Living Research: How do we realise our capacity to create knowledge as we live towards our professional values in our practice?

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Abstract

In this paper, we discuss how we came to recognise our
capacity to be effective agents of change and what this might
mean for our facilitation of teachers conducting living research
in their practice. We outline our learning from a variety of
settings, including a cross-sectoral group of teachers, a whole-
school staff, student-teachers and a network of educational
researchers. We examine the idea of the teacher, and also the
facilitator, as an agent of change and how this has the potential
to result in improvement in educational practice and in
understanding of practice. We investigate how new learning
can emerge from the process of finding ways to support others
as they conduct their living research into their practice. The
creation of new knowledge in this way represents one of the
educational values to which we subscribe and which frames our
approach to living educational theory. As we developed our
living-theory of knowledge-creation, we found ways to
articulate, appreciate and acknowledge professional knowledge
that went beyond curriculum knowledge and professional skills
to embrace the professional integrity and the experiential
knowledge of educators.

Introduction

We, Bernie and Caitriona, are two practitioner researchers who have engaged in various research-projects over the past twenty years, sometimes on an individual basis and on other occasions in collaboration with each other. We have co-presented at a number of conferences, including the American Educational Research Association (AERA), the British Education Research Association (BERA), the Collaborative Action Research Network (CARN), and the Educational Studies Association of Ireland (ESAI). Our collaborative undertakings enabled us to live towards our shared core values of social justice, integrity, respect, equality, autonomy and inclusiveness. In this paper, we tell the story of our journey to understand how knowledge-creation and theory may both underpin and emanate from the process of undertaking improvement in practice, which we regard as a central aim of Living Theory Action Research. Our practice currently consists in guiding and supporting both undergraduate and postgraduate students, and teachers as they carry out action research-projects in their classroom practice. We researched our own practice as we engaged in strategies to bring about improvement in our work with these students and teachers. This resulted in new learning about our practice, which has convinced us that the students and teachers with whom we work can produce new learning, and so create what is, in effect, new knowledge for them, from their efforts to improve their practice.

This paper problematises the concept of knowledge-creation. In supporting teachers and students to conduct practice-based Living Theory research, we position knowledge-creation as new learning for the individual. We are aware that some researchers may hold knowledge-creation as the establishment of a definitive truth or truths. We are also aware that the value-base, from which our students and teachers work, may be very diverse. The collaborative activities in which we, as educators and facilitators, invited them to participate helped to unravel such diverse epistemological and ontological perspectives. Our thinking, rather than dependant on the literature on pedagogy, andragogy or paradigm debates, was informed by our research. This paper is an example of both Bernie and Caitriona making our thinking and actions as clear as we can. We are not making a claim to new definitions of knowledge-creation. We claim to have increased our personal understanding and idea of knowledge-creation. We are offering our living-theory of how knowledge can be created. We use the word 'theory' not as a disembodied, universal truth but as our idea.

We draw on our work with the following cohorts as we provide practical examples to illustrate the development of our living-theory:

- Our supervision of individual postgraduate students undertaking a Postgraduate Diploma in Mathematics Teaching;
- Our supervision of undergraduate students undertaking an Initial Teacher Education programme in separate colleges;
- Our joint facilitation of a whole-staff group undertaking self-evaluation of their teaching practice;
- Our joint facilitation of a cross-sectoral group of teachers engaging in self-study/Living Theory Action Research to improve their practice.

We are concerned that the current growth of action research as part of many programmes for pre-service teachers, and for continuous professional development, has led to a focus on numerical assessment tools for practice actions (Efron & Ravid, 2013). Another example, is the Teaching Council of Ireland's 'Criteria and Guidelines for Programme Providers' (2011), which set out learning outcomes for initial teacher education and state 'Knowledge outcomes are associated with facts and concepts; that is, they refer to knowledge of, or about, something' (2011, p. 25). At the heart of our personal concerns is that we feel the forms of knowledge underpinning these programmes are often abstract concepts developed at the level of theory and do not always take account of the knowledge generated by practitioners as they research their own practice.

As we began our journey there were four key questions that we wanted to address:

- In aiming to improve our practice and our understanding of it, how did we embrace critical reflection and self-evaluation, and why?
- How can we show evidence of change leading to improvement?
- What was the new learning for us and for others?
- What was the significance of our new learning?

