Supporting collaboration in my work place through the use of Moodle

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Abstract

This is an action research inquiry into how I can improve my practice as a co-ordinator of Information and Communications Technology (ICT)* in a large urban school in Dublin. The focus of the study was to explore how I could encourage and support collaboration in my work place using Moodle, a virtual learning environment. The task was to develop an ICT School Plan as part of the Whole School Plan in collaboration with four of my colleagues. Instead of relying on traditional meetings, we undertook to use Moodle's features to conduct our work.

This account describes two action research cycles that I carried out as part of my MSc in Education and Training Management (e-Learning strand) from January to June 2007. The first cycle was concerned with the technical aspects of installing and configuring Moodle for use in the school. The second cycle focused on the experience and learning of the group members as we got to grips with a new way of working together.

This action research study allowed me to critically reflect on own practice, to make explicit the values that give meaning to my work, and to develop my own living theory. In so doing it has led me to a deeper understanding of myself as a practitioner-researcher.

Keywords: Living educational theory; Action Research; Collaboration; Empowerment; Learning; Moodle; School Planning.

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*   A Glossary of abbreviated terms is attached at the end of this paper as an appendix.

a) Introduction

The aim of this inquiry is to allow me to explore how as an ICT co-ordinator I can encourage and support collaboration in my work place through the use of Moodle. As an Assistant Principal and part of school middle management, I have responsibility for the school's Information and Communications Technology (ICT). I am also part of an ad-hoc committee which was given the task of initiating the School Development Planning Initiative (SDPI) process in the school.

This process has been on-going in Irish schools since the publication of the Education Act (1998) and can be seen as part of the Department of Education and Science's (DES) reform strategy for the education system. The SDPI requires schools to develop proper planning strategies that culminate in a Whole School Plan (WSP) covering all aspects of school life, from a Mission Statement down to the curriculum plan of each subject department. The WSP is supported by a series of policy documents that cover key issues such as Anti-Bullying, Substance Use, and Internet Safety.

Following a Whole School Evaluation in early 2005, the DES Inspectorate recommended that the school should immediately engage in a serious way in the School Development Planning Initiative (SDPI) with a view to developing a Whole School Plan. I was a member of the ad-hoc committee set up in early 2006 to address this issue; and a review in early 2007 clearly showed that the level of collaboration was minimal. This prompted me to examine our organisational structures and attitude towards collaboration. By failing to engage in a collaborative planning process we were surrendering our own power, and we, as teachers, would end up implementing strategies in which we have had no say.

I became involved in the SDPI ad-hoc committee because I believe that the planning process goes to the very heart of the school environment and results in decisions that we would have to live with and live by. Far from viewing the processes of SDPI and WSE as threats to teachers or schools, I see them as opportunities to affirm the professionalism of the teaching body and provide a structured means by which learning and development become an integral part of the teacher's working life. It provides the school with an opportunity to express its shared vision and build its generative capacity through a unified and motivated staff alongside other stakeholders.

Initially my action research inquiry was prompted by a sense of frustration that I was feeling about how the SDPI process was happening in the school. As my inquiry progressed I realised that the frustration was arising from the recognition that the things that were important to me were not being realised in the workplace. These things that were important to me became explicit as I learned, in the course of this inquiry into my own practice, to articulate the values that underpin my work. In the course of the study I found that I value *individual autonomy*, *the power of the collective, participation,* and *personal development,* but that these values are being negated in my own practice, and that I am a 'living contradiction' (Whitehead 1989).

This study enabled me to examine what I do, and why I do it. It allowed me to relate my values to my actions in the workplace so that I could evaluate my own practice in terms of my living standards of judgement, and generate my own living theory (McNiff and

Whitehead, 2005). As an ICT co-ordinator I believe that technology can allow staff to engage more fully in a collaborative planning process. The aims of the project were to install and configure Moodle within my school, and to work with my colleagues in formulating an ICT Plan within the framework of the Whole School Plan, using Moodle as a collaborative tool.

I believe that Moodle can offer freedom from time-constraints and the rigidity of the school timetable. It can help develop skills in the areas of ICT, reflection, learning, and collaboration. It may be a vehicle of empowerment, increasing self-efficacy in the completion of real and necessary tasks. It may eventually build the foundation upon which the school will be able 'to create individual and organisational habits and structures that make continuous learning a valued and endemic part of the culture of the school and teaching' (Craft, 2000).

b) Theoretical Framework

The three inter-related themes of empowerment, collaboration and organisational learning are central to this study. I examined how these issues affect relationships between people within an organisation, and between people and the entity of the organisation itself.

i) Empowerment

Empowerment is often viewed as something that can be bestowed by one party on another, typically the organisation or its management, makes a gift of empowerment to its staff (Kanter, cited in Vogt and Murrell, 1990; Mitchell Stewart, 1994; Pedler, Burgoyne, and Boydell, 1997; Blanchard, Carlos and Randolph, 1999). This misguided thinking is highlighted by the assertion that workers will 'embrace empowerment because it leads to the joys of involvement, ownership, and growth' (Blanchard, Carlos and Randolph, 1999, p. 6). Such a patronising attitude may reflect a truth that is not often acknowledged, but that Stewart Mitchell (1994) states bluntly: 'Most organisations don't value their staff quite as much as they claim' (p. 7) and they regard staff as a 'costly resource, not a valuable one' (p. 8).

Organisations have spent years managing and controlling human resources in the same way they do physical resources. Now in the 21st century they want to capitalise on human creativity – that valuable commodity that cannot be commanded – and harness it to cope with the uncertain and unpredictable environment in the post-industrial era. Argyris (1998) claims that top managers 'love empowerment in theory, but the command-and-control model is what they trust and know best' (p. 98). This model is based on external commitment, in which people have little power to shape their circumstances, and results in 'contractual compliance' (ibid., p. 99). His argument continues that internal commitment arises from internal motivation, is by nature participatory, and is closely allied with empowerment, or more specifically self-empowerment.

