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Adult literacy practitioners' uses of and experiences with online technologies for professional development

by Patrick J. Fahy and Diana Twiss

ABSTRACT

Getting Online (GO) was a national project, funded by the Office of Literacy and Essential Skills (OLES), with two phases: 1) a survey of active adult literacy workers in Canada regarding their experiences with and expectations of various forms of online professional development (PD); and 2) based on the survey findings, development and piloting of online training to selected literacy practitioners in the use of online tools and strategies for PD. Adult literacy workers have historically (and, as our research showed, anecdotally) been regarded as indifferent to technology for their own learning; however, no research on this specific question was found in the literature. This paper reports on the GO Project's first phase, a survey of a national sample of 84 active Canadian adult literacy workers. The survey included an online questionnaire, supplemented by key informant interviews and two focus groups. Findings, identified from qualitative analysis of survey and interview results, suggested that many Canadian literacy workers already recognize the potential value of online technologies and distance access methods. Online training was particularly viewed by these respondents as saving time and money, and increasing access to and opportunities for training and interaction. The reservations most commonly heard from respondents included lack of access to technology and technical support, diffuse negative views of distance education as a method of learning, and concerns about communications using technology. The paper concludes with a discussion of some of the findings in relation to understanding of the general training needs of poorly resourced adult workers, such as those who participated in the GO Project (http://www.nald.ca/gettingonline).

BACKGROUND

The Getting Online (GO) Project, funded by the federal (Canadian) Office of Literacy and Essential Skills (OLES, formerly the National Literacy Secretariat), commenced in May 2007. The project was to assess the potential in Canada of technology-based professional development (PD) for literacy instructors and coordinators working actively with adults, a group chronically under-funded for PD, but eager to communicate with each other and to acquire more preparation in their jobs. The project's first phase addressed the need for current information on literacy workers' general experiences with online PD and related technologies, and their resulting attitudes toward this mode of learning. (In phase 2 of the GO Project, pilot training modules on the use of online tools and strategies were developed and pilot tested with literacy workers, as suggested by the survey results. More detailed information on the project is available from the website shown above.)

LITERATURE REVIEW

The rationale for the GO Project was the increasingly obvious fact that online professional development (PD) is used successfully in other education and training situations where workers are widely dispersed and have limited training resources (Canadian Council on Learning, 2009; Eastmond & Lawrence, 1998; Fahy & Morgan, 1999; Fahy & Morgan, 2000; Kaattari & Trottier, 2008). Literacy practitioners in Canada, however, have not, prior to this investigation, been asked their views or behaviours in regard to online learning and interaction for PD. Six questions were developed by the Project based on the literature review (see the authors' note at the end of this article for all six of the questions); in this paper, the results obtained from the following three questions are reported:

1. What online or distance tools or methods do you presently use for your own or for your staff training, professional development, or support?
2. What are the objectives or purposes of the online or distance practices you presently use?
3. What results, good or bad, have you obtained with your online or distance learning or support practices, and how did you determine this?

As the following literature review shows, little relevant research addressing the online PD preferences or needs of Canadian literacy workers presently exists. Canada, the second largest country in the world by land area, has a population of less than 35 million, and a climate that makes travel problematic for at least one-third of the year, even if distance were not an issue. Methods of diminishing the importance of physical location, and travel to central points for training, are increasingly relevant. (A summary of GO Project research, including the Project research report, is available from http://www.nald.ca/gettingonline/about/goresearch.htm.)

While directly related research was found to be lacking, some of the general literature on PD was deemed relevant to this study, especially the rationale for effective PD for Canadian workers; usual expectations of and common experiences with PD; and understanding the training issues of literacy workers that might reasonably be addressed by PD (http://www2.conferenceboard.ca/workplaceliteracy/challenges.asp).

