

Chapter 7 – The significance of the research

When I undertook my research I was experiencing dissonance between my values and my practice (Whitehead 1975). My hope for my research was that it would enable me to achieve a transformative influence in my practice in order to provide new life-affirming opportunities for my students, my colleagues and me. Through undertaking the research I hoped to develop a living theory of my practice. Having carried out the research programme, my living theory of practice, which I have developed, offers a reconceptualisation of ICT distinct from the usual technicist discourses of ICT, so offering a life-affirming conceptualisation framed within Arendt's (1958) ideas of political action and Habermas's (1975) ideas of communicative action. The development of my living theory of practice which arose from the combination of insights gained from engaging with the literature and learning from the experience of my practice has significance for practitioner-educators and educational researchers in terms of new forms of theory and practice. The context of this research within educational ICT has significance for policy and practice within ICT.

In the following sections I will explicate the significance of my research for policy in relation to teaching in general and ICT in particular. I will explain how it can have significance in relation to theory about teaching and learning and can play a part in the education of social formations. I show how the research and the two forms of the thesis can offer answers to some of Eisner's (1997) questions in relation to the validity of forms of representation of data. Further, this research has the capacity to challenge the current linguistic form of thesis writing and offer an alternative multimedia model. I indicate how the multimedia model makes a significant contribution to debates around a new dynamic form of knowledge base of education and, in fact, provides a model for such a knowledge base and builds a contribution to that knowledge base.

The significance of my research for the two main project institutions

In her study into learning interventions in NCVA Deane (2000: 132) identified the Action Learning group as a very successful element of the organisation's learning programme, from the perspective of participants as well as from her own. From interviews conducted with the staff she identified important factors as

- the relaxed and safe atmosphere in group sessions;
- having an opportunity to engage in “self-evaluation” in a reflective way;
- the mix of participants from different sections and grades within the organisation;
- the input from guest speakers
- the skill of the project leader in facilitating the group
- sharing learning with others, and gaining insights into their “concerns”
- being encouraged to “do something”, “take action”, “make changes happen”;
- having control of the research, from choosing the topic and methodology to implementing and evaluating action;
- developing “good habits” of data collection and analysis, which can be applied to other work projects.

She goes on to attribute the success of the project to the fact that ‘... members had sufficient control over their own learning process to enable them to feel a sense of ownership and “expertise”. They were treated as “knowers” as well as “learners”’ (Deane 2000: 134). She adds that the ‘...focus on examining an aspect of one’s own practice with a view to improvement was a way of encouraging helpful evaluation and producing **real** change’ (emphasis in original).

The success of the first action learning project was such that the Chief Executive encouraged me to form a second group to continue the process of organisational learning. The ideas of action research and living theory enquiry became part of NCVA’s own organisational programme. ‘It is accepted and recognised by all staff as an important part of “the way we work”’ (Deane 2000: 146). Prior to the development of the action learning programme staff development in NCVA was seen primarily in terms of ‘training’. Following the project NCVA shifted its professional development focus toward learning. Training was identified as something ‘...that is done to people’ whereas ‘learning is something that people choose, based on what **they** want to know’ (*ibid.* 150, emphasis in original). The development of the action learning project within NCVA as a work based learning project contributed to NCVA extending its learning remit to include certification of learning in the workplace (*ibid.* 166). The development of the Action Research module contributed to this process and learners have continued to be certified for learning undertaken as part of this module up to 2007.

Within St Aidan's the development of dialogue through ICT has continued with new groups of learners, both teachers and students, through the LCA programme. Rather than being a single project instance, dialogue through ICT has been part of the LCA programme over seven years. During this time, as new teachers and students have become involved in the LCA programme, they have become involved in a dialogue through ICT.

The inter-institutional links built between St Aidan's and Dublin City University during the course of the Setanta project have continued through a range of other projects including supporting pre-service teacher training. Over a period of five years, science education students serving their internship in St Aidan's have taken part in developing virtual communities of practice through their work with LCA students and a variety of science classes. This has become a standard part of the internship.

A number of other projects have been initiated with DCU including projects that enable St Aidan's students use DCU facilities to develop their ICT skills. St Aidan's students have supported DCU research programmes by taking part in research into the use of various media including mobile phones.

