an important aspect of how this is done. In speaking with researchers about what they value about this support, a number of things come to the surface, including:

- **Credibility:** a deep and rich understanding of the university, higher education sector, research councils and public engagement through research and practice. Well-connected outside higher education.
- **Supporting learning:** helping individuals to reflect on their practice, asking probing questions and promoting self-enquiry.
- **Reflexivity:** using reflective practice to inform and develop the work of the Public Engagement Unit, as well as individual actions.
- **Belief:** deeply held, and evidence-based, conviction that public engagement brings benefits to research, researchers and the research environment.
- **Boundary working:** working in a way that interacts with many different communities within and beyond the university to translate, facilitate, mediate, network and broker.
- **Social and emotional intelligence:** working in a way that recognizes, and influences, both your own and others' feelings and behaviours.
- **Collaboration:** working with others to achieve mutual benefit.
- **Organizational memory:** sharing what has been done before, and helping others learn from it.

Others we have spoken to have reflected on how specific aspects of our support, particularly the seed fund that provides a small pot of money for researchers to pilot new engagement activities, provide a low-risk space to experiment and learn, while also developing skills and confidence in securing funding for, and doing, public engagement with research.

Putting the learner at the heart of continuing professional development

Through our ChallengeCPD@Bath project, we have been challenged to radically reframe our thinking on training for public engagement. Anyone who develops high-quality training interventions will already take into consideration the needs of the trainee. We were the same. However, the depth and complexities of those needs have not always been given due attention. It is not enough to simply 'guesstimate' where your learners are in their public engagement practice and to fill a gap. It has been noted that trainees and trainers hold different assumptions about what makes for effective training (Silva and Bultitude, 2009). Learners bring competencies and experience from other parts of their professional, leisure, domestic and volunteer roles, which could be transferred to a public engagement context. Understanding the longer-term career aspirations of the learners will also influence how professional development is viewed, used and acted upon. Finally, taking into account the institutional and disciplinary cultures of research and public engagement will also affect participation in, and use of, training interventions.

In response to this, we have decided to really put the learner at the heart of our future professional development activities. This will take a three-pronged approach. In the first instance, we are piloting co-produced training development processes: putting out a call to researchers to make suggestions as to what format and content they feel they need, and then working with them to make this a reality. We will also develop tools for self-assessing the skills needed for public engagement. These will surface existing skills that can be brought into public engagement, and identify gaps in need of further development. We are undertaking reflective interviews with a selection of researchers who are highly experienced in public engagement (*unconsciously* and *consciously competent*, or in the *shows, does* categories) to help develop these, and using the NCCPE's draft good practice principles of public engagement to inform the development of the tools. Finally, we are going to experiment with partially decoupling engagement skills training and development from the practice of public engagement by embedding these ideas into other professional development interventions (for example, probation programmes for early career researchers) or reframing the offer as something more generic such as 'leadership'. Many of the skills we associate with being necessary for public engagement are not unique to public engagement – they are by their nature 'transferable' to a wide variety of fields and, likewise, they are drawn from a wide variety of fields. By reframing our training and support to reflect the primary needs of the researchers (progression in the academic practices of research and teaching), we are hoping that we will see greater uptake, participation and perceived value. There is a risk for us in that the link to the practice of public engagement is lost, and we are simply seen as providers of training. However, our intention is to develop training that 'leads by example', in that it is engaged (publicly) in its delivery, so that participants can experience the benefits of learning within a diverse group and simultaneously develop other engagement skills.

Evaluating training and continuing professional development

A lot of the discussion points we have raised in this paper are still largely works in progress. As mentioned earlier, we have only just begun to reframe and implement our practice, and are not in a position to evaluate these changes. As part of this work, we have reviewed our existing approaches to evaluation and, supported by a review of the literature, started to form a new approach to the evaluation of CPD.

The evaluation of public engagement CPD that we located in the literature is largely focused on responses of participants towards the extent that the one-off training met their specific goals and needs at the end of the training intervention. Where these evaluations exist, they tend to report improvements in:

- communication and organization skills
- levels of confidence to engage the public
- generating new ideas and ways of working
- enhanced teamwork and interpersonal skills
- greater understanding of the benefits and relevance of public engagement to their academic role. (Illingworth and Roop, 2015; Featherstone and Owen, 2018)

One of the key challenges with which we are still grappling is how to effectively evaluate the impact of training and CPD over time. Holliman and Warren (2017) was one of the few published studies we found to return to researchers 12 months after the initial interaction, asking about the usefulness of the training, how it had been applied and whether researchers would recommend the training to their peers. One helpful concept that we stumbled upon in the process of our work on the ChallengeCPD project, and that may be widely known to others, was 'training transfer'. Put simply, this looks at the extent to which training received by employees can be, and is, applied on the job. The literature on 'training transfer' focuses attention on the role of training in changing behaviour in the workplace, and the enabling conditions for learners to apply their training in the workplace.