A more insightful understanding of how empowerment spreads is found in Vogt and Murrell (1990), who talk about interactive empowerment. This is the process of creating power *with* others rather than *in* others. When empowered people come together to exchange ideas, share knowledge, and collaborate on a task, power is increased, not just

redistributed. This is where the real strength of empowerment lies; this is what organisations are eager to harness. However, it is precisely because organisations want this for the benefit of the organisation, rather than for the benefit of the individual, that they frequently fail in securing it. Pedler, Burgoyne, and Boydell (1997) explained why they put the word 'democratic' and 'empowerment' in quotation marks thus: 'This is because although these terms are often used in the literature, they still refer to ways of getting others to do what I, the leader, want them to do, albeit in a friendly rather than unfriendly way' (p. 210).

ii) Collaboration

Collaboration is seen as one of the most effective tools to harvest the benefits of socially-constructed learning. This is no more evident than in the world of business where it is an 'abiding feature of a modern organisation' (Turban, McLean, and Wetherbe, 2004, p. 144). For the purposes of my study, collaboration takes place when people 'need to work together in small groups, in order to exchange ideas, challenge their own ways of thinking and create synergy to produce something that goes beyond what any of them could have done working separately' (Graham and Misanchuk, 2004, p. 187).

Some writers differentiate between learning groups and work groups and suggest that the work group's focus on the task in hand is detrimental to the learning that can take place (Graham and Misanchuk, 2004). This is at odds with those practitioners who seek to simulate real-life scenarios so that learners reap the greatest benefit (Bennett, 2004). My own view is that work-groups can potentially learn as much as learning groups if they are willing to adopt a reflective posture that will enhance the depth and quality of the learning, and integrate it more fully into the existing schema (Schön 1983; Moon 1999; Craft 2000; Jorgensen 2004; Rasku-Puttonen, Eteläpelto, Lehtonen, Nummila, and Häkkinen , 2004). In addition, Barnett (1999) asserts that in a 'supercomplex world…characterised by contestability, challengeability, uncertainty and unpredictability…work and learning cannot be two distinct sets of activity' (pp. 29-32).

The role of collaboration in the learning processes of social beings is well documented (Lave and Wenger, 1991; Wenger, 1998; Brown and Duguid, 2000). From a pedagogical standpoint, collaborative practice is recognised to have a strong mediating role in the learning process. Vygotsky's (1978) concept of the 'zone of proximal development' is particularly relevant to the practice of collaboration (p. 86). Through the process of working alongside others who are at a more advanced stage, the individual can grow towards fulfilling their potential. If we combine that with Dewey's (1913) idea of the human being's unlimited potential for growth and development, the power of collaboration becomes readily apparent.

In addition, collaborative arrangements are beneficial in other ways in that the social support afforded by such groups promotes achievement and productivity, a capacity to endure frustrations and setbacks, improved morale and better physical and psychological health (Craft, 2000; Graham and Misanchuk, 2004). In my specific context the arrangement allows for a range of expertise and a variety of perspectives to be brought to bear on

completing essential tasks (Berry, 2006; Connolly and James, 2006). It gives staff members the opportunity to appreciate cross-disciplinary differences and more importantly to recognise common purpose across departmental lines.

While there is no magic formula to guarantee the success of a collaborative group, there are key features that should, I believe, be attended to. These include the size, nature and purpose of the group, positive interdependence, commitment to clear goals, the open-mindedness of its members to different views, the valuing of the individual, a commitment to knowledge sharing, and trust (Johnson and Johnson, 2003; Bennett, 2004; Connolly and James, 2006). The members of the group must have, or be willing to acquire, an appropriate set of social skills that facilitate dialogue or conversation that not only allows the exchange of views, information and knowledge but actively encourages it. Edge (1992) adds respect, empathy and honesty as critical qualities of co-operative relationships. The importance of openness cannot be over-stated. Openness demands the free flow of information throughout the organisation that is relevant and timely. It also promotes the practice of communication skills that are democratic and participatory (Earley and Fletcher-Campbell, 1992).

While cohesiveness is a desirable characteristic when seeking to achieve team goals, in cohesive collaborative groups there is a potential hazard of 'groupthink' (Janis, 1982). To avoid the conditions that give rise to the pressure to conform, that is, close-mindedness and self-censorship, it is essential that group members are self-empowered individuals. Each member needs a strong sense of self and an accompanying self-awareness of the influences which affect their decision-making.

The move towards collaborative approaches in Irish schools emanates from DES initiatives. The pincer-like movement of the Whole School Evaluation (Government of Ireland, 2006) process on the one hand and the SDPI (Government of Ireland, 1999) on the other, has put collaboration at the heart of a strategy that is fundamentally about changing the managerial and operational culture of Irish schools (Craft, 2000). Both of these agencies advocate collaboration on two fronts – within subject departments for teaching practice and curriculum, and across department lines in task-groups for school-wide policy development. Concerns are raised about the quality of collaboration that is prescribed by external parties. It may result in what Hargreaves (1992) calls 'contrived collegiality': that is 'administratively regulated, compulsory, implementation oriented, fixed in time and space, and predictable' (p. 86). Furthermore he asserts that this latter version is least likely to promote teacher-empowerment and reflective practice, precisely the outcomes that are desired. This poses the question of how we can guarantee an alignment of the DES's objectives with those of teachers to achieve genuine collaboration characterised as 'spontaneous, voluntary, development oriented, pervasive across time and space, and unpredictable' (Hargreaves, 1992, p. 85; and indicated as well by Gunter, 1996; Rasku-Puttonen et al, 2004).

Outside the classroom, teachers' work is not standardised, comprising as it does of a multitude of minor tasks related to class teaching and a growing burden of school-related administrative work (Hargreaves, 1992). This, combined with severe time constraints, militates against face-to-face collaboration. It is timely that computer-mediated collaboration is now feasible because of advances in, and the availability of, appropriate technology. The freedom and flexibility afforded by the use of ICT for the purposes of collaboration make it an attractive proposition.

