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Planning for engaged research: a collaborative 'Labcast'

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Introduction

How can you plan effectively for engagement? This chapter offers practical advice on how to respond to this important question in a pragmatic way. Our thinking is based on support we have offered to researchers through two related culture change projects: one designed to embed an engagement strategy and improve the quality of engaged research at the Open University, UK (Holliman *et al*., 2015); the other to develop a more structured, sustainable and aspirational culture for school-university engagement with research (Holliman and Davies, 2015).

In this chapter, we introduce a framework developed to support researchers who are planning for public engagement with research. As such, we have written this account primarily from a researcher perspective, but also with input from non-academic stakeholders. For the purposes of this chapter, we take non-academic stakeholders to include end-users, members of the public, and any other non-academic beneficiaries. Hence, a further aspiration is that the framework could also be adapted by a range of non-academic stakeholders to inform their negotiations with researchers. In the context of the activity we discuss in this chapter non-academic stakeholders include teachers. It could have also included the participating students.

In what follows, we offer an authentic worked example of the framework in action, involving an activity mediated via digital tools and technologies and involving scientists, an

educational technologist, several teachers, 25 sixth-form students, and an evaluation researcher. It is important to note, therefore, that the framework is designed to be flexible and adaptable beyond this worked example. We have developed it from our experience of advising Open University academics from across a wide range of disciplines, consultation with Research Councils UK (RCUK) and the National Coordinating Centre for Public Engagement (NCCPE), other projects funded through the School-University Partnership Initiative (RCUK, 2013), and our collaboration with Denbigh Teaching School Alliance. The framework should be applicable to any researcher and discipline, and all forms of engaged research.

A planning framework in six 'Ps'

Given the confusion about definitions of engagement (e.g. see Jensen and Holliman, 2016) we begin our exploration of the planning framework by considering what we mean by engagement. In the context of research, we offer the following definition:

> "Engaged research encompasses the different ways that researchers meaningfully interact with various stakeholders[1] over any or all stages of a research process, from issue formulation, the production or co-creation of new knowledge, to knowledge evaluation and dissemination"
>
> 1. The term stakeholders includes members of the public, end-users, etc., in effect, any non-academic actor that contributes in some way to the research process.
>
> (adapted from Grand *et al*., 2015, p. 14)

Why then should researchers engage in this way? We argue that there are two main reasons: 1) to improve the quality of research; and 2) to improve the impacts arising from the research for those who participate in its production and those affected by the outcomes.

Ideally, engaged research should address both reasons. In this chapter, we focus on the second, in particular, in relation to ethical standards. Engaged research should be undertaken based on the understanding that researchers take account of the potential impact it could have on stakeholders. In this context, we refer both to the risk of harm as well as the potential benefit, effect and/or change it may have on stakeholders. Such an approach requires careful upstream planning (including clearance from institutional ethics committees), downstream project management through the research cycle, and effective forms of governance (see Wilsdon and Willis, 2004 for discussion).

What questions can help to shape upstream planning for engagement? We argue that effective planning should take account of the dimensions of engaged research, which we represent as six 'Ps': preparedness, politics, publics, purposes, processes, and performance (adapted from Holliman, 2013).

In the following sections, we introduce each of the dimensions in turn as a separate stage in the planning process. It is, however, important to note that the dimensions are inter-related—as you make decisions in relation to one, it could influence one or more other dimensions. It follows that, as the planning for engagement progresses, researchers (and stakeholders involved in the planning) need to reflect back on the earlier decisions to check and revise accordingly.

First steps: Preparedness

In reading this chapter, you are already in the process of preparing for engagement. Before you embark further on a path to embed engagement within your research, the next questions you should consider are, why do you want to engage, and why may stakeholders want to engage with you? Alternatively, do you see genuine value in engaging research (i.e. intrinsic value), or do you feel you 'have to' engage (i.e. extrinsic value)?

As a first step in preparing to engage, you should look to provide provisional answers to these questions, and to reflect on why you have answered them in the way that you have. For example, you may be working in a university or unit where engagement is seen as second nature. If this is the case, look for an institutional, or unit policy for engagement and seek out colleagues who could support and mentor your work. Alternatively, if you can't identify any stakeholders who may want to work with you, try looking for examples in your field of research. But we also urge caution in selecting your examples. Look for examples that address both challenges and benefits arising from processes of engagement. (The NCCPE Case Studies listed in the cited resources at the end of this chapter are a good place to start.) As with anything else in life, if it looks too good to be true, beware. No engagement activity has ever been planned for, delivered and received without issues, challenges or problems. Practices can always be improved upon through evidence-based critical reflection.

