# Co-creating an educational space

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## Abstract

In this paper, I generate my living educational theory as an explanation of my educational influences in learning as I research my tutoring with practitioner-researchers from a variety of workplace backgrounds. I will show how I have closely inter-related the teaching, learning and research processes by providing opportunities for participants to accept responsibility for their own learning and to develop their capacity as learners and researchers. My Ph.D. inquiry 'How can I create a pedagogy of the unique through a web of betweenness?' (Farren, 2006) was integral to the development of my own Higher Education teaching practice as I clarified the meaning of my embodied values in the course of their emergence in practice. I try to provide an educational space where individuals can create knowledge in collaboration with others. I believe dialogue is fundamental to the learning process. It is a way of opening up to questions and assumptions rather than accepting ready-made solutions. The originality of the contribution is in the constellation of values and understandings I use as explanatory principles in generating my explanations of educational influence. This constellation includes the unusual combination of an educational response to the flow of energy and meaning in Celtic spirituality and the educational opportunities for learning opened up by digital technology.

**Keywords: Technology; e-Learning; Higher Education; Action Research; Pedagogy.**

*What lies behind us*
*And what lies before*
*Are tiny matters*
*Compared to what*
*Lies within us*
(Ralph Waldo Emerson)

## Prologue

As I sit at my office desk in the university's Education department preparing for my next lecture, sounds of laughter come from the playground of a nearby primary school. On opening my office window, the excited sound of children at play floods the room. Thankful for the break, I watch their interaction: one child passes the ball to another who takes the ball, and, balancing it on his left foot for a few seconds – an act that takes his school mates by surprise – he skillfully slides it under his left foot to another child. She continues the ball-play. I wonder what it is about ball-play that can hold our attention and interest? Is it the possibilities that a game opens up? Is it the sense of excitement, of uncertainty, of not knowing how it will all end? Is it that each person is called on actively to participate? Is it that once play starts each person is dependent on the other and yet needs to act independently as well, when she runs with the ball? Is it that even when you're not playing the ball you have to continue actively to read the game?

As I watch, the children are totally engaged in the game: each child with their part to play, as they pass the ball from one to the other. I reflect that as an adult I can enter the world of the children in a curious and imaginative way, feeling that I am an active participant, promoting in my thoughts and occasionally by word and gesture the flow of the game with them.

I reflect that life, like the game, can be full of uncertainties. Each of us can be a learner who strives to develop their knowledge and skills to make sense of the world around us. This view emphasises the importance of interaction with people and the world (Bertrand, 2003). Our values of caring and sharing need to be developed if we are to construct the world in a positive way. Who knows what will come from these small beginnings? How can I develop social formations (Whitehead, 2005) that can lead to active, inquiring and creative learning in a variety of contexts? How can we help develop a love of learning from an early age? In our current Higher Education – where talk is of knowledge-transfer rather than pedagogy – are the learner's needs being overlooked? Are students recipients of a curriculum instead of largely choosing and/or making it themselves (Barnett, 2000, p. 163). Should we not consider the 'why' of education rather than only the 'how' (Webb, 1996; Walker, 1999; Rowland, 2000). Wouldn't it be interesting to step into the shoes of the learner at the other end of our classroom and experience what it is like to be looking in from the other side?

Were we mentally and habitually to exchange places with our pupils or students, as teachers we would have to rely more on our imaginations. We would have to deal with uncertainty and ambiguity and treat them as part of the learning process. We would not be

able to plan everything in advance but would probably allow knowledge to emerge and grow in and through the practice. We would listen to our learners more carefully; indeed we would have their voices in our heads and respond to their individual needs. Shor and Freire's *A Pedagogy for Liberation* (1987) emphasises the importance of dialogue in our learning, 'we each stimulate the other to think, and to re-think the former's thoughts' (p. 3). Freire regrets that teachers are told that they have nothing to do with the production of knowledge: 'If I spend three hours with a group of students discussing, and if I think that this is not researching, then I do not understand anything' (Shor and Freire, 1987, p. 8). Perhaps we need to learn from musicians, artists, designers and children who play games, even those who hold the ball in both hands and run! As Schön points out:

> It is rare that the designer has the design all in her head in advance, and then merely translates it. Most of the time, she is in a kind of progressive relationship: As she goes along, she is making judgements. Sometimes, the designer's judgements have the intimacy of a conversational relationship. Where she is getting some response back from the medium, she is seeing what is happening – what it is that she has created – and she is making judgements about it at that level. (Schön, cited in Winograd, 1996, p. 176)

In my own learning and educational development, I rely on my previous knowledge, experience, attitudes and skills, and of course the greatest faculty of all, the imagination, as I live and learn in relation to others. Learning is essentially a human, creative and dynamic exploration.

Is it not important for me as a Higher Education educator to strive to articulate and live my educational values and to give form and shape to them in my practice (Whitehead, 1989a, 2004)? Is it not important that in professional development programmes, we, as co-practitioners should become actively engaged in learning to share our understandings, articulate our values, design and construct artefacts that reflect them and learn from one another? With such a stance, would we not, as 'professional learners' learn to take ownership and responsibility for our own learning, as we go on our educational journey? According to Rowland, 'improving teaching involves critique, personal inquiry and openness to change' (Rowland, 2004, p. 99).

For today's teachers, new technologies allow for new ways of doing things. Information and Communications Technologies (ICT) holds out much promise in this area. With developments in bandwidth, learners can communicate different forms of representation in the form of multimedia. There is also the opportunity to move beyond the walls of the classroom and opportunities for collaboration with others. ICT is constantly shifting and developing and we can feel we are moving and exploring unknown terrains: 'With the advent of new technology-rich teaching on a large scale there are many opportunities for creative and innovative teaching and new relationships both with students and the shifting world of knowledge' (Skilbeck, 2001, p. 89). New technologies allow for new forms of representation and impact on how we disseminate our knowledge, research and teaching.

Early computers laboured over tasks that are now done in nanoseconds. Speed makes the computer a friend that can whisk us along rather than leaving us in frustration. But we need to be attentive to the journey rather than become too fascinated by the technology. We need to connect with our own values and grow with the larger community in an inter-related and dynamic way. In the learning game, each of us has to use their gifts to

create opportunities, open a path that can lead to new understandings, new and wonderful sights and sounds!

## Context

My research programme for the past 10 years (1998-2008) at Dublin City University has focused on the generation of educational knowledge through creating explanations of my educational influences in my own learning, in the learning of others and in the learning of social formations. By referring to the education of social formations, I raise the question of how organisations learn to live more fully the values that can carry hope for the future of humanity (Kilpatrick, 1951). I have supported practitioner-researchers from a variety of workplace backgrounds in their generation of knowledge from their research into improving educational practice.

Dublin City University (DCU) was created as the National Institute for Higher Education in Dublin in 1975. It enrolled its first students in 1980 and was elevated to university-status (with the University of Limerick) in 1989.

> Twenty years ago in 1988 NIHE Dublin had 2,500 students and consisted essentially of the Albert College and Henry Grattan buildings. We didn't have mobile phones, the internet or email, and unemployment stood at 17%! Twenty years on, DCU has nearly outgrown its current campus with over 10,000 students practically all of whom have mobile phones and we are effectively at full employment. What changes will another twenty years bring and what plans do we need to put in place to ensure DCU's success? (DCU Foresight Report, 2008)

The report highlights the need to look at different approaches to learning – face to face, online, group (p. 14) – and new models of communication – e-based versus face-to-face communication and interaction, and their application across different areas of life (p.16). DCU is a young University and has grown over the past twenty five years to become recognised, nationally and internationally, as a centre of academic excellence.[1]

I joined the staff of DCU in November 1997 as a Research Officer at the Centre for Teaching Computing, in the School of Computer Applications, when I began to research my own professional practice in Higher Education. In February 1999, I joined the lecturing staff in the School of Computer Applications and I began teaching on the M.Sc. (Master of Science) Computer Applications in Education programme. I have worked and researched in two different contexts in DCU, first in the School of Computer Applications on the Masters programme in Computer Applications in Education from 1999-2002 and secondly, since September 2002, I have been working in the School of Education Studies. Soon after I joined the School of Education Studies I established an e-Learning Strand on the existing Masters in Education and Training Management Programme. I now co-ordinate the Masters in Science (M.Sc.) Education and Training Management Programme (e-Learning Strand and Leadership Strand).