The key elements of an online community are identified by Palloff and Pratt (2005) as:

- interaction and communication among the group;
- a social constructivist context that encourages the creation of knowledge;
- presence – this is critical to the sense of community and for collaborative work to be done;
- reflection that deepens the learning experience and promotes transformative learning;
- the use of technology appropriate for the current task.

Online-collaboration has its own peculiarities that require special attention. Littleton and Whitelock (2004) identify 'the facilitation of discourse for the purpose of building understanding' as being at the core of online collaborative learning (p. 173). The challenge is to structure activities that will promote dialogue amongst group-members that will allow this understanding to be constructed. The role of the e-moderator becomes central in building the cohesiveness of the group through her own contributions and through her responses to the contributions of others (Johnson and Johnson, 2003). In addition, when members of the group are new to online-collaboration, the need to model 'appropriate ways of engaging, both with the subject matter, and other members' (Littleton and Whitelock, 2004, p.180), becomes imperative.

A key technology used in online-collaboration is threaded discussion forums. This asynchronous medium claims to accommodate more active and more equal participation by members. It apparently overcomes obstacles of time and place, allowing greater autonomy to members. The forums also are supposed to allow responses to be better researched, considered, and reflective. The system provides an automatic archived record of discussions in a format that is accessible and more accurate than that of face-to-face encounters. It also clearly shows the participation level of each member. The drawbacks are that time is needed to read, reflect and respond to discussions, and to learn to use the technology. In a school where time is not made available, this may place an unacceptable expectation on teachers to give more and more of their personal time.

iii) The Learning Organisation

The successful merging of personal empowerment and collaboration give rise to social capital 'that recognises that knowledge is created through combination and exchange, and has a structural, cognitive and relational quality' (Jorgensen, 2004, p. 97). In essence it provides the foundation of the learning organisation.

The concept of the learning organisation was popularised by Argyris and Schön (1978). This learning occurs through the agency of its individual members. However, individual learning has to be shared through interaction with other individuals and groups for it to become organisational learning. What has been learnt is then 'encoded in the individual images and the shared maps of organisational theory-in-use', which governs how the organisation behaves (ibid., p. 19). However if theories-in-use and espoused theories are incongruent at the individual level - a not infrequent occurrence (Argyris, 1991) - then organisational learning becomes extremely difficult, if not impossible. A more intuitive

approach is taken by Senge (1990). In this instance organisational learning is made possible through the very conscious efforts of individuals who adopt a set of personal disciplines which instils a mindset of openness and participation.

Beginning with *Personal Mastery*, the individual takes responsibility for their own development through a commitment to lifelong learning. This arises from the individual's personal vision for his life, checking the present reality and committing to creating the result that is desired.

'*Mental models* determine what we see … shape how we act … are usually tacit …. are often untested and unexamined' (Senge, Roberts, Ross, Smith, and Kleiner, 1994 pp. 236-237). A suggestion to help us to reconfigure our mental models is to use the 'ladder of inference'. Argyris (1990) coined this term to describe the 'common mental pathway of increasing abstraction, often leading to misguided beliefs' that we all unconsciously follow in our everyday dealings with others (p. 87). Knowing this frees us to act. Through reflection, we can become more aware of our own thinking; through advocacy, we make our thinking processes visible to others; and through inquiry, we can find out about the thinking processes of others (Senge et al, 1994).

Shared Vision involves developing a common mutual purpose that inspires the person, and encourages commitment. At an organisational level, vision must emerge from *all* of its members who actively engage in reflecting on their common purpose, what is important in it and why. This is how people find meaning in their work because this is tied into their own personal visions.

The fourth discipline is *Team Learning*. This involves entering into genuine dialogue with others to harness the synergy of the collective. This is regarded as the most demanding of the disciplines, drawing on the intellectual, emotional, social and spiritual resources of individuals. It assumes a degree of self-mastery and self-knowledge and demands that we look outward to align ourselves with others. Dialogue is at the heart of team-learning, and its purpose is 'to create a setting where conscious collective mindfulness could be maintained' (Senge et al, 1994, p. 359).

All of these disciplines are underpinned by the fifth discipline, *Systems Thinking*. This is an appreciation of complexity and how things are inter-related. In practical terms this means developing an ability to look beyond what is immediately obvious. A recurring problem cannot be resolved until the root cause is found, but in complex organisations this may require a tenacity to keep asking 'Why?' until the origin of the problem is uncovered (Senge et al, 1994, p. 108).

So why has the promised transformation in organisational development not yet materialised? Argyris (1994) looks to management and cites defensive reasoning and self-protection as obstacles to organisational learning. Senge et al (1999) address the need for 'profound change' (p. 10) and 'walking the talk' (p. 193). The language used is very telling. The frequent use of the words *real*, *genuine*, *sincerity* and *trust* points to the crux of the issue. In essence, management is perceived as being either unable or unwilling to lead the change. At worst, there is a suggestion that these changes are simply another way of getting more from employees for the sole benefit of the business, all the while telling them it is good for them. 'People do not expect perfection, but they recognise sincerity and openness - and their absence' (Senge et al, 1999, p. 195).

In light of the perceived drawbacks discussed above, is the concept of a learning school a legitimate objective? Ironically the embodied values of the learning organisation may be better understood, received and realised in such an institution. It is precisely because schools are more about the public good than the profit margin that the concept of the learning organisation is a feasible proposition.

Schools have what Handy (1976) describes as a 'person culture', that is, a 'loose groups of individuals with a high degree of expertise' enjoying a significant degree of autonomy (ibid., p. 183; Sexton, 2007). Paradoxically, the fact that the prime locus of power in the school remains the Principal does not diminish the school's chances of developing the generative capacity associated with the learning school. This is provided that the prevailing culture values individuals; values interdependence in belonging and working as a team; values security and openness, and supports collaborative practice (Campbell and Southworth, 1992).

