

Online professional development for e-learning: A critical overview of models and approaches

Abstract: Can professional development be achieved online using a web-based technologies and what are the design challenges? In this paper we review a range of approaches and models to create a taxonomy of types of professional development for tertiary teachers using web-based delivery. It is recommended that transformative and reflective models of online professional development are more likely to sustainable and effective in supporting professional learning for the successful introduction of technological innovations in teaching.

Traditional approaches to professional development

Professional development for teachers in the area of new technologies is the focus of an increased amount of attention and research. Initially, the effort has been devoted to providing access to technologies, the challenges are now centered on the pedagogically sound use of these technologies. Traditional paradigms of staff development are often characterised by a prescriptive or tool box approach that 'tells' how to improve practice or prescribe particular teaching practices (e.g. Palloff & Pratt, 1999, 2001, 2003; Salmon, 2000; Cahoon, 1998a, 1998b; Harasim, Hiltz & Turrof, 1995; Hanna, Glowacki-Dudka & Conceição-Runlee, 2000). A common problem with traditional staff development activities is that they tend to attract the best teachers, or the early adopters or innovators, who have already espoused technology innovation in their teaching. In Australia, it was reported that staff development activities related to online teaching and learning, traditional methods of training are favoured over online methods (Ellis, O'Reilly & Debrency, 1998). The aim of this paper is to present alternative approaches to professional learning for online teaching, and to emphasise the need for action learning and reflective practice models that enable practitioners to actively experience online teaching and learning.

Institutional approaches to staff development

Wilson & Stacey (2004) report that the adoption of new learning technologies in learning and teaching require staff development strategies to focus on achieving a critical mass of staff that are competent online teachers and to enhance the institution's capability to sustain the integration of new technologies into learning and teaching practices. Some institutional approaches have deliberately drawn on Rogers' characteristics of innovation as a framework for staff development.

Rogers held the view that the features of an innovation influence its rate of adoption (Rogers 1995; pp.250-251). This framework has been utilised by several institutions to design staff development activities. The rate of adoption will increase depending on the factors listed below, using a set of simple questions to assist the staff developer to consider the 'innovation' from the eyes of the mainstream majority:

- Advantage - Does the innovation provide advantages over current ways of doing things?
- Compatibility - Is the innovation compatible with existing needs and expectations?
- Complexity - Does the innovation make life simpler or reduce complexity?
- Trialability - Can the innovation be tried without a full commitment to change current practices?
- Observability - Is the innovation observable and visible to potential adopters?

Approaches based on this model have been proposed by a number of researchers (Donovan, 1999; Donovan & Macklin, 1999; McLoughlin, 2000; Litchfield, 2000). Otherwise known as "a whole of institution approach" to staff development of online teaching skills, this entails shifting focus from customised solutions that meet the needs of individual teachers to strategies that can move the mainstream majority to adoption of innovation. Strategies must include not only teaching the technical

skills required to use the software and the learning management system that distributes the learning resources to the student, but also teaching instructional design skills in order that the teacher can adopt appropriate pedagogies for the online environment.

Reflective practice as the basis for professional development

It was Dewey (1933) who first emphasised the importance of reflection based on experience. Since then many others have developed and expanded on the notion. The seminal works of Schön (1983, 1987, 1995) suggest that the ability to 'reflect-on-action', which is to engage in a process of continuous learning, was a crucial feature of professional practice. He was strongly against professional training models of 'Technical Rationality' — which involved giving participants materials and resources to apply later in the world of professional practice, and he argued that this contradicts how professionals 'think-in-practice'.

Reflection is a key factor in improving our teaching and learning and has been emphasised by many theorists and practitioners. Schön (1983) was one of the first in his pioneering work to advocate that both 'knowing-in-practice' and 'reflection-in-practice' are innate practices and that 'reflection-on-practice' is a retrospective practice. Reflective observation also became a key component of Kolb's (1984) learning cycle positioned in the second phase.

In recognition of this need, some universities now offer professional development programs in online teaching, some of which engage staff in reflective practice through experiential learning. Three different approaches are outlined here, moving from provision of online resources to immersion in the online experience. One example of online staff development for e-learning is provided by Lefoe (2000) which combines video of cases studies of effective teaching across different disciplines and a website with teaching resources and support structures. Another dimension presented by Ellis & Phelps (2000) was the recognition that the transition to online teaching involved more than technological skills - it also requires change to work practices and the adoption of new pedagogies. These authors also suggest a collaborative action learning model for change management, which provide opportunities for staff to learning together and share ideas and frustrations. In the model, staff were asked to keep a reflective journal to record their experiences, but were not directly involved in experiential learning practices online. In contrast, O'Reilly & Ellis (2002) took the staff development process a little further and engaged participants in role play, adoption of student perspective and immersion in the online experience. This was augmented by opportunities for reflective practice through online journaling. This immersive approach to staff development for online teaching is supported by the findings of a later study, ie that teachers gain a great deal of insight into how to transform their practice by taking a student perspective, and by first hand knowledge of learning online (Al-Mahmood & McLoughlin, 2004, Maor, 2004).