Alternatively, if you feel that you are only engaging because it is a requirement of a given funder and/or your institution, we urge caution. 'Do no damage' should be the mantra for all research projects. For any project that involves engagement this includes stakeholders who contribute. As a researcher you have a responsibility to act ethically and in good faith in all research activities (e.g. see DIUS, 2007). Do not enter into the process of engaged research half-heartedly, or without relevant expertise within your team, and always seek advice about the ethics of working with stakeholders, e.g. by contacting your institution's ethics committee. (The NCCPE-hosted resources, 'Ethics in Community-Based Participatory Research' listed in the cited resources at the end of this chapter might be useful.)

To illustrate the level of preparedness we are advocating, we refer to a digitally-mediated 'Labcast' activity, which is an interactive, live web broadcast that integrates video streaming and instant messaging to enable a conversation between two or more locations (Pearson *et al*., 2016). This activity was organised through an existing school-university

partnership, called 'Engaging Opportunities'. As such, university researchers were working as a matter of routine with senior leaders (e.g. Helen Brown) in local schools, and we had received ethical approval from the Open University to work with children and young people under certain conditions. Our existing partnership allowed us to respond quickly to a funding scheme designed to bring 'cutting edge research into the classroom'. If you do not have an established school-university partnership to draw on, you should use this preparatory stage to establish relationships with relevant stakeholders (see below for 'Publics').

Open University researchers worked collaboratively with Denbigh School teachers in Milton Keynes to produce a proposal for the Labcast. The planning of the Labcast is mapped as a continuum (Figure 1). The submitted bid covered the costs of hosting an interactive web broadcast from a university research laboratory to a classroom of A-level Physics students (Pearson *et al*., 2016). In so doing, we paired a physics teacher (Jenny Hallam) with a space science researcher (Simon Sheridan), the latter who was involved in the development of one of the scientific instruments on board the recent Rosetta mission to explore a Comet (67P/Churyumov-Gerasimenko) that is travelling through our Solar System (Wright *et al*., 2015).

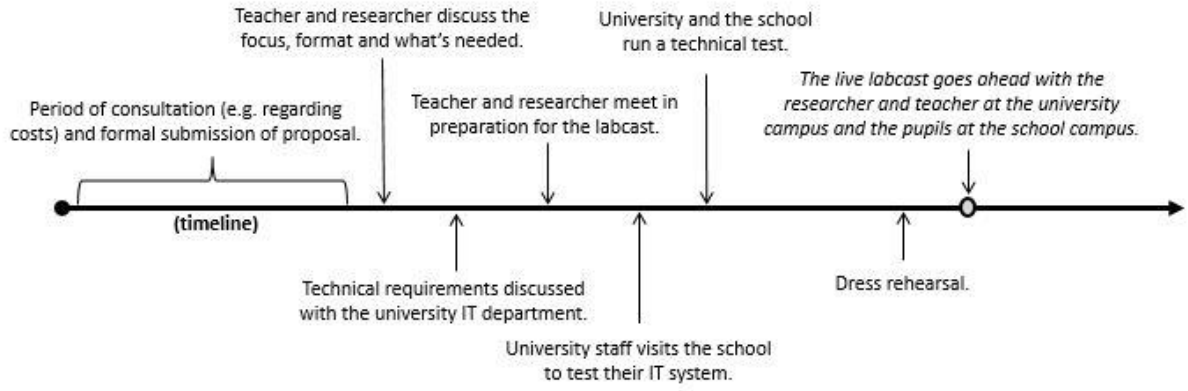

Figure 1 : Timeline of the events leading up to a Labcast activity carried out with a school in the Milton Keynes area.

Second step: Politics

The politics of engaged research, not least in the context of school-university engagement, are many and varied. In a chapter of this length, and with a focus on practical advice, we can only scratch the surface. However, an understanding of the political context of your engagement is crucial. In the not-so-distant past, questions about engaged research would almost certainly not have been a consideration for many researchers. This changed, in the UK at least, with the introduction of the impact agenda, which, in effect, introduced a requirement to generate and evidence of the social and/or economic impacts from research (RCUK, 2010). Many funding bodies now require the submission of an 'acceptable' pathways to impact plan, or equivalent, before research can begin. Further, in the context of school-university engagement, universities will have their own strategic priorities, for example efforts to widen participation in higher education. In addition, audits of research, such as the Research Excellence Framework (REF), have a role in assessing the quality of research alongside the impacts this work generates throughout the cycle of research (Stern, 2016).

It follows that impacts should not be something you only anticipate materialising at the end of the process and your focus should not be limited to those who have conventionally engaged with the outputs of your research. Instead, you should be taking full advantage of the opportunities to engage relevant stakeholders with the research process; making sure plans are in place to evaluate the impact this has, on researchers, stakeholders and the research, so you can demonstrate the return on investment offered to funders.