These activities are in marked contrast to the isolating nature of school activities that I described above as part of my experience of entering St Aidan's as a young teacher. Co-operative work has become a feature of working life, with students and teachers frequently seeing each other as co-learners.

The significance of my research for policy in ICT

Let me start with the current context of ICT policy. In its official study of the impact of Schools IT2000 the National Policy Advisory and Development Committee deemed the project 'a success' (NPADC 2001). In their report the Committee wrote:

The survey findings show that there has been a significant increase in the number of multimedia computers in schools; that all schools and the majority of students have access to the Internet; that the use of ICT and software by teachers and principals has increased dramatically; that the number of teacher training places initially proposed has been surpassed; that many ICT support mechanisms have been established; and that the public/private partnerships have worked for the benefit of schools.

(NPADC 2001)

The committee's conclusions were based on a technical analysis of the numbers of computers in school, numbers of students having access to the Internet, and the numbers of teachers receiving training. The report indicated a demonstrable increase in the use of ICT by teachers and principals across a number of school-based tasks. There was however little analysis of the nature of the use of ICT or what constituted worthwhile use. The report took a narrow statistical approach to a complex task. The subsequent progress report published in 2004 (Mulkeen 2004) took a similar approach focussing on numbers rather than uses or quality of experience.

Narrow survey type analyses of ICT provision in schools can be limited, and in some cases have led to some surprising results. One study showed the use of email by principals as 'significantly associated with higher ICT scores' (Mulkeen 2003). While this may be true does it contribute to an understanding of the value of using ICT in schools?

A different approach has been taken by others. Seamus Knox, the national co-ordinator of School Integration Projects (SIP) which used the by-line 'supporting innovative practice', focussed not on the technical but on finding innovative uses for ICT:

Although SIP investigates and exploits the innovative use of ICT in teaching and learning, it is not technology driven; rather it depends on the quality of the people involved for its success.

(cited in Galvin 2002: v)

Knox's view is supported by Galvin: The SIP projects 'illustrate what is possible when teachers apply imagination and professional know-how to the challenges of integrating ICT into the teaching and learning day' (Galvin 2002: vii). Mulkeen drew the conclusion that an emphasis on courses that build a vision for the use ICT is more likely to bear fruit than a focus on short and purely technical courses. He also suggests that interventions aimed at developing school thinking in relation to ICT may be of value (Mulkeen 2003: 291).

An examination of the various reports suggests that official publications tend to focus on statistics, surveys and technicist approaches to technology. In contrast there are non-institutional sources that focus on the work of transformational individuals, the contribution they make and the risks of losing them. This point has been made in relation to the Setanta project. One report indicated that in the event of the loss of the co-ordinator the project would be at risk (Doyle 2000). Another evaluation suggested that '...it has been the initiative, inventiveness and motivation of just a few people that has driven the growing use

of the computer at the school and in lessons. At the same time this highlights the fragility of the situation, because replacement of such pioneers frequently poses problems' (Inspectie van het Onderwijs 2001: 30).

My thesis is significant for the contribution it makes to a non-technicist view of ICT in schools. It captures a picture of ICT in educational settings that is far removed from the narrow technical analyses of official publications. The approach is not to provide a model that is replicable elsewhere. But it provides an approach that may give inspiration to others elsewhere. The approach is based on collaborative ideals: recognising the uniqueness and diversity among people and building on the uniqueness and diversity to provide educational experiences that are life affirming. This work has the potential to influence policy in relation to ICT in schools and other organisations and has made inroads in this direction through the presentation of the work and research to political and educational leaders in Ireland and Europe.

The significance of this work, for me personally, is that my practice has changed and continues to change. The significance for others could be that there is a potential to change. In contrast to the traditional view of teaching as a didactic practice, my research offers a living theory approach to teaching and learning based in relation and respect for all participants. As such the research could have a significant impact on how we teach and on how we run schools. In offering my living theory of practice to public critique I have the potential to influence others' learning and their thinking about how they teach. This has the potential to influence public perceptions in relation to learning and teaching.