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[1]    See a Visual Tour of DCU campus.

As a teacher in a Sixth Form college in London in the late 1980's I made extensive use of co-operative group-work and group discussion and found it to be an effective way of teaching and learning. My research into the unique educational features of interactive technology began during my Master of Education (M.Ed.) degree at the University of Bath in the early 90s. I explored the use of an interactive video programme for my Masters dissertation. I believed that learners needed to become more involved in shaping their own learning. The research was published as *Interactive video and group learning: two action inquiry based evaluations* (Cloke, Farren and Barrington, 1996). After I had completed my Masters degree I taught in The British School in Brussels for five years. I taught 'Computer Studies and ICT' to GCSE (General Certificate in Secondary Education) level (Year 10 and 11); 'Computer Studies' to A (Advanced) level (Years 12 and 13); and 'Communications and Marketing' on BTEC (British Technical Education Council) courses. I believed that the principal strength of the new syllabus in Information Technology was its open-ended nature. In other words, it wasn't prescriptive. The syllabus valued the process of inquiry as well as the product. It provided learners with the opportunity to explore and experiment with ICT and to carry out project work in areas of interest and relevance to them. It provided me with some scope for applying my interactive approach to Information Technology (IT) teaching in the classroom.

The next stage of my teaching and learning journey took me to Dublin. In 1997 I was appointed Research Officer at the Centre for Teaching Computing, in the School of Computer Applications at Dublin City University. The Centre for Teaching Computing provided me with the opportunity to continue my interest in the educational uses of interactive technologies. Whilst working with the Centre for Teaching Computing in 1998 and 1999, I developed links with international academics through participation in several online learning professional development courses with Sheffield University, The University of Greenwich, UK, and Southern Cross University in Australia. I found that even though there was extensive literature on student use of the internet, little reference was made to teachers communicating with each other via the internet and the way collaborative work could lead to improvements in teaching practice. I believed that these should have been areas of research-priority. I became involved in researching how educators could use an online learning environment to develop their practice.

In February 1999 I joined the lecturing staff in the School of Computer Applications. I began teaching on the M.Sc. in Computer Applications for Education programme – a two-year part-time programme which had been established in the department in 1996. This new role provided me with the opportunity to begin to fill some of the gaps in the available literature in the practical application of interactive and collaborative learning environments. A paper *Using Information and Communications Technology (ICT) to support Action Research and Distance Learning* (Farren, 2000) explores the educational applications of desktop videoconferencing.

I taught in the School of Computer Applications from February 1999 to August 2002. The programme was geared towards technical understanding of ICT rather than about ICT as applied to education. It had been envisaged that teachers would already have sufficient knowledge of pedagogy and would require mainly technical understanding and skills that would enable them to make use of ICT in their teaching. It is clear now that this technical

approach to ICT was important but it underestimated the need of teachers to examine possible pedagogical uses of ICT in day-to-day teaching and learning.

## Living Educational Theory approach

In 1993, the Self-Study research group of the American Educational Research Association (AERA) was established by a group of international Higher Education educators. The importance of the Self-Study group is in its contribution to the development of a new epistemology for teaching and learning. *The International Handbook of Self-Study of Teaching Practice* (Eds. Loughran, Hamilton LaBoskey, Russell, 2004) provides evidence of how self-study research is influencing teacher education. The research-based practice approach to learning that I have developed at DCU ensures that participants – working educators on a postgraduate programme – provide evidence of how they are improving educational practice and at the same time contributing to new knowledge in their disciplines.