In the case of the Labcast, we had the remit of 'bringing cutting edge science into the classroom' through a professional development programme for teachers (RCUK, 2014). As such, teachers were key participants in our engagement, as were school students. As we organised the activity to be delivered within the school timetable, these participants were

influenced by the requirements of the National Curriculum and the audit conditions of the Office for Standards in Education, Children's Services and Skills (Ofsted). (Notably, many school-university engagement activities are organised as extra-curricular activities, which are considered the audit conditions of Ofsted.) In contrast, the researchers were engaging within the political context of the research impact agenda and the potential audit conditions of the REF. It follows that the identification of (complementary) reasons to engage is an important aspect of the politics of engagement (see 'Purposes').

Third step: Publics

This stage requires an understanding of which parties have a stake in research, and of these, who you will endeavour to engage. In our experience, whilst defining publics for your engaged research may seem obvious, it is fraught with challenges, not least in agreeing who is and is not a public. We have encountered many examples of researchers defining 'the public' as a single entity; to paraphrase, "It is my intention to engage the wider public with my research". In other instances, researchers have ruled out working beyond established groups. In our experience, these are not helpful places to start. Rather, we suggest that researchers explore who the 'publics in particular' could be for a given engaged research endeavour (Michael, 2009). This more specific articulation of 'publics' allows the researcher to consider smaller, identifiable stakeholders and groups, and to tailor the purposes and processes of activities to ensure they are relevant and meaningful to those participating.

Our solution to the challenges of defining 'publics', which was also informed by research (Jensen and Holliman, 2016; Grand *et al*., 2015), and by the work of the National Coordinating Centre for Public Engagement (NCCPE; Figure 2), is therefore to think more broadly about non-academic stakeholders, but then to narrow this list down to those who could usefully add value in terms of knowledge production and/or those affected by the outcomes. (These may or may not be the same people.)

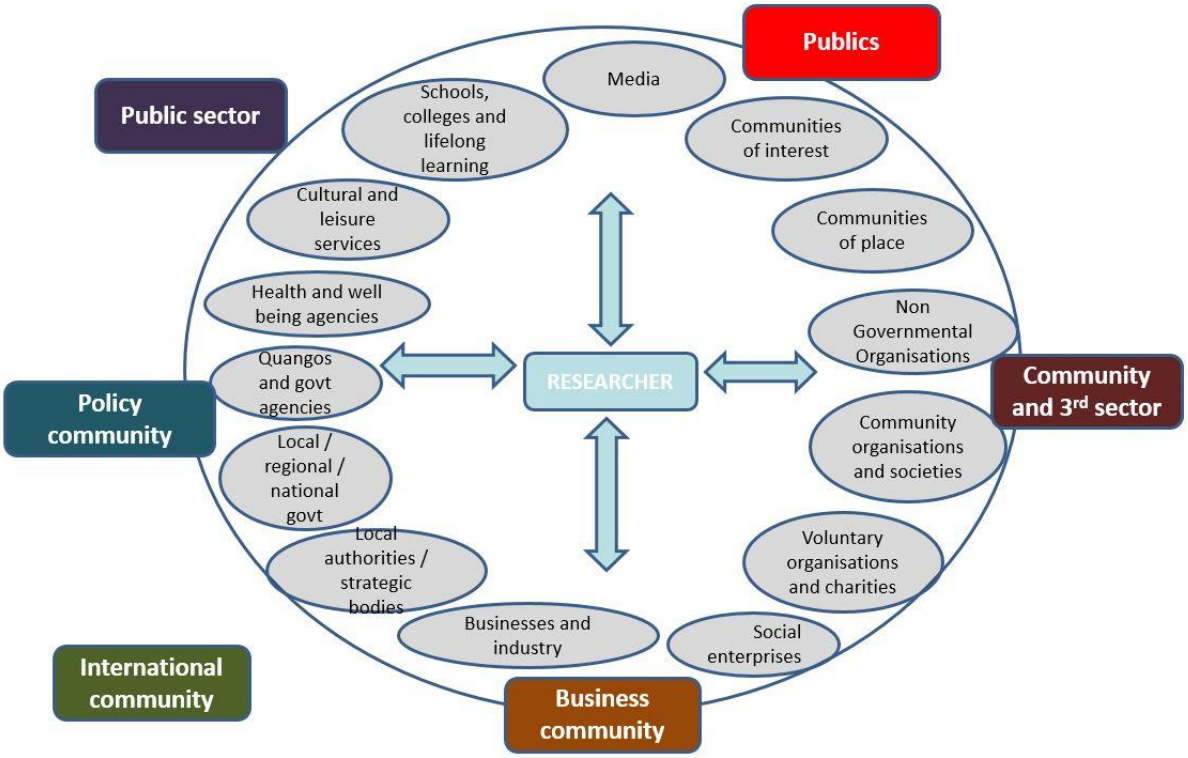

Figure 2: Mapping the different external groups with whom they might engage. Source: NCCPE (https://www.publicengagement.ac.uk).