We begin our story at the end. That was the point at which we realised that knowledge-creation can be held as a value by professional educators and, as such, must not only be written about but lived. We will tell how we came to appreciate knowledge-creation as a value through our living research process as we facilitated others in conducting action research into their own practice. Bernie tells how, many years earlier, she had written about knowledge-creation at both Masters and Ph.D. level but did not appreciate the lived meaning of it at that time. It was only during an interactive learning day, hosted by the Network of Educational Action Researchers in Ireland (NEARI, see www.eari.ie), and facilitated by Jack Whitehead (Whitehead, 2016) that she began to understand the full significance of what she had written. You can see her moment of realisation in video 1:

Video 1: Bernie's moment of realization (Sullivan, 2016) https://youtu.be/rhjJz9M3zZs.

Similarly, Caitriona's moment of clarity occurred as she presented her learning from supporting a student-teacher's research into his practice at the CARN Conference 2016. She said, 'We wanted to find a way, within the systems within which we work, where we could

value the knowledge created by practitioners who were researching their practice, and we suggest that we have done this.'

How and why did we embrace critical reflection and self-evaluation?

This question is about why we facilitate others in conducting research into their practice. This has relevance not only for the value-base from which we worked, but also the underpinning key concepts in the contexts in which we worked. We were introduced to self-study action research while studying for our Masters degrees almost twenty years ago. Having experienced the transformational effects of this methodology in our personal and professional lives, we decided to continue with a living theory research approach in our Ph.D. studies. Since then, our lives as practitioner-researchers have continued to flourish and develop in meaningful and life-affirming ways. Self-study and Living Theory Action Research centre on personal knowledge that is both created and tested in collaboration with others.

We are convinced of the importance of understanding how change can result in bringing about improvement in one's practice. We suggest that it begins with the self, or to be more specific, with the individual's desire for improvement. In our experience of supporting action research-projects, we found that once this desire is acknowledged, the research process can move forward in accordance with each individual's personal or professional requirements. Change, then, begins with each of us, as individuals, and by embracing our capacity for critical reflection and self-evaluation, we can contribute to improvement in our practice or in the understanding of our practice.

Practitioners and teachers with whom we work may wish to change their practice as a result of a particular concern or unease in relation to their practice. They may have discovered that they are not living to their educational values in their practice and consequently may experience themselves as a 'living contradiction' (Whitehead, 1989). We have come to recognise that 'frequently, it is within these areas of confusion, and contesting and conflicting ideas, that the most powerful, richest and most meaningful research-projects are born' (Sullivan et al. 2016, p. 62). Noffke (1997) suggests that the reasons teachers give for engaging in research are to do with:

- Arriving at a better understanding and improvement of their own teaching;
- Hoping to produce knowledge that could be of benefit to other educators;
- Wanting to contribute to greater equity and democracy, in education in particular, and society in general.

We hope that the teachers with whom we work can achieve a better understanding of their teaching and realise their capacity for knowledge-creation in relation to their classroom practice.

As we reflected on these issues, the ideas of O'Donoghue (1999), drawing on the views of John Henry Newman – that to grow is to change and to be perfect is to have changed often – suggests that change, 'need not be threatening; it can in fact bring our lives to perfection' (p. 164). While we are not advocating perfection as a goal of Living Theory Action Research, we are suggesting that a commitment to continuous change and

development can be beneficial for practitioner-researchers. Nelson Mandela made a specific link between education and the idea of change when he described education as the most powerful weapon that we can use to change the world (Sullivan et al. 2016, p. 113). Change, then, can be instrumental in bringing about both personal and social development.

Our aim as educators was to offer other practitioner-researchers the powerful approach of Living Theory Action Research so that they may change their world as they articulate their professional values and reflect critically on their practice. But what if we cannot bring about a change in our situation? This is particularly relevant for us working within higher-level organisations with established ways of accrediting new knowledge in specific fields. There we may not be able to bring about significant changes in the thinking or behaviour of others, though we may have an educational influence on them through living out our values in our practice and through our commitment to improvement. What we can change, however, is our own approach, or our own attitude, through a process of continuous critical reflection on our practice. This very personal change can have an educative influence on others within our context and this provides an example of the social implications of Living Theory research.