Online PD and Canada's adult literacy workers. The GO Project was federally funded on the belief that literacy workers, like others whose training resources are meager, might be able to use technology to obtain more choices and flexibility in their training options, and more satisfying training experiences (Simonson, Smaldino, Albright, & Zvacek, 2006). Research in similar fields had shown that training might be more flexible (and perhaps more economical) with technology-based delivery, especially for those trainees (such as literacy workers) who have limited time, low or non-existent training budgets, and varying technology awareness and access (Askov, 2003; Barker, 2005; Levinson, 1989). Broadly, the value of workplace-based online training, including further development of essential professional skills by those already employed, is well recognized, both globally and in Canada (Alberta Learning, 2004; Barker, 2000; Bernard, *et al*., 2004; Canadian Council on Learning, 2007; Canadian Council on Learning, 2008; Conference Board of Canada, 2006; Krotz, Martin, & Fernandez, 1999; Plumb & McGray, 2006).

There are indications of the importance of these initiatives. Canada's recent international record is relatively poor in relation to innovative workplace training. In 2007, Scoffield reported the results of a comparison of Canada with 16 other industrialized countries, in six domains. Because of the country's "shocking" levels of adult literacy, its failure to innovate with technology, and its poor record in producing creative professionals, the report concluded that as a nation Canada had become "a land of mediocrity" in relation to worker training. In 2006, for these and related reasons, Canada's premiers agreed to form a task group to address problems with workplace training (Council of the Federation, 2006).

Continuing research found more problem areas. In 2007, the Canadian Council on Learning (CCL) judged Canada's literacy programs to be "fragmented across jurisdictions and unsustainable in the long-term." A problem the report identified was in relation to the country's approach to adult training generally, including literacy, leading to the conclusion that "[w]e need a comprehensive adult learning and training approach that builds on best practices and removes the barriers that prevent individuals and employers from engaging more fully in learning and training" ("1. Create a pan-Canadian vision," para. 1; emphasis supplied). The CCL offered several suggestions for strategies that might address these problems, including "alternative learning methods" (these were unspecified in the report), responding promptly to trainee complaints about training processes, greater access to and flexibility within programs, and more emphasis on the personal and social outcomes of learning and training. The GO Project took these objectives to heart in planning and refining its overall focus, especially the recommendations regarding best practices and social interaction, and the development of learning alternatives.

In order to set realistic goals, the GO Project needed to know what contribution online PD might be expected to make to trainee effectiveness. As in-service training, PD was seen as changing behaviour through enhancement of participants' knowledge and skills (Mackay, Burgoyne, Warwick, & Cipollone, 2006), including, in the case of literacy workers, adopting better practices in the use of powerful new communications technologies (Saskatchewan Literacy Network, 2000; Sprague, 2006). PD intended to change behaviour draws on principles found in the *adoption of innovations* literature, specifically the viewpoint that attitudes may be incipient action (Burke, 1966), and, as determined from experience with the implementation of innovations, that attitudes can be changed by various strategies and interventions. These include the timely provision of the right types of information, opportunities to test innovations under actual conditions, and appropriate social interactions (Havelock, 1973; Rogers, 1962, 1983). These principles were incorporated in the projects' online pilot training projects.

There were some warnings in the PD literature, too. Often, for example, research has found that PD in educational environments disappoints in failing to change participants' practices (Crichton & Childs, 2003). McKenzie (1991, 1999) studied the impact of traditional PD programs on teachers over time, and made the following observations:

- PD's track record is particularly dismal when there are limited opportunities to practice new skills. Lack of skills retention and transfer in PD is usually due to lack of application and practice opportunities, guidance and feedback, and systematic follow-up.
- For PD to be truly transformative, a period of immersion in a "new educational perspective and belief system" is needed, accompanied by reflection, adequate personal support, and a "reasonable level of challenge" (Mezirow, 1996).