My continuing commitment to supporting practitioner-researchers to develop their living educational theories is a consequence of the importance I attach to providing space for practitioner-researchers to ask, research and answer the question, 'how do I improve my practice?' Barnett (2000) has referred to the need for a 'higher education', that is, where action, self and knowledge are given equal weight in the learning process. The research programme that I have developed and sustained at DCU is concerned with supporting practitioner researchers to develop their practice and improve their capacity to account for their practice and contribute to new knowledge.

Participants in the Masters programme use an action research approach to reflect systematically on their practice in order to bring about improvement and contribute to new knowledge. In its focus on practice, action research is rooted in the concerns of practitioners in real-world settings and in disciplined self-evaluation and reflection. In action research, the researchers do research on themselves and define the areas for improving learning, developing action plans, acting on the plans, gathering data, assessing their own learning, and redefining the areas for improvement. There is now a body of researchers, who are convinced that research in the human sciences should take account of the potentiality for creative action of all relevant participants and relate to broader social environments (Bognar & Zovko, 2008). Jack Whitehead has been working at the University of Bath for over thirty years and he has developed the action research approach he has called 'living educational theory' (Whitehead 1989b). He believes that by asking questions of the kind, How do I improve what I am doing? practitioners can create their own living educational theories by embodying their educational values in explanations of their practice (Whitehead, 2004). McNiff and Whitehead (2006) believe that an educational theory must explain our educational influence in our own learning, in the learning of others, and in the education of social formations.

## Co-creating an educational space for practitioner-research

In this paper, I am showing, with the help of video clips, what I do in my educational practice as I facilitate a community of practitioner-researchers to account for their own educational development. I relate to Bruce Ferguson's (2008) call to, 'validate forms of research that can convey knowledge not easily encapsulated just within pages of written text and work to overcome those whose knowledge and skills have been, in the past, inappropriately excluded' (p. 25).

I hope I can communicate with the help of video how I am explaining my educational influence through explanatory principles, which embrace Celtic Spirituality. The Celtic spiritual tradition is among the most ancient in Europe and its origins can be traced over 3000 years. The feature of Celtic Spirituality that I regard as most relevant to my work is the opening up to connections and relationships and an awareness and commitment to understanding the other. There is also an awareness of the inward and outward journey and how this is central to the development of our living of human values such as love, care and courage. As in the photograph which I had the pleasure of experiencing one early Spring morning Celtic Spirituality recognises the connectedness of all things (Figure 1).



**Figure 1**. Sunrise

In his book *Divine Beauty: The Invisible Embrace* the Irish theologian and philosopher, John O'Donohue uses the term 'web of betweenness' to refer to the interconnectedness of all things, 'as in the rainforest, a dazzling diversity of life-forms complement and sustain each other. There is secret oxygen with which we unknowingly sustain one another' (O'Donohue, 2003, pp. 132-133). O'Donohue's idea of community extends beyond the social to the idea of a community of spirit in which the individual emerges and grows: 'The human self is not a finished thing, it is constantly unfolding' (op. cit., p. 142).

In my view spirituality is an essential part of being human. The meaning of Celtic Spirituality as expressed in my teaching and learning situations is the value I place on dialogue, teamwork and co-operation. I try to create an educational space in which the participants and I can develop our own human capacity as we learn with each other. I approach validation meetings with the intention to facilitate each individual practitioner-researcher to make the inward journey that prompts the articulation of the values that give meaning and purpose to their work. The inward journey also connects us with the ancient Greek aphorism 'Know Thyself'.[2] In addition to this individual personal reflection, the sharing of our individual narratives with each other creates trust between each individual and in this way a sense of community is formed:

> [A] true community is not produced. It is invoked and awakened. True community is an ideal where the full identities of awakened and realized individuals challenge and complement each other. In this sense individuality and originality enrich self and others. (O'Donohue, 2003, p. 133)

The first four video clips in this paper were taken during a validation meeting that was organised as part of the Masters degree research process.  The purpose of a validation meeting is to provide practitioner-researchers with the opportunity to present their research to others. Validation also enables participants to gain new insights into the research process. With the permission of all, I video-recorded this meeting. The four teachers in the video clips were carrying out a self-study of their own educational practice. Two of the teachers were studying for the Masters degree in Computer Applications in Education and two of the teachers were studying for the Masters degree in Education and Training Management.