We were working alongside teachers who often lacked the confidence or self-belief that would have enabled them to view themselves as knowledge-creators. This reductionist stance may have occurred either because they were unaware of, or underestimated, their ability to bring about improvement in their practice. The idea that teachers can be implementers of change in their classroom-practice is a powerful one, and it can lead teachers to a realisation of the immense value of the work that they do in their classrooms on a daily basis (Sullivan et al. 2016, p. 112).

When we were practising teachers, our work was intrinsically linked to the concept of values. Now our work as facilitators is equally guided by the tenets we hold dear.

So far you have heard how we believe in valuing teachers' professional knowledge, whether content-knowledge, experiential knowledge or pedagogical knowledge, and in inclusiveness and openness to the sharing of knowledge. Our ideas on inclusiveness come from our belief that, while it is important to ensure that we try to live to our values of respect and integrity, we need to do so in a manner that is as collegial as possible and that takes account of the fact that others also have values. Ideally, our relationship with other educators conducting research into their practice should be based on cooperation and collaboration, and we also recognise that there may be competing values (Roche, 2007). Our values, and the context in which we work, mean that we are dealing with issues of knowledge-creation, autonomy and professional development. We wanted to understand how teachers could begin to position themselves as autonomous and influential creators of knowledge with a sense of agency in relation to their teaching practice. We were facilitating a form of professional development through engaging educators in research, which Sachs (2005) suggests is a good strategy for developing the knowledge-base of teaching. We can confirm, from a Living Theory research-project that we undertook, that teacher-researchers can add to the knowledge base of their profession, developing both agency and influence by engaging in action research for professional development (Glenn et al. 2012). We jointly and individually conducted research-projects within this collaborative research, commissioned by the Teaching Council of Ireland (www.teachingcouncil.ie).

How can we show evidence of change leading to improvement?

As we seek evidence of change leading to improvement in our practice, we examine our data with a critical lens. The evidence can emerge in a number of ways and from a variety of sources of data, and ours included:

- Our reflections in journals, videos, skypes and emails;
- Feedback from critical friends, observers and participants;
- Comments made or views expressed during discussions with colleagues;
- Formal evaluations and views expressed by educators, whom we supported, on any changes   that we had implemented in our practice;
- Collaboratively written books (McDonagh *et al*. 2012; Sullivan *et al*. 2016) and collaborative conference presentations.

We now elaborate on how we brought about a change in our thinking and in our practice, through critical engagement with the literature, through self-reflection on our practice, and through efforts to live more closely to the values that we claimed to hold. Winter (1996) stresses the importance of reflexivity, or reflecting on our own thinking, as well as on our actions. Reflective thinking, as we experienced it, is about generating new personal knowledge (Polanyi, 1958). Our data gathering methods, such as our reflective journals, feedback from critical friends, observers and participants, planning documentation videos and our collaborative writing, and how we generated evidence of a claim to change in our actions or thinking, support the idea of knowledge as not only personal but as also created within relationships with others. We were 'critical friends [who] share a commitment to inquiry, offer continuing support during the research process, and nurture a community of intellectual and emotional caring' (Pine, 2009, p. 237). We provided similar critical friend experiences for the educators that we supported. The concepts of nurture and caring are particularly relevant in this context, particularly when some reached a crisis-point in their research process, 'where only the empathy and understanding of a supportive friend can provide the impetus to persevere with your research' (Sullivan et al., 2016, p. 118).

Each time that those we supported provided evidence of change in their practice or in their thinking, they demonstrated their agency and autonomy, as a professional committed to a process of educational improvement. Similarly, each time we discovered evidence of change in our thinking or in our practice, we analysed this with reference to our values of inclusiveness, autonomy and knowledge-creation, as we looked for evidence of where we were, or were not, living to our values. We now focus on how we examined our practice to determine if there was evidence of a change leading to improvement in our practice or in our understanding of our practice. This process provided us with new learning or new knowledge about our practice. Bernie now describes a situation where this new learning occurred for her:

> In facilitating a group of teachers who were engaged in projects aimed at improving their practice through a self-study action research approach, I was able to reflect critically on my own practice. Initially, I tried to live to my value of equality and defined my role as being on a par with the other participants. However, with the possibility of one voice becoming the dominant one, I realised that, in order to fulfil my value of inclusiveness, I needed to take a

more active leadership position to ensure that all participants had equal opportunity to contribute to the dialogue and to the knowledge-creation. In this manner, I was able to ensure that an ethos of equity prevailed and that the prospect of the development of adverse power relations was diminished (Foucault, 1980). Being able to participate actively in the group was important to the teachers: in her evaluation, one teacher wrote, 'I loved the small group as it afforded everybody ample time to present and share their ideas, concerns and successes' (Sullivan, Reflective Journal, 2012).