The significance of my research for forms of representation

The thesis shows how ICT can offer the potential for a wide range of forms of representation and therefore offers the potential to provide answers to Eisner's (1997) concerns around the perils of alternative forms of representation. But the thesis shows that ICT goes beyond offering a range of forms of representation to offering a range of forms of participation and may therefore address Gardner's (1989) concerns around modes of working that support multiple intelligences. The multimedia based approaches to work reported throughout this thesis provide evidence of the provision of opportunities to those with bodily-kinaesthetic intelligence, spatial intelligence, and musical intelligence, interpersonal, intrapersonal as well as linguistic and logical-mathematical intelligence

(Gardner 1989: 44). In many of the projects ICT has offered students the opportunity to express their creativity and hence their natality. Video conferences have enabled students to work with their linguistic and interpersonal intelligences. When the video conference offered opportunities to participate by playing instruments and singing, it involved musical intelligence. The creation of websites supported linguistic intelligence along with logical-mathematical intelligences. If the website had a sporting theme it appealed to those with bodily-kinaesthetic intelligence. The personal reflections on tasks appealed to intrapersonal intelligences. But the multimedia nature assisted students in developing intelligences that did not automatically appeal to them.

While the websites developed by students provided them with alternative methods of representing their ideas the multimedia thesis provides me with an alternative way of representing the thesis. This is a response to Eisner's concerns about perils (Eisner 1997). The development of the virtual art gallery involved a new way of representing that work. The website projects undertaken by many of my students provided them with opportunities to experiment with new forms of representation. These forms of representation gave voice to students in ways that were often absent from traditional modes of teaching and learning. The new mode of representation changed the way the subject was taught. In the same way the multimedia presentation of this thesis offers modes of representation that hold out the promise of offering new ways of presenting data and indeed of presenting non-propositional ideas in non-linguistic ways.

The significance of my research for new forms of theory

The goal of my research was an improvement in the quality of my practice as a teacher and as an ICT consultant to a national awarding body. My thesis offers descriptions of what I did and explanations for doing it. Together these become my living theory of practice (McNiff 2006: 149). Within the thesis I am offering my living theory of practice based in my practice. The theory is located within and generated from within practice and influences the development of new practices. I have indicated how Deane (2000) has shown that the formation of the Action Learning Group in NCVA led to new practices. The work of the Action Learning Group supported the members of the group in changing their practices. Some of the group presented our changing practice publicly at an action research conference. By telling our stories and providing explanations for those stories we

were generating theory. By making this work public, professional educators and educational administrators were reclaiming their professions as their own (McNiff 2006: 120).

I started my teaching life believing that theory was something generated by professional researchers, mainly in the universities. As I carried out a self-study of my practice I came to understand that I could generate theory too. As I worked with my students on their WebQuests I came to realise that my students were generating their own living theories of practice. This thought first occurred to me when I heard a group of students argue animatedly about the earlier mentioned 'Saipan Incident'. I realised that everyone had their theory about it. I came to understand that students were capable of giving descriptions of the incident, analysing those descriptions and explaining why they happened. Further, they were able to relate their theories about the incident to their lives. With this insight I began looking for evidence of theory generation in my students' work and I found it. In their website reports, and elsewhere, my students were providing accounts of their learning and explanations for learning. These were not presented in academic language but were theoretical accounts nonetheless.

I have moved from normative conceptions of ICT and learners to develop my living theory of working with ICT based on reconceptualising ICT within Arendt's framework of political action. My students have developed living theories about how they learn best. In many cases this occurs when they are developing their narratives of learning rather than through tasks set by the teacher. Showing the capacity of people to develop their living theories of learning and of life is important in the context of debates which argue that teaching is an operational activity which can be best accomplished within a particularly narrow conception of evidence-based practice, using centrally devised national curricula based on research carried out by non-practitioners.

The significance of my research for the education of social formations

In undertaking a self-study of my practice I am studying my educational influence in the self-studies of colleagues and students. These self-studies form a part of the education of social formations (Whitehead 2003b; 2003d) by the influence that they have had in changing the forms of practice within institutions. For example, the introduction of alternative programmes that appeal to different intelligences represent the education of

social formations in that they meet Gustavson's (2003) requirement for a social movement: they are not single change events but they form 'series of events that are linked to each other and where the meaning and construction of each event is part of a broader stream of events and not a self-sufficient element in an aggregate' (Gustavsen 2003 cited in Whitehead 2003b: 5).