The relevance of the GO Project was supported by the observations of researchers about the continued persistence of previously noted problems with PD training for educational workers. Rasmussen and Northrup (2002) reported that educational PD is often awkwardly and inconveniently scheduled. Castleton and McDonald (2002) found that there has been a general decline over time in practitioners' attitudes toward the value and usefulness of educational PD. Zygouris-Coe, Swan, and Glass (2007) observed that trainee populations had become so large that traditional face-to-face formats for professional development were no longer feasible for many groups of practitioners (especially since more flexible online delivery methods appear to be a feasible alternative). This last finding particularly recommended the online focus of the GO Project.

Interaction and reflection are essential components of online training. Catherine and Maor (2005) contrasted opportunities for reflection "in practice" and "on practice," in comparison with what was usually present in educational PD. They concluded, as have others (Dinsdale, 2001; Kline, 1999; Price, Richardson, & Jelfs, 2007), that hallmarks of quality professional development include guided reflection, involving examination of such core assumptions as the purposes and importance of change in social organizations, the nature of good teaching practice, the value of direct experience in the adoption of new ideas and behaviours, and the importance of prompt guidance throughout the learning process.

Besides ready interaction and reflection opportunities, effective PD groups make other uses of communication (with direct implications for technology use in PD) to enhance the training experience. Zygouris, *et al*. (2007) found the best PD groups were supportive of all members, but especially of the more remote or resource-poor (Goldman, 2000), using familiar and robust (though not necessarily cutting-edge) technologies (Mackay *et al*., 2006). Technology-based PD was sometimes even preferred over face-to-face versions (Gibbs & Rice, 2003; Howard, 2006; Swindell & Vassella, 1999), though this outcome was admittedly unusual (Mackay *et al*., 2006; Price *et al*., 2007).

The above research suggests that PD programs employing "best" training practices, including incorporation of online technologies to facilitate communication and access, can be effective in meeting needs and expectations, while also satisfying participants (Colaric, Taymans, & Booz, 2004).

Confirming the degree to which this might also be true of Canadian literacy workers was a major purpose of the GO Project.

PD training topics for adult literacy workers. Instructors working with learners at a distance need to acquire new skills and teaching behaviours. However, resources and ideas are scarce: guidance regarding online tutoring is much thinner and more tentative than in the general teaching and learning literature. Literacy workers need to know what constitutes good practice online – how to "shift their teaching perspectives and practices" from face-to-face to the new environment (Dehler, 2004a, p. 1; 2004b).

The rich existing learning-related literature can be useful, beginning with what general characteristics and behaviours adult learners expect from their instructors. For example, a survey from the 1970s found that the adult learners studied (in this case, university students) valued the following in their teachers:

1. Mastery of subject, competent – 717 mentions
2. Lectures well prepared – 712
3. Subject related to life, practical – 555
4. Learners' questions and opinions encouraged – 481
5. Enthusiastic about subject – 385
6. Approachable, friendly, available – 372
7. Concerned for learner progress – 325
8. Sense of humour – 321 (Maier, Barnett, Warren, & Brunner, 1996, p. 17).

Berge's (1997) later work suggested the above list had not changed for adult learners with the advent of online teaching and interaction. He reported on the beliefs and actions of excellent teachers (those who had won teaching awards, and who consistently received highly positive peer and learner evaluations), identifying four common attributes of excellent teachers (note that the first three are remarkably similar to the previous list):

1) Concerned about their subject matter.
2) Concerned about their students.
3) Liked teaching.
4) Put into practice 10 "powerful" instructional practices.

Specifically, the "powerful instructional practices" of excellent teachers (identified by Yelon, in Berge, 1997) were:

1) **Meaningfulness** – learner motivation based on the connection of new learning with past, present, and future concerns.
2) **Prerequisites** – making sure learners have them.
3) **Open communication** with learners.

4) **Organized essential ideas** – to help learners focus on, structure, and recall content.
5) **Learning aids** – use of devices to aid learning.
6) **Novelty and variety in teaching.**
7) **Modeling** – recall, problem-solving, thinking, and reasoning skills.
8) **Active appropriate practice** – providing practice in essential skills of recall, problem-solving, thinking, and reasoning.
9) **Pleasant conditions, consequences**.
10) **Consistency** (p. 38).

