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## **e-Learning and Action Research as Transformative Practice**

Margaret Farren

As a reflective practitioner of higher education, Margaret Farren seeks to contribute to a knowledge base of professional practice by using a "living educational theory" form of action research in her approach to teaching and learning. She focuses her research on the Masters program in e-learning at Dublin City University where professional educators from a variety of private and public institutions seek to transform their pedagogy and their students' learning experiences through the application of the latest interactive technology. In this article, Farren demonstrates how an action-research approach to pedagogy that includes a commitment to both a "web of betweenness" and "living educational theory" can provide opportunities for educators to inquire into their educational influences, establish living standards of judgment, and take responsibility for their own learning.

Recent Internet developments and advances in networking have encouraged students' collaboration with other students and instructors, increased students' access to experts, and provided an array of learning resources. Despite the evident potentiality and dynamism of these emerging technologies, however, studies indicate that while teachers in higher education are making use of e-mail and Web resources, other technologies, such as wireless solutions and conferencing tools, are used to a much more limited extent (Collis and van der Wende 2002). The handling of e-learning currently tends to center upon content (Van Merriënboer, Bastiaens, and Hoogveld 2004); forms of e-learning that emphasize the active engagement of learners in rich learning tasks and that encourage the social construction of knowledge and skill acquisition are rare. In other words, the potential of technology to transform the teaching and learning environment is still far from being realized in institutions of higher education.

The e-learning program within the [Masters Degree \(MSc\) Program in Education and Training Management](#) in the [School of Education Studies](#) at Dublin City University (DCU) is attempting to realize that potential by integrating technology with active learning activities in an online learning community. Through two linked twelve-week modules, first-year participants in the program are guided to inquire about their pedagogical practice, create Web-based artifacts that relate to that practice, reflect on this process, and articulate their own tacit knowledge about

practice. Online dialogues help students to reflect on and formulate strategies for improving pedagogical practice. Using examples drawn from a cohort of students working their way through the Emerging Pedagogies module, I demonstrate how information and communication technologies, and online discussions in particular, can be used to help students—in this case, working educators pursuing advanced studies—recognize and examine the values that underlie their teaching and learning, thereby enhancing their personal knowledge base for professional practice.

### **Guiding Philosophy**

Participants in the e-learning program are drawn from across the primary, post-primary, further, higher, and adult education sectors as well as from corporate industry, nursing personnel, governmental departments, and other state agencies. The students are themselves practicing educators, experienced in handling teaching and learning problems. The content of the e-learning program is the students' own well-informed exploration of the teaching and learning process as it may be transformed by technology. Further, the program demands and provides multiple opportunities for reflection on the wider dimensions of the process itself. Previous participants also contribute their knowledge and expertise to the program. Former student Yvonne Crotty, for instance, now coordinates year one of the program and teaches in the program as well; she helped redesign the Multimedia module to connect it with existing program modules in a focused, meaningful way.

### *The Web of Betweenness*

The e-learning program is grounded in a philosophy of learning that embraces what Irish theologian and philosopher John O'Donohue has termed a "web of betweenness" (O'Donohue 2003, 132-133). For O'Donohue, spirituality is intimately linked with interpersonal relationships and the community. His idea of community extends beyond the social community 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" (O'Donohue 2003, 142). I suggest that the communication-rich characteristics of current technologies can recreate in new forms the powerfully interactive traditional world whose passing O'Donohue laments (Farren 2005).

The exploitation of information technology's potential in the classroom can also give substance to Lick's (2006) concept of an authentic learning team that aligns

and develops its capacity as a team to create the results its members wish to achieve. Such teams can achieve more than the sum of their participants' accomplishments. At DCU, as the program proceeds, participants in the fully interactive e-learning process collaborate, become more synergistic, and begin to function as an authentic learning team. As one of our participants noted,

As I started to post contributions to the discussion forums and then receive responses from fellow participants and former students in the MSc class, deep personal learning began to occur as the power of the forums began to emerge. Not only was I discussing, for example, an educational theory with fellow teachers but also with trainers from the public service, who deal with clients from a variety of social backgrounds, and nurses bringing their particular healthcare perspective to the debate were joining in. (O'Mahony 2007, 57)

My commitment to a web of betweenness reflects my belief that learning is a social, interactive process involving members of a community of sharing participants who can develop new understandings through dialogue. The concept of the authentic learning team reflects a similar belief in the power of collaboration and dialogue in learning.