Given the proliferation of training transfer studies in various disciplines, Burke and Hutchins (2007) conducted an integrative and analytical review of factors affecting transfer of training. They looked at the literature across management, human resource development, training, adult learning, performance improvement and psychology, and identified the primary factors influencing transfer – learner characteristics, intervention design and delivery, and work environment. The learner variables that have been fairly well established as having important influences on transfer include:

- cognitive ability
- self-efficacy
- pre-training motivation
- negative affectivity
- perceived utility
- organization commitment variables.

Factors pertaining to intervention design and delivery – which are in our experience more typically researched and evaluated – include:

- needs analysis (formative)
- learning goals
- content relevance
- instructional design
- self-management strategies.

And, finally, work environment influences include:

- link with organizational goals or strategies
- transfer environment
- supervisor/peer support
- opportunity to practise
- accountability.

The work on training transfer has helped us to realize that our conventional evaluation framings and tools tend to focus almost exclusively on the intervention (that is, the actual training) without considering transfer elements, such as the opportunity to practise and the broader environment in which learning can be applied. We will be exploring this further in the future.

Conclusion

The changes that we have seen to institutional and departmental culture in recent years, where public engagement is now more likely to be valued, have laid the groundwork for greater confidence in how we work with researchers. Our focus has shifted from 'proving' public engagement and legitimizing it, to deepening its contribution to research through facilitating environments that foster high-quality practice. In recent years, we have come to recognize that training for public engagement encompasses a much broader set of activities than a one-off workshop called 'Introduction to public engagement'. There is a greater breadth of interventions that contribute to how someone may develop confidence, and gain experience and competence including, for example, those run by the Public Engagement Unit, such as one-to-one coaching conversations, access to pilot funds for innovation and opportunities to practise, or those that exist outside our sphere of influence, for example, disciplinary conferences and peer-to-peer support.

Through our work on ChallengeCPD we have learnt that we need to become more effective at aligning our work with the professional pathways of researchers. In doing so, we recognize that the links between competence in engagement, research expertise and career stage do not always neatly overlap. Someone may have had a lot of experience in engagement but be at an early stage of their research career, for example. It follows that training and support needs differ not just in relation to someone's confidence and skills with the practices of public engagement with research but also in relation to their discipline or institutional role. For example, a head of department, or someone with strategic oversight of public engagement, will invariably need support that relates not to the practice elements of engagement, but its leadership across a wide variety of practices and against many other competing priorities.

Our involvement with the UKRI SEE-PER programme has shown us the resonance of the academic discipline more profoundly than in our work previously. While the *Researcher Development Framework* (Vitae, 2011) and the NCCPE's *Draft Good Practice Principles for Public Engagement Involving Universities* (NCCPE, 2018e) provide a helpful framing for progression and quality, learning comes to life when it is located within the professional practices of the discipline itself. As we tailor our support for researchers, we are learning to be mindful of the discourse of engagement that exists within the academic discipline itself. Whether this be architecture, economics or physics, these discourses and their related practices are living and breathing things. It follows that we must not get 'too close' to the disciplines so as to stifle innovation. For some academics we work with, the joy of public engagement and our support is to step out of the confines of the discipline and to think about their work differently, and cross institutional and disciplinary boundaries.

Putting the learner first requires us to build on their previous professional and personal experience, and to recognize how training helps and supports researchers in realizing their own goals, alongside the goals of the institution and the profession itself. We have also learnt to be more mindful of our own bias, and how this influences our

work. For example, as enablers we tend to prefer participatory learning approaches, whereas some of the research communities we work with prefer to read materials, distil and then discuss. Our co-produced training scheme is one example of how we have sought to address this, placing the learner at the heart of the development of interventions. We will evaluate this work and share our learning from this in the future.

Finally, we are keen to improve our work on evaluation of our training, not least to improve our offer, but also to help us articulate the value to senior managers and stakeholders within and outside the institution. Where we have commissioned external evaluations of the support we offer, time and time again, we see that our support for institutional and individual learning is the aspect for which we are most valued. We have not, however, mapped this across the things that matter most to our institution: research quality, career progression, funding and reputation. Attributing our support for these ends is difficult, but one way in which we hope to improve is to broaden the scope of what we evaluate on a day-to-day basis – for example, when it comes to training and professional development, looking at the learner characteristics and the environment much more deeply than we have before. We do still need to evaluate the intervention, but taking a longer-term view of this could also be helpful. Ultimately, we want to become a trusted place that researchers return to and engage with across their research careers, sourcing or co-creating appropriate tools and resources at appropriate points in their own development, allowing them to develop competencies and helping them to identify the transferability of their skills in public engagement with research. Monitoring and measuring our contribution to these outcomes remains a pressing challenge, especially given the need for long-term assessment and the interdependencies between our work supporting researchers and many others.

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