A key conclusion based on the above is that *providing structured learning opportunities, timely direction, assistance, and feedback*, and *giving personalized encouragement*, are central tasks in most teaching or training situations. This conclusion has been affirmed in relation to attainment of higher-order thinking and communities of inquiry in online environments (Garrison, Arbaugh, Cleveland-Innes, Diaz, Ice, Richardson, *et al*., 2008; Garrison & Cleveland-Innes, 2005).

PD must demonstrate the principles which it endorses. If the topic is technology, appropriate uses should be practiced, not just stated. Oliver and McLoughlin (1998) studied the performance of teachers who were using various *telematic* (online synchronous) tools. They noted that interaction was *necessary but insufficient* to learning, that simply promoting the exchange of ideas did not guarantee changes in practice. This same point was underscored by Garrison and Cleveland-Innes (2005), who concluded that, besides interaction, online instructors needed to experience effective uses of technologies (those that produce and sustain communities of inquiry), including, when appropriate, direct instruction.

It might not be necessary to make an either-or choice between online (technology-mediated) and traditional (face-to-face) PD approaches, if the learning design is sufficiently creative. Holmes, Polhemus, and Jennings (2005) found a blended model, with face-to-face and online elements, worked best for their participants. The mix of the two delivery approaches, they wrote, encouraged "thought-provoking experiences that inspire new pedagogies" (p. 381). The concept of blending traditional (face-to-face) with technology-based (online) PD appears promising, but does not appear from the literature to have been investigated (becoming another element of the GO Project).

As Beaudoin (1990) points out, online teaching skills are evolutions of the traditional teaching role, in response to new technologies and environments, and are evidence that the role of the instructor is being "transformed dramatically" (p. 22). Importantly, successful online instructors need to learn how to project their personalities, their *teaching presence*, through the technologies at their disposal, in the role of guide-*on-the side* (Anderson, Rourke, Garrison, & Archer, 2001; Burge & Roberts, 1993; Dehler, 2004b; Rourke, Anderson, Garrison, & Archer, 1999). Kassop's (2003) list of differences between online and traditional learning suggests more ways the role of the instructor is likely to change, or to have changed.

These aspects of the literature accord with important thinking in the field of distance education on the role of the online instructor, and provide guidance for phase 2, the pilot training element of the GO Project. Especially important are the findings regarding dialogue and interaction in addressing learner perceived isolation. Dirr (1999, p. 27) considered Moore's (1991) concept of transactional distance in the context of new online teaching skills, specifically "the new emphasis on the dialogic nature of learning." His model proposes four types of skills concerned with dialogue, called *conversations* in the model:

1. Conversations between the learner and the instructor (*learner-tutor* interaction).
2. Conversations among groups of learners (*learner-learner* interaction).
3. Conversations between the learner and various instructional resources (*learner-content* interaction).
4. Conversations the learner has with himself (*reflection*) (p. 27).

In summary, suggestions from the broad literature about PD guided this survey, and the initial development of the pilot delivery portion of the project:

1. Through what the authors called *structured interaction* (interaction designed by the instructor to address specifically identified learning needs), PD should incorporate opportunities for knowledge acquisition and guided "reflection on practice" (Catherine & Maor, 2005).
2. To change participants' behaviours, PD requires robust and proven tools, technologies, and techniques, and planned strategies for practice, application, and follow-up.
3. PD must address participants' expected uses, be well planned and executed, with appropriately structured learning materials, a conducive environment, and social interaction among all participants.
4. PD should employ technologies to help participants experience "good practices" (as related to the audience and content) in their own learning.
5. A combination of methods ("blended"), traditional and online, may be more promising than any single type alone.
6. PD should provide social opportunities and interpersonal interaction.
7. Media and technologies have "affordances" that address specific learning contexts (Anderson, 2004), and their characteristics, especially regarding the criteria of *accessibility* and *cost*, greatly affect their usefulness for specific groups of potential PD users (Bates, 1995).