### *Action Research*

In addition to its commitment to engaging a web of betweenness, the MSc program at DCU is underpinned by an [action-research](#) approach that encourages practitioners to reflect systematically on their pedagogical practice while implementing informed action to bring about improvement in that practice. Action research is about improving education and, at the same time, contributing to knowledge. It lays stress on the uniqueness of each research situation—on the study of singularity (Bassegy 1995, 111)—rather than emphasizing the notion of a generalizable theory. Although the processes of action research may vary, there is a common emphasis on critical and democratic social theory as well as a departure from unengaged research as an inquiry path ([Exhibit 1](#)).

Furlong and Oancea (2005) suggest that

action research and reflective practice are models that offer arguments against the idea that applied research is only focused on use and that it does not and cannot contribute to more theoretical knowledge production while at the same time achieving changed practice. (8)

Whitehead (1989) argues in a similar vein for the particular relevance of an action-research approach to the education discipline. He describes education as a value-laden activity where the term "values" refers to those qualities that give meaning and purpose to our personal and professional lives, and he suggests that by asking questions about how their practices can be improved, practitioners can embody their own educational values. Whitehead refers to this approach as "living educational theory" and uses the logic of dialectics in pursuing questions, expressing concerns when educational values are not lived in practice, imagining a way forward, acting and gathering data, evaluating action in relation to values, and modifying plans in light of that evaluation. These issues are key to the action planner ([Exhibit 2](#)), one of the tools used by MSc-program participants as they work through assignments that requires them to consider their practices in light of learning theory.

This form of action research allows educators to clarify the meaning of embodied values as they emerge in educational practice (Whitehead 1989). I advocate an action-research approach because I see how vital it is for educators to question their own underlying assumptions repeatedly and articulate the values that give meaning and direction to their work; the methodology aligns with my commitment to prompting participants to ask, research, and answer the question, "How do I improve my practice?"

This approach demands a real change in outlook for many participants as some are unaware of the ramifications of pedagogic processes and must shift from a perspective that views pedagogy as unengaged theory to an understanding of the real impact of pedagogical theory. At the same time, participants need to develop technological skills within a critically reflective framework if they are to use technology effectively to improve their teaching in a substantive and transformative fashion. The action-research approach supports practitioners as they reflect systematically and in an iterative fashion on their pedagogical practice, implementing informed action to bring about improvement in that practice and to integrate technology in meaningful ways.

### **The First Year**

In the first year of the program, participants work through two linked 12-week modules entitled Educational Applications of Multimedia and Emerging Pedagogies. In the Multimedia module, participants are introduced to various technologies, including video and audio production tools; Web authoring

software; and graphics, simulation, and animation software. The assignment for this module requires participants to create a Web-based multimedia artifact of their own that will be used in their professional settings ([Exhibit 3](#)). In the Emerging Pedagogies module, participants are introduced to learning theories and learning design and, for their assignment, examine the relationship between technology and learning by writing reflective text to support the Web artifact they created in the Multimedia module ([Exhibit 4](#)). Participants present their artifacts and an analysis of them in validation meetings where they articulate and clarify their knowledge and values and present their artifacts for evaluation by their peers ([Exhibit 5](#)). Completed assignments are showcased in the program's [e-Portfolio](#).

The two modules run concurrently so that participants are engaging in learning theory and reflection even as they create their Web artifacts. The Educational Applications of Multimedia module consists of six in-class workshops where participants have the chance to sample a broad range of technologies and to choose the technology that best suits their needs. The Emerging Pedagogies module runs one evening per week; a quarter of the sessions are online—we use both synchronous and asynchronous technologies for online sessions—and the rest are face-to-face class meetings. Reflective practice, learning design, and learning theories are new to some of the participants; the class sessions allow time to introduce and discuss new ideas and concepts and to examine emerging research.

The participants keep online learning journals and make use of the discussion forums throughout both modules. [Moodle](#) provides the space for participants to explore the ideas presented in class sessions at a time and place convenient to them. Participants reflect on their practice in a shared collaborative space and receive feedback from peers, thus providing further opportunities for reflection ([Exhibit 6](#)). Moodle journals enable individual reflection while discussion forums, wikis, and collaborative glossaries encourage group learning. Online discussions in particular offer opportunities to build community and engage a social learning process.

### **Online Discussions**

Discussion forums are a key part of the collaborative learning process. In 2006, I designed structured online activities to encourage more focused discussions on the theories of learning introduced in the Emerging Pedagogies module. In

previous sessions, I had introduced learning theories during the class sessions but had not asked participants to post their thoughts about particular learning theories. This new approach more closely reflects my commitment to learning as a social, interactive, dialogic process. In the new set of activities, I ask participants to research a particular learning theory or theorist and post their findings and thoughts to the online discussion forum.