Anyone who is not employed by a university has the potential to be a non-academic stakeholder. Hence, ask yourself which stakeholders are you already working with, who else do you want to work with, and who wants to contribute? Further, are there stakeholders who you would not want to engage with and why? It is also important to note at this point that a given stakeholder does not necessarily have to commit to all stages of the research cycle. As we have argued elsewhere:

> "Engaged research requires different forms of expertise, whose relevance will wax and wane depending on the research and on the point in the research cycle where engagement happens."
>
> (Grand *et al.*, 2015, p.3)

In the case of the Engaging Opportunities partnership our key stakeholders were children and young people, aged from 11 to 19, and studying in schools and Further

Education Colleges in Milton Keynes. Further, we agreed to work with teachers from these schools, and with Senior Leaders within the Denbigh Teaching School Alliance. To this end, we ensured that funding was made available through the project to support the work of a schools-based Project Coordinator (Mark Russell). Mark supported Helen Brown (a senior teacher) who set up the Labcast, liaising with teachers and pupils at the school, and Open University researchers (predominantly Victoria Pearson and Trevor Collins). The Project Coordinator also helped to recruit the pupils and teacher for this activity.

Fourth step: Purposes

Having consolidated information from the first three steps ('Preparedness', 'Politics' and 'Publics'), you will have an understanding: 1) of the wider context for engaged research; 2) how the proposed activity is characterised by political issues at the societal, institutional and stakeholder level; and 3) who the participants are, or could be, for a given collaborative endeavour. The next stage entails purposes; what are the aims and objectives of the engaged research, and if funding is being sought, how do they meet the requirements of the funder?

The Engaging Opportunities project had the following aims, which were agreed by the key stakeholders on the project before we submitted our proposal to the funder (RCUK):

- To inspire young people aged 11-19 from schools and Further Education Colleges in Milton Keynes, providing role models to aspire to.
- To develop activities that help to build confidence and self-efficacy among students from a diversity of backgrounds and abilities.
- To generate awareness of the nature and challenges of contemporary research.
- To support those who wish to make the transition from school to university, whilst facilitating discussion about the social, economic and ethical impacts of research, developing the skills and competencies necessary to become effective citizens.

Ideally, the purposes (which could take the form of aims or objectives) should also be discussed and agreed 'upstream' with the stakeholders, i.e. in advance of submitting a research proposal. At the very least, the aims and objectives of your activity will need to be shared with your stakeholders before they agree to participate. This could take the form of an official letter inviting participation. One of the reasons for this is to support the principles of informed consent (Miller and Bell, 2002). It is also an exercise in managing expectations, ensuring that you do not create unrealistic expectations about what can be achieved. It follows that the objectives of the activity need to be clearly agreed by all involved, making sure you have made provision so that the research is carried out according to the criteria laid out in your ethics review ('Preparedness') and reflected in the type(s) of knowledge, data, methods of data collection and techniques of analysis you will use to evaluate the potential impacts of the engaged research ('Performance').

Having agreed a set of aims, you need to decide on the specific objectives, with a view to using them to inform evidence collection and/or evaluation of performance. It follows that your objectives need to be Specific, Measurable, Achievable, Relevant and Time-bound (SMART), and be supported by relevant Key Performance Indicators (KPIs) and/or metrics. The objectives of the Labcast, for example, were:

- To provide students with access to an authentic research laboratory without taking them out of school.
- To engage students with cutting-edge research via the Key Stage 4 curriculum.
- To provide an effective professional development activity for teachers and researchers.

Fifth step: Processes

Exploring processes is all about how, when, where and through what media the engagement will take place. In other words, what are the methodologies and methods of the

engaged research? How will the research involve relevant stakeholders in meaningful ways? When, and how often, will stakeholders be involved in the research cycle? Where are these interventions likely to take place, and through what mechanisms? And have the processes been discussed with the stakeholders to ensure they work for them?

One of the main challenges in planning for the processes of engagement is the sheer number of possible options for conducting activities. In exploring these issues in the past we have found it useful to begin this process by considering a methodological framework devised by Irwin (2008; Table 1).

Table 1: Characteristics of first, second and third order thinking (Irwin, 2008, p. 208)

	First Order	Second Order	Third Order
Main focus	Public ignorance and technical education	Dialogue, engagement, transparency, building trust	Direction, quality and need for socio-technical change
Key issues	Communicating science, informing debate, getting the facts straight	Re-establishing public confidence, building consensus, encouraging debate, addressing uncertainty	Setting science and technology in wider cultural context, enhancing reflexivity and critical analysis
Communication style	One-way, top-down	Two-way, bottom-up	Multiple stakeholders, multiple frameworks
Model of scientific governance	Science-led, 'science' and 'politics' kept apart	Transparency, responsive to public opinion, accountable	Open to contested problem definitions, beyond government alone, addressing societal concerns and priorities
Socio-technical challenge	Maintaining rationality, encouraging scientific progress and expert independence	Establishing broad societal consensus	Viewing heterogeneity, conditionality and disagreement as a societal resource
Overall perspective	Focusing on science	Focusing on communication and engagement	Focusing on scientific / political cultures

Irwin (2008) describes three orders of engagement—first, second and third—in effect, as ideal types. Each order has characteristics that lend themselves to particular methods of engagement. As an example, first order engagement is mainly about communication. This could be useful towards the end of the research when there are findings to be publicised.