METHODOLOGY

Sample. The focus in the survey portion of the study was on the uses of and attitudes toward technologies by adult literacy workers (instructors and coordinators), in relation to their own professional growth and development, staff training, and support of in-service learning. This report is based upon results from 84 online questionnaires, two focus group sessions, and 26 telephone-based key-informant interviews, conducted by the second author and her research team. The respondents consisted of those who voluntarily responded to advertisements placed through provincial literacy organizations and publications; it is thus based on a self-selected sample, but one which did not have obvious reasons for deceiving either itself or the researchers (Simon & Burstein, 1985). Also included were the views of individuals who were invited to participate because of their known familiarity with the literacy field.

Table 1: Distribution of Participants

Region	Questionnaires	Interviews
Ontario	39	7
British Columbia	21	4
Alberta	11	4
Manitoba	6	0
Nova Scotia	3	3
Newfoundland & Labrador	2	3
New Brunswick	1	1
Saskatchewan	1	1
NWT	0	2
Quebec	0	1
Total	**84**	**26**

Most of the respondents in this study (49; 58%) were from not-for-profit adult literacy programs, while 18 (21%) were from colleges. Sixty-four respondents (76%) had 10 or more years of experience in the literacy field generally (the median was 14 years of experience). Because respondents did not consistently provide all the information requested, questions about teaching background and years of experience, educational credentials, and numbers of enrollees in programs could not be used to make comparisons.

The wider problem, as already noted, is the rarity of published studies on Canada's literacy workers. A study from the early 1990s (Community Programs Branch, 1990) reported that, as in this study, instructors tended to be older women (88% were female; 87% were older than 40 years, 23% older than 60). More significant for phase 2 of the project were the expressed dissatisfactions of literacy workers with preparatory training and resource awareness:

- 70% received less than 15 hours of preparatory tutor training, some as few as 6 hours;
- only 32% of volunteers rated their preparation as adequate;

- over half (56%) felt their program lacked basic resources (such as workbooks) (Community Programs Branch, 1990, pp. 5-7).

Based on the facts that respondents to the present survey were largely self-selected, that the survey questions presupposed some technology experience, and conceding the general paucity of comparable data, the major conclusion about the sample is that it likely reflects a more technically oriented population of literacy workers, though as regards the age and predominant gender of the respondents the sample probably reflects the field.

The survey process. The results of three of the questions asked of participating literacy workers are reported here, as they contain information about the topic of this paper: the respondents' previous experiences with and uses of on-line and distance learning, and their consequent attitudes toward this method of PD. (Attachment 1 contains all of the survey questions.)

The survey, designed to take less than 30 minutes, was available online during the period July to November 2007. Literacy workers were advised of the questionnaire and the purposes of the study through provincial literacy publications, and were invited to participate. Two focus groups, comprising 15 individuals, were conducted. In addition to the input of voluntary questionnaire respondents, individuals who were known to the project as well acquainted with local literacy practices and history, and who had not participated in the questionnaire or focus groups, were invited to participate in individual interviews, to assure a balance in user perspectives. Interview participants were telephoned in the fall of 2007. Notes of the telephone interviews and of the focus groups were transcribed for coding and analysis by the second author, using ATLAS.ti, a software program that enables researchers to label and subsequently systematically analyze qualitative data.

In December 2007, the survey team reviewed the data collected from the surveys, key informant interviews, and focus groups. Using ATLAS, the team were able to organize notes, annotations, codes, and memos from the large volumes of text, to label these, and, ultimately, to identify "prototypical response patterns" in the responses (Alreck & Settle, 1995, p. 405 ff). This analysis forms the basis of the findings reported below.