Participants have responded with robust discussions about a range of learning theories. YE, a training officer with the Inland Revenue who specializes in desktop computer applications and e-learning, chose to research Bandura's (1977) social learning theory ([Exhibit 7](#)):

I chose Social Learning Theory to investigate, not because I knew anything about it, but because I had heard the name Bandura before. Also, the word social in the title appealed because I have come to an understanding of the importance of social interaction in learning.

TH, a post-primary teacher and ICT coordinator, researched constructivist theory ([Exhibit 8](#)). She explained how she has seen this approach borne out in her own practice:

This theory appeals to me for two reasons: Firstly the constructivist view holds that learners play an active rather than a passive role in the learning process and that each person makes knowledge their own by what it means to them. They take new knowledge and fit it into their existing cognitive schema (what they already know) and can create/discover new knowledge through this process. My experience in teaching has borne out these truths.

Later in the module, participants are invited to post further thoughts on their engagement with learning theories as they create a Web-based artifact for use in their practice context.

Participants are also encouraged to engage with each other's reflections in the online learning environment. An exchange between participants DM and JK exemplifies the high-level engagement that results from these exchanges. JK, an assistant principal, learning support resource teacher, and ICT coordinator in a primary school, wrote a post explaining why Vygotsky's (1978) theory of the zone of proximal development (ZPD) appealed to her: "I aim to design a welcoming teacher-friendly website which helps those new to learning support move in

graded steps from the known to the unknown (ZPD)" ([Exhibit 9](#)). DM, a post-primary teacher and assistant principal in a community school, responded to JK to thank her for helping him to come to a better understanding of Vygotsky's theory ([Exhibit 10](#)). He referred to reading about scaffolding in [WebQuests](#) and connected his reading on WebQuests with JK's readings on Vygotsky, noting

examples of scaffolding are "activities that help students develop the right mindset, engage students with the problem, divide activities into manageable tasks, and direct students' attention to essential aspects of the learning goals" (Ngeow and Kong 2001). Given ongoing practice tackling advanced intellectual tasks in this way, the level of support is "faded" as the skills are internalized . . . This seems to sit well with what Vygotsky puts forward.

In another example of this kind of dialogue, TH and YM, a nurse tutor and IT trainer in a major Dublin hospital, developed a complex discussion of their theoretical influences ([Exhibit 11](#)). Later, DM connected with my reference to Paolo Freire's (1970) work as he began to inquire into his own classroom practice ([Exhibit 12](#)):

Secondary school education has to be more than 'learning' in a narrow sense – more than how many points did you get? It has to transform students, so that they move outside of themselves towards their communities and be active in them.

DP, a previous participant in the MSc program and a trainer in a multinational corporation, responded: "I think this transformational value is a nice idea, and the challenge from a living theory perspective, is how can you integrate this value into your practice? How can you translate this into practice so it moves beyond abstraction and into the world?" ([Exhibit 13](#)).

These examples provide some insight into the processes by which the formulation of hypotheses becomes the subject of generalized discussion from a variety of perspectives, how those hypotheses are tested in terms both of acquired experience and new experimentation in different environments, and how outcomes are rapidly incorporated into the collectively enhanced skills of all those participating in the application of the methodology.

The key insights from this discussion of the use of an online discussion forum emerge from the nurturing of the capacity of participants to engage in dialogue

and to accept increasing responsibility to develop their own practice in collaboration with peers. The online forums provide space for participants to reexamine their assumptions and to articulate the values that give meaning to their work. These documented accounts can bring to life the strength of a web of betweenness and illustrate how it supports each person in the development of his or her pedagogy of the unique. The online dialogue promoted a proactive approach by participants not only to knowledge acquisition but also to the application of action research in their own teaching practice.

## **Conclusion**

It is evident in these dialogues that participants shared research in a collaborative way, interacting actively with one another in what I understand to be a web of betweenness. The dynamic synergy among the members of the program team created an enhanced learning environment in which participants learned technical skills within the context of their real-life concerns.

While it is often easy to ignore the tacit knowledge that a teacher acquires while developing skills in different technologies and exploring new theories of learning and teaching, interactive dialogue here made explicit the processes by which this knowledge building can occur. The collaborative online environment provided time and space for reflection and the articulation of participants' own theory and values, helping students to become more self-aware about the values shaping their pedagogical practice. As they grappled with new ways of using the technology to improve teaching and learning, participants examined their own concerns and values in their work practice.

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