Second order engagement lends itself to dialogue, which could be useful when consulting with a particular stakeholder on the direction of research. Finally, third order engagement involves multiple stakeholders, which could be useful in the planning phase, and in connecting the findings of a complex engaged research project to the development of public policy and/or practice.

In our experience, both as active researchers applying for funds, but also as peers supporting and reviewing potential applications, we have seen that some researchers have approached grant preparation with trepidation given the requirements around pathways to impact. They can be risk averse, not wanting to introduce anything to a grant application that might reduce their chances of being funded in what is a very competitive process. In effect, this can stifle creativity and lead to bland forms of engagement that fail to do justice to the needs of stakeholders (Holliman and Jensen, 2009). Our advice is to combine 'tried and tested' methods with at least one activity that is new to either the researchers and/or the participating stakeholders.

A further solution to this challenge is to plan upstream with stakeholders, which is what we did with the Labcast. We initially selected this method because: 1) it provided access to a working laboratory and busy researcher; 2) it allowed more opportunities for curriculum links than a 'lab tour' format; 3) it did not require students to be taken off timetable or transport costs to be found; 4) it had fewer implications for laboratories that are heavily used; and 5) it contextualised researchers and their science in an authentic working environment.

Figure 3: Simon Sheridan and Jenny Hallam delivering the 'Labcast' at the Open University, facilitated by the technical team. Photo: Victoria Pearson.

We used the Labcast format to deliver a physics lesson from a laboratory at the Open University's Walton Hall Campus (Figure 3), to an A-level class of 25 students based at Denbigh School in Milton Keynes (Figure 4).

The Labcast incorporated:

- first-order engagement, for example, presenting to camera, interviews (featuring Jenny Hallam and Simon Sheridan), and the use of third party videos (from ESA and NASA);
- second-order interactive elements, in the form of a Q&A, a maths workshop, and a lab experiment mirrored in the laboratory and the school.

As we have noted, authenticity was a key consideration for this activity. The researcher (Simon Sheridan) is a Rosetta Mission scientist involved in the design and build of the OU's Ptolemy instrument on-board the European Space Agency's Philae lander. He was, at the time of the Labcast, engaged in interpretation of data from the comet's surface (Wright *et al*., 2015). Further, the Labcast format gave us access to the laboratory used for testing the Ptolemy ground reference model.

Figure 4: The 'Labcast' activity in action, Denbigh School, Milton Keynes. Photo: Mark Russell.

The Labcast was recorded and mixed in real-time by three audio-visual experts (Figure 5). The team used static and roving cameras, 'webcasting' as a high-definition video stream via FaceTime™.

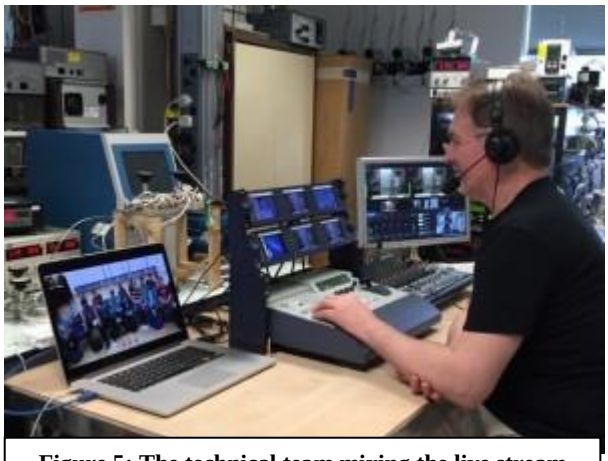

Figure 5: The technical team mixing the live stream and other content.
Photo: Victoria Pearson.

Sixth step: Performance

Researchers have found that one of the key challenges in engaged research is the assessment of performance (Grand *et al*., 2015; Watermeyer, 2015). We argue that addressing a lack of routine evaluation could help raise quality in engaged research. Publication of evaluation studies would result in an evidence-base, effectively shared, helping to demonstrating track records and critically-reflective practitioners. From this evidence base, measures of excellence could be identified, with researchers and stakeholders being recognised and rewarded for excellent work. In turn, this would help to improve cultures of engaged research, demonstrating to researchers the aspirational nature of progressive approaches to engaged research.