Transposing the learning organisation model into the learning school model results in broad agreement about what the features of the learning school are. Reflecting the fact that school is a complex organisation that achieves its objectives through the interaction of structure, culture, teaching practices and organisational processes (Silins and Murray-Harvey, 1999), the characteristics of a learning school include the following:

- a shared vision;
- people and relationships are valued and nurtured;
- being proactive in change;
- a sense of community;
- open communications, trust and collaboration;
- time for reflection and self-evaluation;
- continual professional development;
- regard the student's best interest as paramount;
- processes of environmental scanning. (These issues are also considered by Law 1999; Silins, Zarins and Mulford, 2002; Bezzina, 2004; Jorgensen, 2004)

The key component in the building of the learning-capacity of schools lies with leadership. A transformational type of leadership is necessary, one that adheres to the principle of the dispersal of power, thereby giving rise to a demonstration of leadership throughout the organisation and not just from the top (Law 1999; Hayes, Christie, Mills, and Lingard, 2004; Huber, 2004). Transformational leaders are visionaries, they provide intellectual stimulation, they promote a culture of care, they have high expectations of staff, they show appreciation of individual work, and they build structures that promote participation (Silins and Mulford, 2002).

One of the key outcomes in the learning school is that its members empower themselves and position themselves to influence the situation and the structures within which they operate (Senge, 1990). The process of change begins and ends with personal commitment. It is only when the individual is genuinely valued as a human being and not simply as an economic resource to enrich others, that change and growth become possible. On the premise that 'the fundamental goal of all educators is empowerment: helping people become capable of setting and reaching goals for individual and social ends' (Vogt and

Murrell, 1990, p. 162), there is an obligation upon us to pursue the ideals of empowerment, collaboration and organisational learning for the benefit of people – individually and collectively.

c) Methodology

The study was conducted as an action research inquiry into how I could improve my practice. The living educational theory approach (Whitehead 1989) allows me to frame my research-question in this way, so that the essence of the research examines not just the problem or issue in my workplace, but specifically how my engagement with it influences the situation and those around me, and how my embodied values emerge through that process of engagement. These values are expressed in explicit terms in relation to my work-context.

In action research the ontological values we espouse are explicated and become an integral part of our research-practice. These values are articulated and become the yardstick by which we measure ourselves and our practice. In carrying out research in this way I am developing my own living theory. Whitehead (1989) developed the term 'living contradiction' to describe the experience of espousing a value but actually denying it in practice. The notion of holding oneself accountable for one's actions is central to this approach and encompasses the idea of critical reflection (Carr and Kemmis, 1986). Finally, the living educational theory approach to action research assumes itself to be relational and inclusional. The focus of inquiry is the self, but as we are connected with others, it will also involve them. There is an assumption that participants influence each other's learning.

While the object of the practitioner's research is the self, the self does not practise in isolation. In engaging with others it is assumed that research is carried out *with,* as opposed to *on,* such others. The interconnected nature of ourselves and others gives rise to the epistemological assumption that knowledge does not exist as an external object, but is constructed through a process of social interaction. Such knowledge is acknowledged as biased or subjective; what research yields is described as the practitioner's own personal theory. Knowledge is by nature provisional rather than permanent, so the practitioner-researcher does not assume that the findings of the research are definitive, but rather raise questions and open up further avenues of inquiry to pursue.

The key methodological assumption is that the research is carried out by practitioners who view themselves as agents who actively engage in decision-making related to their own lives. As such they adopt a questioning posture towards the status quo *(out there)* and about one's own assumptions *(in here)*. The research works through a series of cycles of action and reflection. Inherent in this is the idea of uncertainty about where the story will lead and requires a disposition of openness and risk-taking on the part of the researcher.

Finally, I embrace my own uniqueness and with it the subjectivity of this account. As Peshkin explains:

> My subjectivity is functional and the results it produces are rational. If somehow all researchers were alike we would all tell the same story about the same phenomenon. By virtue of subjectivity I tell the story I am moved to tell. (Peshkin, cited in Eisner, 1991, p. 48)

d) The Action Plan

In conducting this research I decided to use the Action Plan proposed by McNiff and Whitehead (2006). This is a ten-step cycle and while it is not prescriptive, it provides a thorough and rigorous process. It poses the questions:

- What is my concern?
- Why am I concerned?
- What kinds of experience can I describe to show why I am concerned?
- What can I do about it?
- What will I do about it?
- What kind of data will I gather to show the situation as it unfolds?
- How will I explain my educational influences in learning?
- How will I ensure that any conclusions I reach are reasonably fair and accurate?
- How will I evaluate the validity of the evidence-based account of my learning?
- How will I modify my concerns, ideas and practice in the light of my evaluations?

My concern was the lack of collaboration amongst the staff in school and how this denied my value of *'the power of the collective'*. To address this concern my research-question became, 'How can I, as an ICT co-ordinator, encourage and support collaboration in my work place?' Initially I laid the blamed the school's culture and structure and in so doing was laying blame *out there*. This is an example of 'single-loop learning' in action (Argyris and Schön, 1978, p. 18). To live up to my own standards of integrity I needed to look beyond this and engage in 'double-loop learning' (ibid., p. 20). Further reflection led me to question my own role as a member of middle management in the creation and maintenance of such a culture. I came to the realisation that, in my role as ICT co-ordinator, I had failed to uphold my own value of collaboration in the development of previous ICT plans in the school. In developing previous plans, I succumbed to the pressures of time and expediency, and put the plan together myself. Through this act of complicity I recognise myself as a living contradiction (Whitehead, 1989).