Communities of practice

The concept of communities, both communities of learners (CoL) and communities of practice (CoP) has increasing gained currency in the last few years. Since the inaugural work of Lave & Wenger (1991) on cultures and communities of learning, the notions of CoLs and CoPs have influenced the learning science, management and organisational behaviour. For many institutions, the objective of designing an organizationally contextualized module to induct staff into online teaching and to develop lecturers' teaching skills is grounded in Wenger's framework of communities of practice (Wenger 1998). A fundamental challenge posed by Wenger's theory, that "*Learning cannot be designed*: it can only be designed *for* – that is, facilitated or frustrated." (Wenger 1998:229). Wenger (1998) observes that communities of practice cannot be legislated or forced into existence as designable units; however, they can be recognized, supported, encouraged and nurtured. Wenger contends that "practice itself is not amenable to design" and "one can design visions, but one cannot design the allegiance necessary to align energies behind those visions." (Wenger 1998:229).

The production of the online resources to support professional learning depends on two kinds of affordance for negotiating meaning described by Wenger as making "sure that some artifacts are in place – tools, plans, procedures, schedules, curriculums – so that the future will have to be organized

around them” (1998:231) and making “sure that the right people are at the right place in the right kind of relation to make something happen.” (1998:232).

Wenger's dimensions of design and learning architectures which flow from the concepts inherent in his theory of communities of practice can be used as a design architecture for professional learning (Wenger, 1998). Different modes of belonging to a community of practice sought to be reflected in the module design. Wenger describes these as the three infrastructures of learning as illustrated in Figure 1.

Wenger suggests that a curriculum should “look more like an itinerary of transformative experiences of participation than a list of subject matter” (Wenger 1998: 272). For staff development, this means considering the incorporation of activities requiring mutual engagement, setting challenges and responsibilities, and giving sufficient support for lecturers to develop shared practices.

Simultaneously, Wenger's (1998) principle of educational imagination demands that staff need orientation to the notion of an online community and be able locate themselves within it, to reflect on their professional situation, and to allow exploration, experimentation and reinvention of self in the process of transforming teaching. This is similar to Schön (1983, 1987, 1995) work on reflective practice.

Wenger's (1998) principle of educational alignment can be factored into professional learning might develop their understanding of their contribution to the student learning and how their local actions might contribute to the large-scale university effort. Wenger (1998) describes a learning community as offering opportunities to explore alignment in a variety of ways: through the exploration of boundaries and boundary processes, through experiences of multi-membership, by developing styles and discourses affording multiple perspectives, and through the provision of opportunities for institutional participation.

Pedagogical enhancement

The notion of educational alignment and engagement (Wegner, 1998) guides the conceptualisation and implementation of professional development with a focus on pedagogical enhancement.

Similarly, Maor's goal (2004) of pedagogical enhancement is to help lecturers adopt technology in more meaningful way. The professional development program uses an experiential model of the teacher as a learner in a face to face or online discussion (a community of learners) followed by the teacher as a researcher by conducting action research in their respective teaching settings (community of practice).

The initial community of learners that evolves into a community of practitioners articulate and demonstrate a variety of ways in which they approach e-learning. Four approaches to technology integration have been identified: 1. Those who enthusiastically adopt elearning to match their constructivist approach to teaching; 2. Those who use the technology but do not extend their pedagogies to take advantage of the interactive potential of the technology; 3. Those who use a constructivist approach in their face to face teaching but lack the technological knowledge and, therefore, do not use the technology for pedagogical purposes; 4. Those who remain sceptical about the use of e-learning as an interactive tool. This diverse group of lecturers reinforce the need for greater input in both pedagogical aspects such as participation, collaboration, interactivity and the role of the teacher in the online environment together with increased support for fluency and competency with the use and understanding of the technology. The workshops integrated practical and theoretical issues with problem solving strategies related to pedagogical aspects. Online discussions that followed the workshops focused on the action research component. The final task involved a reflective exercise in that the lecturers were asked to construct a diagram which was intended to provide visual evidence of changes in the way they perceived, used and improved their pedagogy and technology during this one year action research project.