It follows that this sixth and final dimension of engaged research is crucial to improving practice. To start this process, you should remind yourself of why and how you plan to assess performance. This requires that you keep your focus on your SMART objectives ('Purposes'), whilst also remaining open enough to report on unexpected developments, outcomes, and/or impacts. It also requires that you have considered the resources you need to evaluate and, if relevant, collect evidence of research impact. Do you have the resources within the existing research team to conduct an assessment of performance? Have you allocated resources for career development if this is required? Alternatively, have you included funding to employ an independent evaluator?

For the Labcast activity we collected evidence of performance from the pupils, teacher and researcher. Our goals were to evaluate the challenges and impacts of giving students an authentic experience of engaging with research scientist in their laboratory; providing the opportunity to engage with cutting edge science within the curriculum; and providing development opportunities for teachers and researchers.

In total there were seven Open University staff (including a project coordinator, technical staff and a research scientist); five teachers (an early career physics teacher in the Open University laboratory, and a senior leader, the Project Coordinator, and two teachers supported at the school); and 25 students (all of whom were in Year 12 studying A-level Physics at the time of the Labcast). For the purposes of evaluation we chose to focus our efforts on gathering insights from the physics teacher, the research scientist, and the students. Figure 6, an updated version of Figure 1, summarises our evaluation strategy, identifying pre- and post-Labcast measures of the teacher's, researcher's and students' experiences.

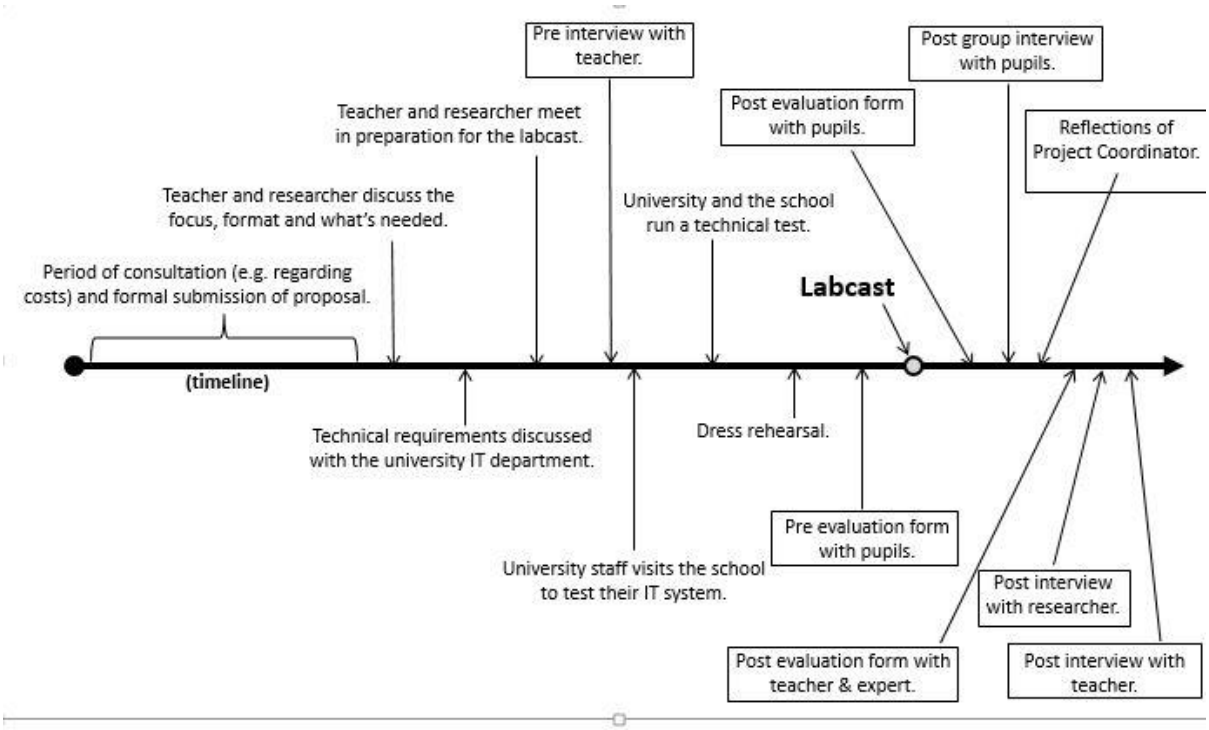

Figure 6. Timeline of the evaluation activities (in boxes), mapped against the events leading up to the Labcast activity.

The Labcast was designed to offer students an authentic experience of research by engaging them via a webcast with a professional scientist from a research laboratory in the university. Many authors advocate the importance of giving children and young people authentic experiences of science by engaging them in real-life issues, where theory is put into practice (Ballantyne and Packer, 2009; Monroe, 2003). For example, studies have shown that teachers providing more authentic opportunities in science have resulted in students having a stronger comprehension (Purcell-Gates, Duke, & Martineau, 2007).