The idea of a social formation is of a group of people coming together within a shared social context, and the way that groups of people behave are premised on certain normative rules (Bourdieu 1977). Bourdieu claims that each social formation has its own set of rules. They are unspoken and unquestioned normative assumptions. The rules are unrecognised and unchallenged. Metz (1978: 98) argued that '...routines, confidently established, take on an air of inevitability [as] students come to see them as an inherent part of school'. She sees this as part of the social control which teachers can impose without appearing to be impositional. Such controls are internalised by the students who impose them on themselves. Teachers within schools may be as likely to internalise control as students. These ideas are similar to Foucault's ideas of the panopticon (1977; 1979; 1980). It can lead to the idea that 'culture is the way things are around here' (this phrase has become so commonplace that it is difficult to find the originator. It has been used by Jones and George 1998; Holtz 2004; Reichers and Schneider 1990; and others.) Bourdieu (1990) speaks of internalised compliance as an aspect of the 'habitus', which I understand as referring to the normative culture. The habitus relates not only to practices but epistemological assumptions – norms and conventions are tacitly agreed.

When Whitehead (2003b; 2003d; 2004) speaks of the education of social formations he is talking about influencing people to think critically about the normative assumptions that underpin the practices of social formations, to surface taken-for-granted assumptions, to make them explicit, to challenge to see if they are appropriate, and where necessary to change them. In Chapter 2 I have referred to the importance of keys in my school. Keys play an important part within the habitus of a normative institution. They are an unspoken means of establishing the authority and position of some parties relative to others. Controlling access to computers is another aspect of such a habitus. The work of the LCA, the Setanta project and others challenged the habitus by challenging some of the assumptions about 'the way things are done around here'. When I write and speak of the transformational nature of ICT some people respond that surely the transformational nature

of ICT is to be taken for granted. Sometimes they give examples from their workplaces. For example, when a meeting takes place the minutes which used to have a limited circulation can now be distributed much more widely by email. This is presented as the transformational quality of ICT. But I have concerns that perhaps this is not a transformation but simply a matter of efficiency (Callahan 1962). I wonder if this is actually changing the practice of the workplace. Some of the work that takes place in school, however, is transformational because it allows students to take control of their lives. The conception of 'transformational' that is used in my living theory of practice is not based on a distribution model but on a model that is based in the practices of people. My dynamic living theory sees the transformational nature of ICT as based on transformation from within to a fuller realisation of values and potentials and achievement of autonomy and freedom. This makes a contribution to the development of new social formations.

Contribution to the knowledge base of education

In 2001 Catherine Snow in her presidential address to the American Educational Research Association called for the development of a knowledge base that would collect and systematise the personal knowledge of teachers (Snow 2001: 9). This would provide 'a wealth of knowledge about teaching that cannot currently be drawn upon in the preparation of novice teachers and debates about practice'. Snow was addressing issues within the educational research community about the relationship between research and practice. There is already a large knowledge base supporting traditional forms of theory, but this is not the case for newer forms of living theory. The discussion of a new knowledge base focuses on new forms of theory and new forms of knowledge, in particular the knowledge of skilled practitioners. Hiebert *et al.* (2002) have extended the discussion by proposing in a detailed fashion what they believe the knowledge base should be. The contribution that my thesis can make to debates about a knowledge base could be part of the significance of this work in terms of encouraging forms of learning which are grounded in each person's capacity to exercise their creative and critical capacities.

Hiebert *et al.*'s (2002) question, 'A knowledge base for the teaching profession: what would it look like and how do we get one?' largely ignores the presence of an existing knowledge base for practitioner researchers. I refer to the knowledge bases housed at www.actionresearch.net and www.jeanmcniff.com and others. These knowledge bases

provide the evidence of the work of teacher-researchers who have created and tested the validity of their living educational theories through their self-studies of their teacher-education practices (Whitehead 1993) and offered them to public critique through publication on the World Wide Web. Substantially, these knowledge bases have been textual knowledge bases but recently have been supported by other media like photography and video. The discourses around the potentials of multimedia are still linguistic discourses. The multimedia version of this thesis moves the discourse to another dimension by developing a living knowledge base, by showing the creation and existence of a knowledge base through ICT. I am claiming that I am making a contribution to the knowledge base that Catherine Snow (2001) has called for. I have developed it in relation to ICT. I am showing the knowledge base not only in relation to substantive issues of ICT in schools but in terms of how ICT can be a form of creative experience with potentials for developing an interconnected community of practice (Brown and Duguid 2000; 2002; Lave and Wenger 1991; Wenger 1998).