I invited a small number of colleagues to join with me in using the VLE as an online collaborative environment while we engaged in the task of developing an ICT Plan for the school. Throughout the project I kept a journal to record field notes and my reflections on learning. My fellow participants agreed to keep online journals in Moodle, to which I was permitted access, and the record of activity on Moodle and its contents showed the progress of the project. From such data I was able to point to evidence of how I began to live in the direction of my stated values and how we influenced each others' learning.

e) Implementation and Evaluation

Reflecting on the lack of collaboration in the planning process I came to recognise four key things:

1. that the school's culture and structures did not support a collaborative approach amongst the staff;
2. that a major difficulty was the lack of time available for face-to-face meetings as a consequence of time-tabling constraints;
3. that a second major difficulty was the poor communications system within the school;
4. that I was a living contradiction myself. By denying my values in preparing previous ICT Plans in isolation I was complicit in maintaining the status quo.

In developing my living theory, I was guided by my values which become my living standards of judgement (Laidlaw, 1996). My values are derived from the concepts of integrity, love, justice, freedom and democracy. These abstract concepts inform the ideals that I aspire to, and the beliefs that I hold in relation to how I live and work (McNiff and Whitehead, 2005). As part of the on-going validation process established on the M.Sc programme, I had the opportunity of presenting my work before Dr Jack Whitehead, University of Bath, and other class colleagues. This dialogue helped me to clarify my research focus and the values that underlie my work.

For the purposes of this study I articulate my values as follows:

- *The autonomy of the individual* – I respect the individuality of others, and their right to make their own choices and decisions.
- *The strength of the collective* – while we are all individuals we are connected together in a social web. I believe we can achieve more by pooling our resources through co-operation and collaboration.
- *Participation and involvement* – I hold the view that people should have a say in the decisions that affect them. The corollary of this is that people have a responsibility to inform themselves and be willing to be active participants.
- *Personal growth and development* – people have creative potential that may or may not have an outlet in the workplace. I am committed to developing myself and also to facilitating the empowerment of others to achieve their potential as well.

i)   Cycle 1

The first cycle of my action research focused on the installation of an appropriate online environment. The choice of which VLE to use should include consideration of the user profile, the style of learning support to be implemented, the technical infrastructure of the organisation, and whether it is to be hosted internally or externally (The Joint Information Systems Committee (JISC), 2007). While these factors were considered, the choice of software was constrained by two serious constrictions operating in my situation. In the first instance, there was no funding available for the procurement of a commercial VLE, and secondly, as the ICT co-ordinator, the administration of the system would fall to me. My own

experience therefore was to play a significant role in the final decision. Over the eighteen months prior to this study I had made extensive use of Moodle as a student.

Moodle is a virtual learning environment (VLE) based on open-source technology and is freely available for use by educational institutions under a GNU (General Public Licence). It can be, and has been, modified by developers, and represents an inspiring model of collaborative effort in itself. Moodle is unique as a VLE in that its origin and design are founded on pedagogical principles, rather than around tool sets (Cole, 2005; Rice, 2006).

The asynchronous discussion forum lies at the heart of all Moodle courses. It is the core-technology that provides for the interaction necessary to facilitate a collaborative approach to working and learning. Martin Dougiamas, the creator of Moodle, was profoundly influenced by the constructivist-epistemological approach to learning. He further developed the pedagogical philosophy underpinning Moodle to incorporate a constructionist design (Dougiamas, 1998, 2006). The software reflects the five key points that encapsulate Dougiamas's 'social constructionism':

- That all of us are both teachers and learners.
- That we learn better when we are doing something that will be shared with others.
- That we learn by observing our peers' activities.
- That we teach better when we know our students' context.
- That the learning environment needs to be flexible and adaptable to the needs of users.

The underlying philosophy of the Masters in Education and Training Management: (e-Learning strand) at DCU is expressed through 'a web of betweenness' and 'a pedagogy of the unique' as delineated by Farren (2006, pp. 18-20; Farren, 2008). Being part of this web of betweenness allowed me to experience at firsthand the power and pleasure of learning together with my class colleagues and course tutors, while a pedagogy of the unique not only recognised, but encouraged, the distinctive contribution of each. Moodle played a central part in this experience and confirmed for me its suitability for my purpose, which was to encourage and support collaboration amongst my own work colleagues. It also assured me that it provided a good fit for the criteria put forward by JISC:

- *User profile*: the staff members within the school have varying levels of ICT proficiency, so ease-of-use would be a prime concern.
- *Style of learning support to be implemented:* My main concern is to support the staff in developing a collaborative style of working and learning together, particularly in relation to school-wide issues that would involve interaction across traditional departmental boundaries.
- *The technical infrastructure of the organisation:* The school has a good ICT infrastructure that includes a separate administration network for staff, along with broadband and wireless access to the Internet.

Both financially and philosophically Moodle represented an excellent choice for my context.

My experience as the school's ICT co-ordinator had exposed me to the technical side of ICT administration. However, I had no previous experience of what managing a Moodle site entailed. In the course of my Masters' studies I had experimented with XAMPP, a suite of server-side technologies and had run Moodle on a local machine.

I felt that it was imperative for me as the ICT co-ordinator to take responsibility for the Moodle site as the Administrator. It was important to me that my colleagues would see me as a learner too and would express my commitment to personal development.

The school already had a web host provider so the Moodle site was set up as part of the main site. Armed with the help files on Moodle.org, I embarked on the web-host installation. My initial enthusiasm and 'can-do' attitude was seriously dented as I encountered a series of set-backs in trying to complete a successful installation on an external web host server. A sample from my learning journal illustrates the point:

> Another frustrating week gone by. The Moodle thing is driving me nuts. By Wed after having put in my .htaccess file, the host providers decided to migrate the web site over to a Unix server, and I only got it back on Friday. I've just tried it a few minutes ago and now it's not even finding the page! (Hennesy, personal communication, January 28, 2007)

However, Moodle found Unix a much more agreeable environment. I turned my attention to configuring the settings, setting up courses and enrolling the users. As my purpose was to encourage people to engage in collaboration, I concentrated on the communication tools in Moodle. I chose Forums, the Chat Room, Journals and the Message system as the main tools that I would introduce to the group. I chose the Topic format for the course to facilitate the development of a policy document for ICT in the school. I added content and resources relevant to SDPI and ICT planning to the course area.