Throughout the research-process, we were gathering data from and with each other, as in the example above, in order to create credible evidence of real-life agency, the truthfulness of which has been tested by both ourselves and others. As McNiff (2002) writes, when we have other's validation we can honestly say:

> I am claiming that I have influenced this situation because I started looking at ways in which I could improve what I am doing, and I now have the endorsement of other people to show that what I say I am doing constitutes a fair and accurate claim. (McNiff, 2002)

Our agency was evident in the new learning that occurred for us and for those we supported. This new learning enhanced our professional knowledge base as we will next explain.

What was the new learning for us and for others?

Learning and improvement or change can be shown to occur at various levels. Different versions of these levels can be found in many action research literatures (Bradbury, 2015; McDonagh *et al*., 2012; McNiff & Whitehead, 2010; Noffke,1997).

- Improvement at a practical level, where we can show that we have improved some aspect of our facilitation of action research;
- Improvement at a personal level, where we have changed or clarified our views and understanding of our practice;
- Improvement at a theoretical level, where our new thinking provided us with new knowledge and enable us to develop a new theory of our practice.

A number of authors, including ourselves (McDonagh et al. 2012), attest to the potential of an action research approach to result in the development of new knowledge. For example, Greenwood and Levin (2014, p. 7) write, 'We believe that AR [action research] is one of the most powerful ways to generate new research knowledge.' Coghlan & Brannick (2014, p. xiii) express a similar view, stating that, 'Action research is an approach to research which aims at both taking action and creating knowledge or theory about that action as the action unfolds.' Writing about teacher researchers engaging in enquiry, Alexakos (2015, p. 3) believes '…they must be concerned that their knowledge is real and meaningful – that, as teachers, their knowledge as it emerges out of their everyday experience does matter.'

Here is our story of how meaningful knowledge emerged from our real experiences and from the experiences of those whom we supported. This new learning occurred across the three levels mentioned above. Earlier we explained our values of inclusiveness,

autonomy and knowledge-creation, which underscored what we learned from our research. Now we refer to what we believe about knowledge as an epistemological value, and we refer to how we see ourselves in relation with, and to, others as an ontological value or a value about being (see also McDonagh et al. 2012, pp. 27–45).

In our roles as group-facilitators and supporters, we wanted to question the gap that exists between theories of organisational knowledge-creation (Nonaka, 1994) and group-facilitation (Alpay 2005; Thomas et al. 2007), and our experiences of working with educators. Sometimes the teachers and students, with whom we work, feel somewhat like characters from Shrek, the Picture Book and movies (Steig, 1990; Adamson & Jenson, 2001) where we resemble the ogres who like to live mostly solitary but messy lives in their swamp. We feel that, frequently, theorists in traditional forms of research appear to inhabit the lofty towers in a Kingdom of Far, Far Away, and they have little or no understanding of, or influence on, the ogres in the swamp. For example, on occasions when we are introduced to a group by the title of 'doctor', the group-position seems to see us as inhabiting the lofty towers in a Kingdom of Far Far Away. The group then positions itself in the 'swampy lowlands of practice' (Schön, 1995) wherein lie the 'messy and confusing' problems practitioners meet daily. This sets up an initial barrier contrary to our value of inclusiveness. To counter such occasions, we have established groups as communities or networks, with the purpose of conducting personal, practice-based, action research. These communities are a key locus for developing social learning capability (Wenger-Trayner & Wenger-Trayner, 2015; Glenn et al. forthcoming) and have the potential to be transformational. Learning is fundamental to human existence and, because it often takes place in group-situations, it is also a social activity. There follows an example in which Caitriona documented social learning, and a student-teacher combined philosophical and practical rationale and clarified for himself the concept of knowledge-creation. This example not only explains Caitriona's change in practice but also the student-teacher's change in practice, and the personal learning for both of us from the process.