Much recent work around ICT and multimedia and its potentials in educational research are taking a minimalist approach. When Hiebert *et al.* (2002) write about multimedia they are referring mainly to videotaping classes and making them available on the Internet. I have little video of a class being taught as such. I am increasingly of the view that teaching is about removing obstructions to learning. In contrast it seems to me that other people are speaking of using ICT to support teaching in a didactic way. I see video within this thesis in the same context as word processors, websites, databases, digital cameras, and digital video. They are all different aspects of the ICT tool. To me the use of ICT and multimedia is about students using these to achieve their purposes. So where I have video clips they are of students. For example, one video is of a student who is using the video recorder to record other students who are interviewing a third student about something he is doing in technology. I am not using the video as an objective observer. The purpose in making a video recording is not specifically to record what is happening. Instead it is being used by a student as part of his learning. But while he is taking control of his learning he is recording various things which are happening. He may be recording a student who is interviewing other students. In turn the student who is interviewing is taking control of his learning by interviewing. He may be learning interviewing skills or he may be learning from the student he is interviewing. The student whom he is interviewing may be talking about

some project he has carried out in technology. In all these things the technology is being used as part of a process of learning. It is not simply to record as an alternative to taking minutes or as an easier way to remember what took place; it is being used as part of a learning process. This is a 'thick' use of technology (Geertz 1983).

One of the issues that Snow (2001) raises about personal knowledge, and this applies to local knowledge, is in relation to its generalisability and applicability to other situations. She is, of course, speaking out of traditional paradigms. My position is that my research is not generalisable or replicable. I draw inspiration from many sources, including traditional research, from things that people say and do, things that have a resonance for me in the work that I am doing. I expect that the work I am doing, my descriptions and my explanations, may have similar resonances for other people so that they can learn from my experiences and explanations. I am not suggesting that others should get their students to build wrestling websites, but others listening to my account of the WWE project may find a resonance for them in something which has nothing to do with websites or WWE or perhaps even ICT. The work will not provide a formula to follow, a recipe for success or a textbook for research, but what it may provide are ideas, possibilities and approaches that other people may want to take a look at and, perhaps, incorporate into their ideas and practices.

There are fundamentally two separate questions to be addressed here. One is in relation to knowledge acquisition and the second is in relation to the knowledge base. Throughout this thesis I have outlined ideas about the acquisition of knowledge. These ideas centre on learning through communities of practice, that is, through relationship. I am suggesting a contribution to the knowledge base grounded in a virtual community of practice, where the claims made within the thesis will be open to public scrutiny and public critique. It has been claimed that for an activity to be designated as scholarship three characteristics are needed: It should be public, susceptible to critical review and evaluation, and accessible for exchange and use by other members of one's community (Hutchings 1998). The multimedia thesis, which I conceive of as the main thesis, this linguistic version being a subset of the multimedia version, is available on a public website. The website includes descriptions and explanations of my practice along with the evidence that supports my claims to know. The website provides multimedia tools that allow others to critique the thesis. In this way the thesis will be subject to the same dialogue and criticism that my

practice was open to. This is a living thesis. In this way it will respond to Snow's and Hiebert's calls for a knowledge base for the teaching profession and meet Hutching's criteria for scholarship.

In this section I have outlined the significance of my thesis in a variety of spheres. Because of its grounding as a living theory of practice drawing together insights gained from critical engagement with the literature and careful reflection on experience of practice it has particular significance for theory, for forms of representation and for the knowledge base of the teaching profession. Because of the reconceptualisation of ICT as a social practice and its potential for supporting political action it has significance for policy in relation to ICT and for contributing to the education of social formations within schools and other institutions.