The importance of video technology is that it allows one to video-record the validation meeting and to share the cooperative learning with a wider audience. The participants at the validation meeting can review the video and learn from their own reflections and the interactions between the group members. The video clips also allow me to provide evidence of how I am facilitating a cooperative learning process based on dialogue and participation. Eisner (1988, 1993, 1997, 2005) advocates the need to extend the forms of representation in our understandings of educational research to include multi-media.

At the time of this study, Fionnuala Flanagan was teaching Maths and Science in a post-primary school, Chris Garvey was teaching Science in a post-primary school, Bernie Tobin was Assistant Principal in a primary school and Mairead Ryan was also a teacher in a primary school.

The video clips show the importance of 'storying' experience (Clandinin and Connolly, 2004). The storying process is central to encouraging reflection. We can create stories of the reflective journey with the use of digital video. I hope you can see the creativity, inquiring mind and critical judgement of each practitioner-researcher as they inquire into their own learning and articulate the values that give meaning to their work.

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[2]    The attribution of this exhortation is often attributed to Socrates, but this is contested (see 'Know Thyself' in Wikipedia).

**Video 1:** Introducing a new writing approach (Farren, 2008d)

In Video 1 (Farren, 2008d) Bernie Tobin explains the step-by-step approach that she and her colleagues used in order to introduce the new writing approach to pupils in primary school. Bernie expresses her own educational values as she explains the process of her learning and her influence in pupil learning.



**Video 2.** Concept-mapping and problem solving (Farren, 2008f)

In Video 2 (Farren, 2008f) Fionnuala Flanagan discusses how she introduced concept-mapping to help students at post-primary level to problem solve in mathematics classes. She explains how concept-mapping allowed the students to think more clearly about how they were solving a problem and how they were then able to transfer their solution to animation more easily.

**Video 3.** Explaining mathematical thinking (Farren, 2008e)

In Video 3 (Farren, 2008e) Mairead Ryan emphasises the value she places on pupils being actively involved in explaining their own mathematical thinking. An educational space is created in which each individual is present and attentive to Mairead's inquiry. There is a relational dynamic in our various contributions to the discussion, and an engaged response from each of us to Mairead's inquiry.

Rayner refers to this as 'relationally dynamic':

At the heart of inclusionality, then, is a simple shift in the way we frame reality, from absolutely fixed to relationally dynamic. This shift arises from perceiving space and boundaries as connective, reflective and co-creative, rather than severing, in their vital role of producing heterogeneous form and local identity within a featured rather than featureless, dynamic rather than static, Universe. (Rayner, 2004)



**Video 4.** Action Research Cycles (Farren, 2008g)

Video 4 (Farren, 2008g) was taken at the end of the validation meeting at which Chris Garvey was asking for clarification on the action research cycles. The presence of the other participants helped Chris to see how his learning could relate to the action research cycles. In a later email Chris pointed to the:

> …significance of the peer validation meetings and how they were worthwhile and meaningful and extremely useful. They brought home to me the necessity to engage constantly in critical reflection and dialogue, not only in educational research itself but also within all areas of my educational practice. (C. Garvey, personal communication, July 14, 2004)

The validation meeting challenged the participants to consider the data they needed in order to present evidence that they had improved student learning. The meeting represented part of my endeavour to live my own values of collaboration and dialogue in the learning process.

Pedagogy of the unique is a standard of judgment that recognises the importance of singularity; that is, each individual has a particular and different constellation of values that motivates their enquiries and each operates in a different context from within which their enquiries develop. The web of betweenness is a standard that recognises the relational dynamic (Rayner, 2004) of human existence. My commitment to the fostering of a web of betweenness reflects my belief that learning is a social interactive process involving members of the group of sharing participants who can develop new understandings through dialogue (Laidlaw, 1994; Shor and Freire, 1987).