In a video from a NEARI meeting, a post-graduate student-teacher presented his research into practice (Maher, 2016). He had studied how he could improve his teaching of free writing in his class of 10-year-old pupils. For his initial degree, he had previously conducted quantitative research. In previous years, the structure of research in his Master of Education studies was more like a serious literature-review of relevant theories in his chosen topic. But this year the redesigned course required practice-based research. The student's initial reaction was, 'Why can't I do traditional research? How could practice-based research have any gravitas?' His challenge was not unusual because, as Douglas & Ellis (2011, p. 175) suggest, institutionally, universities and schools are required to work with 'different conceptual tool-kits'. Students and other stakeholders, who have long been exposed to valuing abstract knowledge (or assessable/measurable knowledge) over practical knowing, can find the transition from one epistemological 'tool-kit' to another, particularly difficult (Roche, 2014).

When this student completed his classroom-research, you can witness his emotional reaction to the new learning gained. He found that his students made suggestions as to how the writing activities might be better structured from their learning perspectives. He had designed his intervention so that pupils who had fear-of-the-blank-page syndrome could

work individually on Minecraft Computer Game (See https://minecraft.net) to construct a story-line. His students suggested they work in pairs or small groups. His reaction to this was, that they were teaching him about pedagogy and theories of learning, namely the potential and effectiveness of social constructivism and collaborative learning (Maher, 2016). He learned the importance of including student-voice as it presented contradictory data to initial quantitative test-results. He checked this contradictory data against the literature. This led him to question his research tools as well. He became hooked as a teacher researching his practice, as he questioned the new knowledge that had been created in his classroom and the what-ifs of his research, with reference to theory and action research.

From my work with student-teachers, I learned they had begun the transition from a student-identity to a more professional teacher-identity, because the students owned their learning. In supporting these projects, I believe that I am contributing to 'fluidising historical and cultural boundaries' (Whitehead, 2013, p. 1) between what some understand as research, and what research to improve practice by practitioners can offer (Roche, 2014). The primary purpose of action research, according to Reason & Bradbury (2013, p. 4), is about working towards practical outcomes, and also about creating new forms of understanding, 'since action without reflection and understanding is blind, just as theory without action is meaningless'.

In traditional forms of research, researchers present their findings to others at the end of the research-project. By contrast, in a self-study action research approach, the practitioner researcher begins to share the emerging ideas with others from the outset. This is achieved through sharing ideas and reflections, which the researchers may have noted in their reflective journals, with other participants, and through engaging in dialogue with critical friends and colleagues. In an action research approach, therefore, new learning, leading to new knowledge, becomes apparent throughout, rather than at the end of the process. Bradbury (2015) articulates the relationship between action research and knowledge-creation succinctly in the following statement: 'Action research is a democratic and participatory orientation to knowledge-creation. It brings together action and reflection, theory and practice, in the pursuit of practical solutions to issues of pressing concern' (Bradbury, 2015, p. 1).

In our role as examiners of research-projects, we will now look at an 'accountability' scenario – how knowledge-generation, theory and practice are placed in the examination of research. As supporters and examiners of research-projects, how can we move forward in the form of research examination chosen? First, in contrast to traditional assessments, we endorse public examinations in which the truthfulness and validity of the research can be tested in appropriate form. There are other key elements we believe are necessary to ensure that new knowledge is being created from practice, as Caitriona describes in video 2.

Video 2: Caitriona describing key elements of creating knowledge. (McDonagh, 2016) (https://www.youtube.com/watch?v=1yFg9XJVZJ8&feature=youtu.be).

These include:

- How their research changed and developed;
- Their learning about research processes and its implications for their future as teacher-researchers;
- A commitment to 'inquiry as stance' in their practice.

Finally, we learned that the following questions can help those we support to link theory and practice when questioning the validity of their research:

- Can you explain the rationale for your project, indicating the role of the assumptions, epistemological and /or ontological you may have had?
- Can you explain to what extent did specific theories/theorists influenced your research?

This form of critical questioning expands a literature-review from an initial information-gathering activity to a real-life experience that continues throughout the research and its writing up.