Best practice in professional development

Professional development for online teaching needs to consider the centrality of enabling teachers to become aware of how students experience e-learning, and this can best be achieved by involving teachers in roles where they can experience online teaching, reflect on practice and engage in dialogue. This form of experiential learning triggers reflection at a deep level and improves praxis. Thus,

effective professional development for online teaching will demonstrate many of the hallmarks of what has been termed professional learning system. This has the following attributes:

- A conception of teaching as an art or profession
- Reflection
- A purpose for learning to foster a desire for change
- A sense of community
- Opportunity to experiment with, and experience ideas in action
- A variety of conceptual inputs to extend the experiences of participants
- Feedback from multiple sources to build and feed the collaborative process.

If professional teachers are to learn online about the skills of e-learning, it is important that we put in place an appropriate infrastructure and forms of experiential learning that enable reflection, dialogue and communication. Educational technology is not, and never will be, transformative on its own, however. In creating professional development for tertiary teachers, authentic contexts to situate learning experiences should be integrated.

References

- Al-Mahmood, R., & McLoughlin, C. (2004). An investigation of the motivational aspects of peer and self-assessment enhance teamwork outcomes. In R. Atkinson, C. McBeath, D. Jonas -Dwyer & R. Phillips (Eds.), *Beyond the Comfort Zone ASCILITE* (Vol. 1, pp. 37-47). Perth: Australian Society for Computers in Learning in Tertiary Education.
- Cahoon, B. (Ed) (1998b). *Adult learning and the Internet: New directions for adult and continuing education*, 78. San Francisco, CA: Jossey-Bass.
- Campbell-Gibson, C.C. (2000). The ultimate disorienting dilemma: The online learning community. In T. Evans & D. Nation (Eds), *Changing university teaching: Reflections on creating educational technologies*. London: Kogan Page, pp. 133-146.
- Connelly, F. M., & Clandinin, D.J. (Eds) (1999). *Shaping a professional identity: Stories of educational practice*. New York: Teachers College Press
- Dewey, J. (1933). *How we think: A restatement of the relation between reflective thinking to the educative process*. Mass: D.C. Heath.
- Ellis, A. and Phelps, R. (2000). Staff development for online delivery: A collaborative, team based action learning model. *Australian Journal of Educational Technology*, 16(1), 26-44. <http://www.ascilite.org.au/ajet/ajet16/ellis.html>
- Hanna, D. E., Glowacki-Dudka, M., & Conceição-Runlee, S. (2000). *147 Practical tips for teaching online groups: Essentials of Web-based education*. Madison, WI: Atwood.
- Harasim, L., Hiltz, S. R., & Turoff, M. (1995). *Learning networks: A field guide to teaching and learning online*. Cambridge, MA: MIT Press.
- Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Lefoe, G. (2000) Professional development through flexible delivery. Paper presented at the World Conference on Multimedia and Telecommunications, Montreal.
- O'Reilly, M. & Ellis, A. (2002). 'In at the deep end – swapping roles through staff development online' in A. Williamson, C. Gunn, A. Young & T. Clear (Eds.), *Australasian Society for Computers in Learning in Tertiary Education*, Auckland: UNITEC Institute of Technology, pp. 485-494. Available online at: <http://www.ascilite.org.au/conferences/auckland02/proceedings/papers/206.pdf>
- Palloff, R. M. & Pratt, K. (1999). *Building learning communities in cyberspace: Effective strategies for the online classroom*. San Francisco, CA: Jossey-Bass
- Palloff, R. M. & Pratt, K. (2001). *Lessons from the cyberspace classroom: The realities of online teaching*. San Francisco, CA: Jossey-Bass
- Palloff, R. M. & Pratt, K. (2003). *The virtual student: A guide to understanding and working with online learners*. San Francisco, CA: Jossey-Bass
- Rogers, E.M. (2003) *Diffusion of innovations* (5th edition): New York: The Free Press
- Maor, D. (2004). Opportunities with E-learning: Changing teachers' pedagogies. In C. Vrasidas and G. V. Glass (Eds). *Online professional development for teachers*. Information Age Publishing, pp. 213-229.
- Salmon, G. (2000). *E-moderating: The key to teaching online*. London: Kogan Page.
- Schön, D. A. (1987). *Educating the reflective practitioner*. San Francisco, CA: Jossey-Bass.
- Schön, D.A. (1983). *The reflective practitioner : How professionals think in action* New York: Basic Books.

- Schön, D.A. (1995). Knowing in action: The new scholarship requires a new epistemology. *Change*, 27(6), 27-34.
- Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge, UK: Cambridge University Press.
- Wilson, G. & Stacey, E. (2003). Online interaction impacts on learning: Teaching the teachers to teach online. In G. Crisp, D. Thiele, I. Scholten, S. Barker & J. Baron (Eds), *Interact, Integrate, Impact: Proceedings of the 20th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education*. (pp. 541-551). Adelaide, 7-10 December 2003.