The process of setting up my own VLE for the school increased my technical knowledge and expertise, and was valuable to me as an ICT co-ordinator. The moments of 'not knowing' served to remind me that collaboration is necessary in every social endeavour. They also gave me insights into how ICT novices might feel when confronted with the VLE that was new and strange to them. I was determined that this learning would inform my actions in the next cycle when the group became active.

My decision to take responsibility for the administration of the Moodle VLE was driven by my personal commitment to my own professional growth and development. Being open to the challenge of new learning is an integral part of being a good teacher and is crucial to being an effective ICT co-ordinator where the rapid pace of technological change is the only constant. It was an exercise in self-empowerment for me to take on the role of administrator rather than allow an external party to take control of this aspect of the project.

ii) Cycle 2

The focus in the second cycle was to introduce the participants to Moodle, and to start building our own small community of practice around the development of a school ICT Plan.

The National Centre for Technology in Education (NCTE, 2002) recommends that the members of the ICT Plan task group be drawn from a range of subject areas. I was also concerned to get a balance in terms of gender, age and ICT expertise in the group, to see how well Moodle could be adopted. I arranged a group meeting to explain my purpose and their role as participants. I had previously circulated an information-sheet to them outlining

the purpose of the study and the meeting served to clarify any points of uncertainty. We also agreed a time suitable for everyone to do an introductory session on Moodle, in which I would give a basic lesson in the operation of the software.

The four members of the group were:

- Anne – a teacher of Irish, Geography and Civic, Social and Personal Education (CSPE), has worked in school for sixteen years. She has a Special Duties post as CSPE co-ordinator, and is involved in the Book Rental Scheme and in the preparation of book lists. She co-ordinates the Junior Cert Schools Programme (JCSP) in addition to her post duties. She rates her level of ICT skills as poor to fair, but has found that she is required to use a computer increasingly to carry out her managerial tasks. While admitting to being a little apprehensive, she was looking forward to being involved in the project and learning something new (Audio 1).
- Eddie – a teacher of English, History, Social, Personal, and Health Education (SPHE), CSPE, and European Studies, is in his fourth year in the school. He is involved in extra-curricular basketball and soccer. He feels comfortable in using ICT for his own use and for classroom work, and likes to keep up to date with developments (Audio 2).
- Jim – a teacher of Business Studies, Economics, Business and Accounting, has worked in the school for twenty-three years. He holds a Special Duties post with responsibility for Lockers, and is part of the Pastoral Care team as a Counsellor this year. Jim rated himself as a beginner in ICT and felt his skills were weak. In spite of this he wanted to be involved in the Moodle project as he felt it would provide him with an opportunity to improve his skills and allow him to make a contribution at the same time (Audio 3).
- Ryan – a teacher of English and History, has been in the school for five years. He is the Year Head for the First Years, and had just been appointed a Special Duties Teacher. At the commencement of this study his duties for the post had not been defined. He is involved in soccer, chess, handball and the Homework Club. He regards himself as a competent ICT user, and uses it for his own work and for class work with students (Audio 4).

From a brief experience as an e-moderator on a forum in the Masters course in DCU, I had learnt that e-moderating demands attentiveness to what users are saying, a sensitivity about the fears that new users might have, and the necessity to model appropriate and effective use of discussion forums. I was conscious that my role here was to cultivate virtual relationships within the group and to build a sense of presence and trust that would eventually allow a community to emerge. At the same time it was important for me 'to act as a co-learner or co-participant in online activities' and to be 'flexible in constantly shifting roles between the roles of instructor, facilitator and consultant' (Bonk, Wisher and Lee, 2004, p. 63).

I initiated the work by setting up a forum called *ICT Planning – Initial Analysis*, and posting a review of the school's current ICT status. I invited the members to read it and to put forward any amendments, queries, or thoughts they had. I directed their attention to the various resources I had made available on the Moodle site which related to the task in hand. Three days went by before anyone responded. Eddie was confused about where to find information, Ryan jumped in immediately with some tentative advice, but I sensed a

little reassurance was needed at this stage, so I clarified some points and kept the tone light. A week was gone by, and I felt that we had made no progress, but by the end of the following week postings had been added to the forum by Eddie, Ryan and Anne addressing the task. I promptly responded to the points made to ensure that the members felt that their contributions were valued. Jim had succeeded in posting a brief message to the forum, but had already fallen behind in the group task.

I felt that things were moving slowly. However, the group members saw things differently. Anne wrote:

> I think things are going well. Delighted that I can actually find documents etc and reply to the forum! All of this is new to me i.e. never heard of a 'forum' in this context before... Just posted a new topic to the forum for discussion. Wonder what journey that will take me on... here is a great sense of satisfaction each time I manage to contribute or communicate - am quite excited about it in spite of the nerves! (Anne, personal communication, March 23, 2007)

Ryan, the most active member, was trying to include Moodle into his daily routine:

> …finding the actual time to go online and update my journal and contribute to the forums is proving a problem... I need to be a little bit more disciplined at make the time to get online, if only for 10 minutes a day, to keep abreast of what's going on. (Ryan, personal communication, March 19, 2007)

There was one week left before a two-week Easter break and I decided to press ahead. I set up a new forum, *ICT Plan Aims*, and made a posting on the process of identifying and articulating our aims for the ICT Plan. By the end of the week, only Anne and Ryan had been active on the forum, and Anne was beginning to see the possibilities:

> Forums are new to me but the more I learn the more possibilities I see for its use in the future – eg; news of Ryan's new role was relayed to me this way which I may not otherwise have known - already an improvement in communications. JCSP meetings can possibly be managed more efficiently in Moodle to gather data in advance. This would mean that discussion during the meeting would be more focused. Looking forward to seeing how this might work in the future. (Anne, personal communication, March 29, 2007)

It was apparent to me now that Jim was struggling with the technology and an intervention was called for. Fearful that he would be lost to the project if he went on holidays in his current state, I offered to do a Moodle refresher course on Friday, 30th March at 12.30 pm. I recognised that involvement in this project was an opportunity for Jim to build his ICT skills in a meaningful way, and that doing so would be empowering for him. I saw my continued support to him as the way to live towards my value of personal development. I was also concerned about Eddie. He had started with such enthusiasm but had faded away.