Using the above example of improvement at a practical level, we could develop a theory that a self-discovery or experiential approach to learning can result in students becoming more independent learners and thinkers, in control of their own learning. This would require, of course, sound explanations and critical analysis for the research-findings that underpin the emergent theory. The example of improvement at a personal level could help both the student and us to generate a living theory of the importance of creating a dialogical environment in the classroom or in the groups we support, in which pupils and our group participants have equal opportunity to voice their opinions in classroom and group-discourses. Through such thorough and perceptive analysis of research, and through the development of new knowledge about educational practices, we are able to articulate the significance of our findings at a theoretical level.

What was the significance of our new learning?

A key significance of our new learning for ourselves was that we came to understand the importance of having a sound epistemology around our research. In our practice we found that knowledge-creation was at its strongest when shared with others. When the social dimension of learning is actively and assiduously promoted, the new learning can have widespread educational influence. The ripple effect from the dissemination of new

knowledge can be of benefit to other colleagues as they research their practice. The TALIS (2013) report (OECD, 2014) suggests that, where there is cooperation, collaboration and openness to sharing ideas among teachers, the learning-outcomes for students are increased. Values of inclusiveness, autonomy, knowledge-creation, cooperation, collaboration and openness inspired the initiation of our research into our practice. It was therefore amazing to hear participants claim that they had experienced these values as they worked with us, as in the following two videos. Their witnessing of our values in our revised practice also provides evidence of the truthfulness and believability of our accounts.

A school principal tells of the impact of the whole-school action research projects, which we facilitated, on her staff in video 3.

Video 3: Impact of whole-school action research project, (McDonagh, 2017a)
https://www.youtube.com/watch?v=LSeOSgwHti4

In video 4, a second level teacher tells of her learning in a cross-sectoral group of teachers, facilitated and supported by us.

Video 4: Teacher reflecting on her learning in group. (McDonagh, 2017b)
https://www.youtube.com/watch?v=Bd8exbhT7DY

We had demonstrated our values in action in our revised practices. We had supported ourselves and others in creating new knowledge but, as we said, 'Knowledge comes in many forms and from various sources, but none is as enriching or as deep as the knowledge you create for yourself through critical reflection on your thinking and on your actions' (Sullivan et al. 2016, p. 123). The field of epistemology is a complex one, and engaging with ideas about forms of knowledge, who is considered to be a knower, knowledge-acquisition, knowledge-generation and knowledge-creation are all important epistemological concepts. (For good explorations of these ideas read Dewey, 1933; Foucault,

1980; Polanyi, 1958; Schön, 1995; Whitehead & McNiff, 2006.) We also have practical examples of some of these seminal ideas in our theses – see www.eari.ie).

Until we get on the inside of these ideas, we may mistakenly think of knowledge as something 'out there', separate from ourselves – in a book, on the internet, in the minds of experts – something ready-made and reified as a product to be transmitted, as opposed to something dynamic, internal and personal that we generate for ourselves. These assumptions may stem from a tendency to overlook some important facts about knowledge, such as that it is a process; that it is constantly evolving and developing; that it can be created through engaging in critical self-reflection; that it can result from participating in critical discourse with others.

We believe that knowledge-creation and theory emanated from our improvements in our practice. We have supported both participants and ourselves in the creation of new knowledge in the exciting ways that we believe constitute our living-theory of knowledge-creation, which we will explain in the next section.

What is the significance of our research?

We will consider this question under the headings of:

- an explanation of our living theory of knowledge-creation;
- the potential significance of our living theory for others, such as for course designers and facilitators.

An explanation of our living theory of knowledge-creation

This explanation is about describing and explaining:

- how we made tacit professional knowledge explicit;
- how the collaboration that we facilitated and supported enabled both ourselves and participants to create new professional knowledge;
- how we supported the making of this newly-created knowledge both explicit and tacit;
- how we internalised the new knowledge created so that it changed how we work and live.

We believe that we made our tacit knowledge more explicit when participants could see and acknowledge our values and what we hold dear about research and our practice. Our tacit professional knowledge became evident to participants through the practice of their skills of observation. We contend that our approach in supporting learning-communities to create knowledge, enabled others to learn from our well-established belief in the potential of living theory action research to achieve professional development. Gradually participants became socialised into ways to improve their practice through embracing Living Theory Action Research, based in the specific epistemological values of knowledge as personal, yet also created in relationships with others.