The format of the Labcast was designed to promote authenticity by demonstrating how equations taught at A-level Physics had been used to calculate the landing of the *Philae lander* on a Comet (67P/Churyumov-Gerasimenko); hence, bridging the divide between theory and practice. By carrying out pre- and post-interviews with the physics teacher we learnt that, from their perspective, the Labcast had met the key objectives. It helped them move beyond the "*very theoretical"* to the more practical and tangible understanding of *"a real life research situation"*. They explained that a conventional lesson can fail to get students to *"think about the wider picture"*, but said that the Labcast was an effective mechanism for *"inspiring students and also demonstrating subject knowledge as well, good subject knowledge.*"

From pre- and post-evaluation forms and a post-group interview with the students we learnt that from their perspective the Labcast had also met the key objectives, "*The amount we learnt in the Labcast I would say would normally take us about three lessons"; "It's more enjoyable [than a lesson], something that helped stick in the brain"*. Moreover, the teacher explained that the students will have benefited by getting, *"to see behind the scenes […] [and] some of the real difficulties which are in planning an actual science mission*".

The teacher explained that the students also got to experience a *"lightbulb moment"* when they understood that the researcher was "*just like anyone else"*, and it increased the

students' awareness of the large time frames and costs characterizing contemporary research. We learnt that for some students, this changed their perspectives of a researcher's role from that of "*drinking coffee and talking*" to "*demanding but rewarding*". It provided students with *"a more in depth knowledge of how research works"*, boosting some of the students' confidence in their ability to succeed in a research career. Yet for others, it just changed the off-putting factors of being a researcher from "*boring*" and "*underpaid*" to "*amount of qualifications*", "*deadlines"* and "*dedication to specific field*".

The Labcast was designed to engage the participants with cutting-edge science. One of the objectives was to give the teacher opportunities to update their knowledge of their subject; empowering them to encourage students to explore scientific developments and associated social issues. This resulted in students understanding of the opportunities that were available to them. "*I didnt really know there were so many different aspects that you could actually go into in a project like that*". For others, it helped them to understand the role they could play in science. "*For me, I always wanted to pursue a career in engineering. I thought that engineering was kind of sectioned off from the science 'till I saw how they were talking about how engineers were saying different things to them […] its opened another door for me or another options which I could take*".

The planning and hosting of the Labcast was intended to provide development opportunities for the teacher and researcher. From the teacher's perspective we learnt that this was achieved in the planning stage by demonstrating the ability to incorporate factors such as "*action learning*" into the lesson plan. Having taken part in the Labcast, the teacher said the experience of engaging with the contemporary research and researcher was valuable in itself because it had given them ideas of how they might improve their style of teaching. "*I think I am going to try and link more up-to-date research and discoveries into topics that I*

teach if they are suitable so that the students are aware of areas which are current because I think that's part of what engaged them".

In a post-Labcast interview with the researcher we learnt that from their perspective the Labcast offered valuable development opportunities for a research career because of how it, *"hinge[s] on being able to […] to get complicated ideas and concepts across […] to people who may have never seen these things or heard of these things before*". In particular, we learnt that the planning stage offered the opportunity to learn about teaching in a school context. "*I think it's ways of trying to tie into the curriculum stuff that's happening out in the big wide world"*.

Evaluation should inform critical reflection and changes in practice. From the evaluation we learnt a number of lessons to consider before planning future Labcasts. The planning phase was crucial. The teacher and researcher went through a process of having to redefine their preconceived idea of what role they would play and what they hoped to gain from their experience. We also learnt that students didn't really know what to expect. Better information prior to the Labcast could help with this in future. Pragmatically, we experienced a tension between quality and informality and authenticity, for example, in deciding to have 'messy' laboratory versus a studio set up.

Summary

Engaged research is more labour intensive and can feel more challenging than carrying out research in a disciplinary vacuum. In part, this is simply because the number of expert voices with a stake in the research increases. Although we are clearly advocating engaged research as a way of making its processes and products more meaningful and relevant to a wider group of stakeholders, it is essential that you do not underestimate the challenges of working outside your discipline and/or professional area of expertise. Further,

you should take account for the time it can take to find engaging opportunities that have a realistic chance of delivering you and your stakeholders' desired impacts (noting that not all stakeholders will agree on the desired impacts).

The time and skills required to evaluate impacts can also be underestimated, increasing the likelihood you will not be able to demonstrate, for example through publication, that you have delivered on what you promised. In turn, this could damage your or your institution's reputation. To avoid this, you should take advantage of the growing body of knowledge in this area (see suggestions at the end of the chapter), and ensure that plans for engaged research are based on the full economic costs of planning for, enacting and collating evidence of the impacts. (This does not mean that a funder will necessarily pay full economic costs. Rather, participants should fully cost the plans and agree the level of resource commitment with the respective institutions, employers, etc., through whatever means are possible. This may require your institution, employer, etc. to underwrite some of the costs to ensure you have time to complete the tasks effectively.)