Over the Easter holidays I gave the project a lot of thought. I felt dissatisfied with the rate of progress and the level of involvement. From experience I knew that using Moodle was an empowering experience and I wanted to offer this opportunity to the group members. Mastering technology involves new learning and overcoming fears. This was how I wanted to express my commitment to enabling the growth and development of others. Using the forums to discuss issues that related to our work was how I wanted to live towards

my value of participation and involvement. Working together as a group on developing the ICT plan, which previously I had done alone, was how I was striving to live towards my value of collaboration. I was faced with a dilemma. The group members were not behaving as *I thought they should*. This was testing another of my values: the autonomy of the individual. I had arrived at a situation in which this value appeared to be in conflict with my other values. This caused me to reflect deeply about my values again in an effort to resolve this dilemma. I wrote at that time:

> The conflict between the individual and the group – in terms of collaboration within my context, I will respect and value the individual. My understanding of the collaborative group in my context is of a group of independent individuals who come together voluntarily as equals to work as a team. They recognise and value their interdependence. This can only work successfully if the concept of individual autonomy is inviolate. (Hennesy, personal communication, April 12, 2007)

Through my reflection I had come to appreciate that we hold many values at once, and they temper our perspective in any given situation. Rather than seeing this apparent contradiction between my values as a problem, I began to see that I could hold two potentially conflicting values in tension. Rather than being hard and fast rules, the relative dominance of one value can ebb and flow depending on the given set of circumstances. In this particular situation, I concluded that the autonomy of the individual was paramount and would serve us all better in the long run.

Later, when I had time to look back on my dilemma of conflicting values, I became aware that I was so intently focused on how to get my colleagues collaborating that I was in danger of eroding their individual autonomy and negating my primary value of respecting the individual. The theologian, John (Jack) Shea (2000) writes that values 'occupy the middle ground between convictions and concrete actions' (p. 128). The convictions are grounded in one's ontological stance. Shea says: 'We are both separate and the same, isolated and connected to one another' (ibid., p. 150).... 'In general, practices should bring into consciousness the truth of our connection rather than the surface condition of our separateness' (ibid., p. 156).

Organisations attempt to tap into human potentialities by invoking people's spiritual interests. The object is to release human creativity which ultimately translates into bigger profits for the organisation (Senge et al, 1994). Shea (2000) addresses this strategy by saying:

> Spirit cannot be seized, possessed, or incorporated into the profit schemes of benighted people. It is always a resource on its own terms. The human spiritual project is to learn how to freely receive this resource and to freely give it. (p. 108)

I realised that this is a core belief for me: that creative spirit is given freely and received freely. Its potency lies in the *freely* condition that implies not just freedom, but openness, generosity and plenitude. The truth of our connection is that I am part of the group. In respecting the autonomy of others, I was ultimately affirming my own.

When we resumed after Easter, I made a point of speaking to each member individually as there was no hope of organising a meeting for at least a week because of

incompatible schedules. Eddie confirmed that he was finding it difficult to get access to staff computers, so I organised a laptop for him for the next day. Jim was still promising to become more involved, but continued to struggle with time-management issues and consequently did not master the technology to a satisfactory degree within the timeframe of the project. In the remaining weeks, Moodle activity increased, and there appeared to be a greater comfort level with its use amongst the other members. As we proceeded with the ICT Plan, everyone took responsibility for a particular piece of work and contributed their findings to the forum. Following a progress meeting with class colleagues and supervisors in DCU on 18 April, I decided to act on the suggestion of using the wiki feature in Moodle to write the plan online.

Other discussion threads emerged. One involved a discussion on how to spend a windfall of €9,000 on ICT equipment. This was a 'bread and butter' issue that allowed the group to be part of a decision-making process that would have immediate impact on the ground. Yet another discussion was started by Anne about how ICT and Moodle could help her cope with an increased administrative burden associated with the decision to extend the JCSP programme to more classes from the following year. During the Cycle 2 time period Ryan took up his post as the school's SDPI co-ordinator and he quickly set up a Steering Committee. Following some discussion we decided to set up a space for the Whole School Plan and transferred the existing draft policies into it. Ryan became the facilitator of this course. Gradually people were beginning to take ownership of the resource.

At the end of the study I brought the group together for an informal group interview over the lunch break. The session was concerned with their experience of working in a collaborative online group, their experience of Moodle, and if and how it had changed their view or way of doing things. In general the response to Moodle was very positive, and it was seen as a valuable resource that offered faster and more reliable communications amongst staff.

Jim expressed his reservations about the nature of online-collaboration, saying that he missed the richness of face-to-face interaction and did not think that discussion forums were an adequate substitute (Video 1). Ryan saw Moodle as an addition to the existing resources rather than as a replacement, and felt it had scope for development (Video 2). Anne spoke of how Moodle had made collaborating easier for her and the flexibility it offered (Video 3). Eddie revealed that he had not believed that it would be possible for an ordinary second-level school such as ours to have as sophisticated a system as Moodle operating (Video 4). I found this comment intriguing. It represented to me a living example of how the existing organisational model could create feelings of powerlessness and learned helplessness in its members. By demonstrating that change is possible I hope to have lived towards my value of personal growth and development. This instance also represents what I regard as the most significant influence I may have had on the learning of others in this project.