Since September 2002, I have been working in the School of Education Studies at DCU. A Master of Science degree with a focus on leadership was established in the School of Education Studies in 1995. When the M.Sc. in Computer Applications in Education closed in 2002 I started to develop a new ICT/e-Learning programme and this was established as an e-Learning strand on the existing M.Sc. Education and Training Management programme in the School of Education Studies. The student body has diversified from the M.Sc. in Computer Applications in Education programme and participants are now drawn from across the primary, post-primary, Further, Higher, and adult education sectors, as well as from corporate training in industry and nursing and from government and non-government departments and other state agencies[3].

In addition to the core modules of Research Design, Curriculum Design and Management Thought, participants in the e-Learning strand take specialist e-Learning modules that include e-Learning Applications, Web-based Interactive Design, Educational Applications of Multimedia, Emerging Pedagogies and Collaborative Online Learning Environments. In my research programme at DCU I have generated and sustained a creative educational space in the classroom and online that has supported practitioner-researchers from a wide range of workplace-contexts in the creation and testing of their living educational theories. The innovative approaches to the use of technology that students have experienced have encouraged them to seek out new ways of harnessing digital technologies in their work context. The article E-Learning and Action Research as Transformative Practice

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[3]     See http://webpages.dcu.ie/~farrenm.

(Farren, 2008a) shows how I have integrated online discussions into the programme to help participants to examine their own educational values and practices in a peer group setting.



**Video 5**. Co-creating an educational space (Farren, 2008h)

The e-Learning strand started in 2003 with 10 students. Since September 2005 there are over 40 students in year 1 and 2 of the programme. An example of how I try to promote dialogue and teamwork, in face to face sessions, can be seen in Video 5 (Farren, 2008h). This was taken during the first class session in year one of semester (term) two, 2005.  At the start of the class-session I asked students to work in groups and relate the module goals to their own needs and interests. Hattie and Timperley (2007) state that, 'teachers often assume that students share a commitment to academic goals, whereas the reality is that developing this shared commitment needs to be nurtured and built' (p. 89). In the video, Rachel Hobson – an educator from an e-Learning company – reports on behalf of her group on their particular areas of interest. She also emphasises the usefulness of the learning journals and how the group would like to continue to use journals throughout the programme.

In 2005 I introduced a practicum element as an option for the dissertation element in order to encourage participants to develop multimedia narratives for explaining educational influences in learning (Farren, 2005; Farren & Whitehead, 2006). This provided participants with the opportunity to design and develop a multimedia learning artefact with 10,000 words of supporting text rather than the traditional 20,000-word dissertation. Participants have the opportunity to present their artefacts and provide an analysis as part of a presentation forum, for evaluation by their tutors and peers. In her Masters research inquiry Yvonne Crotty (Crotty, 2005) developed a visual narrative of learning to express her educational values.  Yvonne now teaches on the e-Learning strand of the programme and has redesigned the multimedia element of the programme and related it more fully to the overall programme modules.  With Yvonne's influence a number of participants are now exploring visual forms of representation in showing their educational influence in learning and in the learning of their students.

Building new international networks and communities of research interest has enabled us to further develop our expertise in the learning opportunities opened up by digital technology. The e-Life Connecting People Research Project (Farren and Crotty, 2007), supported by DCU's Learning Innovation Unit, makes use of e-media accounts of learning to demonstrate how practitioner-researchers, in a variety of workplace-settings, are improving practice and generating knowledge through their action research enquiries. In order to provide the educational opportunities that digital technologies are opening up we are also networking with colleagues across the University as we explore the infrastructure required to provide teachers and students in Higher Education with enhanced learning opportunities to access digital video and TV recordings. This will strengthen and support the current use of online and flexible learning resources by providing access to visual educational resources.