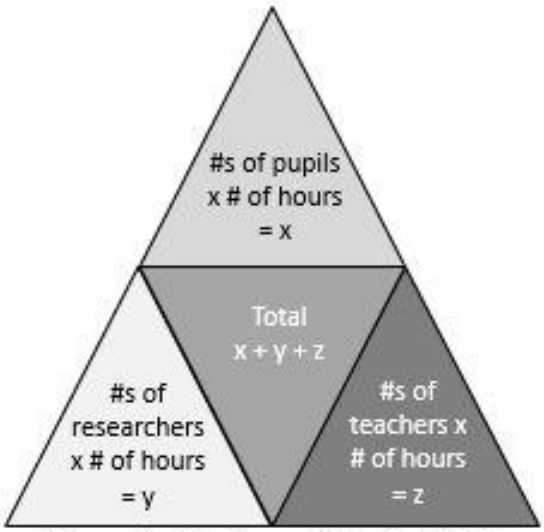

Figure 7a: The formula for the SUPI metric (Holliman and Davies, 2015).

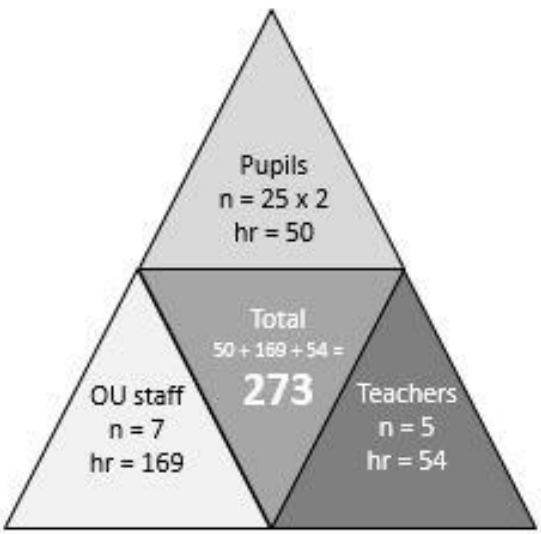

Figure 7b: The SUPI metric calculation for the Labcast activity.

To illustrate the point, Figure 7a demonstrates one way of accounting for the amount of time each stakeholder needs to contribute to an engaged research activity (see Holliman and Davies, 2016 for discussion). Figure 7b illustrates the commitment of time required by the pupils, teachers and university staff to participate in the Labcast.

Finally, it is important to recognise that the strategic benefits of engaging stakeholders can far outweigh the time and effort invested. Responding proactively and collaboratively to the principles of engaged research can improve your work and diversify your skills. Done excellently, it will enhance your career as you: 1) develop a track record of evidence-based critical reflection; 2) generate funding from external income; and 3) publish outputs, for example, in peer reviewed academic journals, but also evidenced through other 'legacies' (e.g. Pearson *et al*., 2016). With this in mind, we note that UK universities are becoming more aware of the need to create the conditions where excellence in engaged research can flourish (Holliman *et al*., 2015). Acknowledging that significant challenges remain in this area (TNS BMRB, 2015; Watermeyer, 2015), we also note the increasing number of UK universities that now include pathways for researchers to evidence excellence in engaged research in promotion cases (Holliman, 2015). This embeds a culture that gives researchers confidence to collaborate with stakeholders as they plan upstream, manage their collective projects downstream, and share the evidence of the social and economic impacts of their shared labours.

Common pitfalls:

- Leaving planning for engaged research too late; begin your planning upstream, ideally with relevant stakeholders, and work collaboratively downstream.
- Not fully costing/justifying resources; be realistic about the full economic costs of engaged research and seek assurances from stakeholders that they have the resources they need to participate.

Best practice:

1. Write an elevator pitch about your research and 'road test' this with your key stakeholders. Are the objectives of your research clear, and do they have the potential to match or complement at least some of the aims of your stakeholders?
2. Plan for more than one type of social or economic impact, combining methodologies that you have tried and tested in the past with at least one imaginative and bold initiative that is new to you and/or your stakeholders.
3. Think through the potential risks of your planned activities and revise accordingly; assess ethical implications and seek advice and institutional approval to ensure no harm is done.
4. Talk early and talk often with your stakeholders, including plans for how the various participants would like to be acknowledged/attributed in any outputs from the work.

Cited resources

- NCCPE Case Studies: https://www.publicengagement.ac.uk/case-studies
- Ethics in Community-Based Participatory Research: https://www.publicengagement.ac.uk/work-with-us/current-projects/ethics-cbpr
- The digital attributes of engaged researchers: http://weblab.open.ac.uk/dper
- Designing public-centric forms of public engagement with research: http://www.open.ac.uk/blogs/per/?page_id=6194

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