How the collaboration that we facilitated and supported enabled both ourselves and participants to create new professional knowledge was evident in the above videos of our participants. The tacit knowledge that each of us possessed was challenged, clarified and

made public and explicit though the various forms of dialogue in which we engaged. Our dialogue goes beyond what Shulman (1999) describes as the scaffolding of our personal learning, and is, as Glenn *et al*. (forthcoming), say, a source of others' learning, a form of mutual respect for each other's knowledge and a source of healing and wellbeing. So, each person was opening up their tacit knowledge and making it collaboratively explicit as they created new knowledge together.

How we supported the making of this newly-created knowledge, both explicit and tacit, involved synthesising and making public the new knowledge from many different sources. Each participant, and we as facilitators, must do this for ourselves. The processes we have used to achieve this are critical reflection, engaging in self-study action research and, especially, ensuring that the evaluation of our research and that of the participants is epistemologically grounded. This paper is an example of making our thinking and actions clear, and inviting feedback on both.

We internalised the new knowledge created so that it changed how we work and live. This was shown in Bernie's acknowledgement of knowledge-creation as one of her professional values in the first video. We also have described above how we altered our understanding of how knowledge-generation, theory and practice are placed in the examination of research and how we now question and support those being examined. As we share the new knowledge we created, we use it to broaden, extend and reframe our own tacit knowledge.

We do not visualise the four activities above as ascending layers towards knowledge-creation. Much is written about knowledge-creation for the business world, where some see knowledge-transfer almost as a spiral process of moving from tacit to tacit knowledge (*Socialisation*), from tacit to explicit knowledge (*Externalisation*), from explicit to explicit knowledge (*Combination*), and finally from explicit to tacit knowledge (*Internalisation*) Nonaka, 1994. (See http://www.uky.edu/~gmswan3/575/nonaka.pdf for details). Although we would agree with many theorists that new ideas are created in our minds through interactions between tacit and explicit knowledge as a social activity, we visualise the actions within knowledge-creation to have the closeness of intertwined fingers as we bring two hands together. There is no hierarchy of actions and removing one finger from the entwined hands is almost impossible.

The potential significance of our living theory for others, such as course-designers and facilitators

We often remind participants that the insights gained through undertaking their research can have substantial and unexpected significance, which Bradbury (2015, p. 8) describes as 'having meaning and relevance beyond their immediate context in support of the flourishing of persons, communities and the wider ecology.' We believe that our research has led us to articulate that our theory of knowledge-creation is educational, in that it concurs with the AERA's (2017) explanation of research as 'a field of inquiry aimed at advancing knowledge of education and learning processes and the development of tools and methods necessary to support this endeavor'. We also believe that the tools and methods we used may have significance for course-designers and facilitators.

We believe that our work has relevance for courses and programmes using a living-

theory approach to action research, and for their evaluation. Courses that conduct action research to enhance practice often have difficulty in finding a fair marking-system for them, sometimes deciding on a paper-only report. This minimalist stance explicitly rewards objective knowledge as opposed to the many forms of knowledge that are relevant and explicit in practice. By contrast, we have heard participants – as in the following video – yearn for more equitable systems, in which the knowledge of the academic and practitioner are more equally valued. In video 5 a principal of a school where we had facilitated action research and self-evaluation, now appreciated the knowledge created by her staff and sought that it be valued in College/school partnerships existing to support initial teacher education.

Video 5: Principal appreciating staff knowledge, (McDonagh, 2017c)
https://www.youtube.com/watch?v=LSeOSgwHti4

Conclusion

Just as Bernie and I come to the end of this part of our journey, we find new issues to examine in future research, such as:

1. How do we develop more equitable systems where the knowledge of the academic and practitioner are more equally valued?
2. What can be understood as new knowledge, knowledge-creation and what knowledge can be valued?

In this paper, we focused on the significance of supporting living action research for ourselves and for others. We examined our journey of initiating a process of change leading to improvement in our practice as facilitators that can have far-reaching effects, sometimes even beyond our own intentions or expectations. We began to recognise our capacity to be effective agents of change and what this might mean for current understanding of the knowledge and assessment processes required to appreciate the value of knowledge-creation for educational professionals. Like Mureşan & Flueraş (2009), we try to envisage the education paradigm for the 21st century: we see it as a place in which there is a unity between the world and knowledge, and where teachers and academics no longer work in isolation but work in collaboration to create new knowledge.

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