The innovative learning approaches in the e-Learning strand support practitioners, from a variety of workplace settings in bringing their own embodied knowledge into the public domain (Snow, 2001; Hiebert, Gallimore, & Stigler, 2002) as they create new ways of using digital technology in their workplaces. The following two video clips were taken in May 2007. The students were invited to present their research work before the final submission of practicum and dissertation research in June 2007. The session was attended by Dr. Jack Whitehead, University of Bath, UK.



**Video 6.**        E-learning and nurse education (Farren, 2008b)

In Video 6 (Farren, 2008b) Yvonne Mulligan, a nurse tutor, presents her learning to design, develop, implement and evaluate an e-Learning tutorial. Taking a living educational theory approach, Yvonne places herself at the center of the research inquiry as she asks, How can I improve my practice?  In the video, she explains her aim in developing an e-learning artefact and in providing an environment that supports and facilitates learning.

**Video 7.** Critical Thinking and Online Learning (Farren, 2008c)

In Video 7 (Farren, 2008c) Donal O'Mahony discusses how he introduced web-based technologies into his History class in order to encourage his pupils to think critically. Donal discusses how he engages with the philosophy underpinning the Masters programme as he tried to work in a collaborative, dialogical way with his students.

The presentations helped the students to reflect on their own learning in the research inquiry. It also helped them to consider the data they had collected and determine whether they could show evidence of improvement in student learning.

## Developing a Postdoctoral research programme

I have endeavored to engage students at undergraduate and postgraduate levels in 'critical inquiry' (Skilbeck, 2001, p.94) as they apply their learning to innovative educational research. In the case of developing research at undergraduate level this involved the establishing of the Setanta Project, between the School of Computer Applications and St. Aidan's Secondary School. It was intended that the students and teachers in St. Aiden's would learn useful ICT skills and learn from technology. At the same time, undergraduate students would develop their technical skills and skills of collaboration, as they worked with real users to complete project work for their B.Sc. in Computer Applications. A paper entitled Setanta: A University-School Collaboration Project (Farren, Mooney and Pentony, 2001), traces the development of appropriate courseware in response to the specific needs of Secondary pupils studying Art at Leaving Certificate level.

The impact of new technologies for the dissemination of knowledge is now acknowledged by the Higher Education Authority of Ireland. 'The intellectual effectiveness and progress of the widespread research community may be continually enhanced where the community has access and recourse to as wide a range of shared knowledge and findings as possible.' In the same way, Shulman points out that if pedagogy is going to be an

important part of scholarship there must be evidence of it, 'becom[ing] visible through artefacts that capture its richness and complexity' (Shulman, 2004, p. 142).

In order to meet the needs of individuals in a variety of workplace-settings and support them in their lifelong learning, my research programme focuses on the educational opportunities for learning opened up by digital technologies. I am currently supporting doctoral research students as they seek to create knowledge of the educational uses of digital technologies in their various workplace contexts. It is my intention that my post-doctoral research programme will benefit the Higher Education research community and the wider society.

## Conclusion

I have referred at various points in this paper to my educational career in terms of a voyage of discovery. The approach to research is very much aligned to a living educational theory that I have used as my guiding light. At present there is a call for creative and innovative teaching approaches through the use of new technology (Skilbeck, 2001, p. 89). Twenty years ago in Ireland there were 'no mobile phones, or internet or email and unemployment stood at 17%.' (DCU Foresight Report, 2008)

In this paper, I hope that my influence is seen in the opportunities I provide for practitioner-researchers to reflect critically on their learning through peer validation meetings. I am conscious of the need for individuals to have the educational space to develop their own voices. I have endeavoured to create an educational space for practitioner-researchers to articulate the values that give meaning and purpose to their work. The constellation of values I use to explain my educational influence emphasises the flow of energy and meaning in Celtic spirituality and the educational opportunities for learning opened up by digital technology. I hope that I have shown how my embodied educational values can now be seen to be communicable standards of judgement.

My research programme has been founded on the belief that digital technologies can provide genuine life-long learning opportunities within Higher Education and the wider society. The applied learning approach of a living educational theory can support knowledge creation and contribute to an 'epistemology of practice' (Schön, 1995).

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