The experience of the individual participants was particularly rewarding. I am satisfied that each gained something from the project and that I have influenced their learning. I have already alluded to Eddie's change of mind. When Anne talks about what she has learned she typically lists off technical competencies she has gained, but the video displays how she has also become reflective as she says: 'I was very scared of it looking back now, I didn't realise how scared I was' and it also captures her evident pleasure at mastering

her fear ([video 5](#)). Ryan shows how through his involvement in the ICT Plan task group he has come to appreciate the collaborative process: 'you really need a team of people working together to make any efficient progress with planning and again, I have learned the role that Moodle can play in helping us' (Ryan, personal communication, April 22, 2007).

Jim came to accept the fact that he 'didn't allow enough time' and consequently felt outside of the collaborative process:

> In the initial phase of the moodle experience I didn't allow enough time to familiarise myself with the process. Having fallen behind with the evolving situation I forgot some of the basic techniques. Having now almost caught up I think I need some basic technical advice about how to transfer information from the www to this site to facilitate my contribution to the debate on ict [sic] in schools. (Jim, personal communication, April 26, 2007)

I stated earlier that I believe that mastering new technology is an empowering experience; I believe that this shows how failure to do so is disempowering.

I perceived that a sense of camaraderie and supportiveness had grown within the group. Eddie remarked in his journal:

> I really feel the group is going from strength to strength, their confidence is growing, the concept of using a workable functioning idea like Moodle, I think, will become a reality through this group. It feels good to be working towards goals, plans that benefit us, the staff, the students and the school. I genuinely feel a good sense of team work with my fellow group members, Moodle has helped this blossom. (Eddie, personal communication, April 22, 2007)

Reflecting on my own practice now, I can see the changes that have arisen. In the past I fell in line with how things were done in the school. Individuals are assigned responsibility for specific areas and they are expected to deliver in those areas. We work on the basis that *everybody has their own job to do* and I now recognise the tacit implications of this practice - namely that needing help is seen as a weakness, and that seeking help is an unwelcome intrusion on other equally-burdened people. This model fitted perfectly with Peter Senge's description of the traditional school organisation:

> The first assumption about school and how it works—not how it is espoused—is the classic Industrial Age management system, where you break all the jobs into pieces. . . .You do not build partnership among those people, or a sense of collective responsibility. You build a sense that if each person does his or her job, then things will work out. It is the antithesis of a team. (Senge, 2000)

Recognising my own complicity in this arrangement I had initiated a project to encourage and support collaboration amongst colleagues. I feel I have achieved this through the use of Moodle, which enabled us to overcome the main constraint, which was the scarcity of common free time for face-to-face meetings.

f) Conclusion

I presented my claims to knowledge at a series of validation meetings in DCU. During this process I addressed the following questions and presented evidence to support my claims (video 6). The questions draw on Habermas' (1987) four criteria for social validity:

1. **What have I learnt from the research inquiry?**

In the course of the inquiry I identified three significant outcomes for myself. First, the technical learning that arose from the installation and administration of the Moodle system within the school which has been demonstrated by the existence of the Moodle site. Secondly, I came to a deeper understanding of my values and how they have been transformed into living standards of judgement in my practice. Thirdly, in the process of encouraging others to collaborate, I challenged my living contradiction and learned how to collaborate with my work colleagues on the practical task of formulating a school ICT Plan.

2. **What claims are you making?**

I have encouraged and supported collaboration in my workplace. The group actively engaged in a collaborative style in developing a plan within the context of the SDPI process. Moodle has supported the collaborative process by freeing us from the constraints of time and place.

3. **What educational values are coming through the research inquiry?**

My values of individual autonomy, collective strength, participation, and personal development have emerged in the course of the inquiry. In the course of the project I facilitated the choice of each participant to engage with new technology (individual autonomy) and to master new skills (personal development). I provided the participants with the opportunity to be part of the ICT Plan task group (participation) and to work together (collective strength) in a collaborative style to develop the ICT Plan.

4. **How have you influenced the learning of others?**

In claiming to influence the learning of others I relied on the participants' own accounts of how they have changed their practice and their views. They demonstrated that they are open to working in a collaborative manner given the opportunity to do so. The participants' engagement with the ICT Plan broadened their awareness of school-wide issues, and they began to use Moodle to expedite their work in other areas.

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Glossary

ASTI	Association of Secondary Teachers of Ireland
CIDs	Contracts of indefinite duration. Offered to teachers previously engaged on fixed term contracts, who have been teaching continuously for more than four years. Part of the implementation of the Protection of Employees (Fixed Term Work) Act 2003
DES	Department of Education and Science
GNU	An acronym for GNU's Not Unix, GNU is an organization founded by Richard Stallman. Many of the tools and bits of the Linux operating system were developed by GNU or under GNU's public licence.
ICT	Information and Communications Technology
INTO	Irish National Teachers Organisation
NCTE	National Centre for Technology in Education
PORs	Posts of Responsibility make up the middle management in schools. Teachers are promoted through an interview process to take up posts with designated duties. There currently two levels of post: Assistant Principal (formerly an A-Post, and Special Duties Teacher (formerly the B-Post.
PSBB	The Public Service Benchmarking Body is a government appointed body set up to undertake a fundamental examination of the pay of public service employees vis-à-vis the private sector.
SDPI	School Development Planning Initiative – instigated by the Department of Education and Science to enact the requirements of The Education Act 1998.
SNAs	Special Needs Assistants are classroom assistants to assist with the care of pupils with disabilities.
TUI	Teachers Union of Ireland
VLE	Virtual Learning Environment – eLearning platform
WSE	Whole School Evaluation – carried out by the Inspectorate of the Department of Education and Science on schools in Ireland.
WSP	Whole School Plan – the culmination of the School Development Planning process in each school. The WSP covers everything from a Mission Statement to the curriculum plan of each subject department, plus all the Policies the school has on specific issues such as Substance Use.
XAMMP	X represents the operating system for example Windows or Linux. It is represents as simply X as it is cross-platform. A Apache Web Server M MySQL Server P PHP a server side scripting language P Perl a dynamic programming language XAMPP is an open-source, free software suite – comprising of Apache Web Server, MySQL server, Filezilla FTP server and Mercury Mail Server.