FINDINGS

The following presents the participants' responses to the three research questions of interest in this paper. These conclusions are based on the pattern of themes noted in the coded transcripts of the focus groups and interviews, and in the questionnaire results. It is important to note that the way respondents talked about distance tools, methods, and techniques varied greatly: there did not appear to be a common, consistent vocabulary respondents could use to describe what they used and did in their practice. The discussion of "tools" and "methods" reflects, and attempts to address, this potential source of confusion.

Question 1: ***What online tools or methods do you presently use for your professional growth and development (PD)?***

Combined results from analysis of the surveys and interviews showed that most respondents used some kinds of computer-based technologies, for four major purposes:

1. To search the internet for ideas and knowledge of the literacy field;
2. To share information, including collaborations on materials development;
3. To acquire information on initiatives in related fields; and,
4. To make and sustain interpersonal connections.

The most often reported types of online activities were personal interactions (through e-mail, meetings, training sessions, private forums, etc.); research (Internet web searches, database access); impersonal communications (Web conferences and listservs); online courses and other systematic learning projects; and participation in regional and national projects.

A total of 25 online facilities or tools were named specifically; the following were mentioned more than five times (an arbitrary figure reflecting relatively widely used tools):

- Internet and web-based page searches (27 mentions)
- *Centra* (18 mentions)
- *First Class* (14 mentions)
- *Alphaplus* (http://alphaplus.ca/), and Alpharoute (http://english.alpharoute.org/) (13 mentions)
- *E-mail* (11 mentions)

Respondents reported accessing training through a total of 16 training agencies and companies, ranging from colleges to commercial training agencies. In addition, 14 government-sponsored sources were mentioned, including the *National Adult Literacy Database* (NALD; http://www.nald.ca/), various Government of Canada websites (e.g., http://srv108.services.gc.ca/english/general/), and the Alberta (http://www.literacyalberta.ca/) and B.C. (http://www2.literacy.bc.ca/) provincial literacy resources websites.

Three broad classifications of technologies and sources of information were reported by literacy workers:

1. **Basic** – e-mail and browsing, especially of easy to find sites; the latter are low in interactivity (provide asynchronous interaction only) and usually highly discursive (not well structured and do not require careful advance planning), and involve little assessment of quality (45% of usage).
2. **Intermediate** – consists of more systematic selection and organizational strategies; includes CMC and conferencing; permits both down- and up-load of materials, and may include making or adapting materials; involves more judgments about the quality of the material (23% of usage).

3. **Advanced** – participation in formal distributed and distance teaching and learning, or online meetings (with use of sophisticated tools such as *Moodle, Centra, Elluminate*, and others); may incorporate uses of audio- and video-based tools, synchronous and asynchronous interaction (32% of usage); involves critical assessments of quality, utility of materials.

Almost one-quarter (n=27; 23%) of the respondents used commercial or adult education online training to inform themselves of trends, and to undertake training or skill development. Also, systematic searches for information and materials were reported, including regular access to training intended to keep these workers up-to-date with relevant technological developments.

Two key findings emerged related to this question. First, information acquisition and exchange, and skills enhancement, were priorities for many of the respondents. Second, use of technology to pursue knowledge, skills, and collaborations was often motivated and reinforced by the social aspects of the process (searching for relevant information through developing personal contacts; sharing with others the information found; discussing and debating in forums and online conferencing; and reducing isolation by interacting with others). (The trend among distance educators to greater collaboration and interaction with a broad network of colleagues outside of immediate co-workers has been noted elsewhere) (Zawicki-Richter, Backer, & Vogt, 2009).

Question 2: ***What are the objectives or purposes of the online PD tools and practices you use?***

The answers to this question confirmed that, besides social connections, participants believed online tools and methods of interaction made more efficient use of their limited training time and funds. Fifty-nine (70%) survey and 20 (77%) interview respondents mentioned using online methods as a way to gather information, share information with other practitioners and "provide people who live at some distance from [major city] with the knowledge and resources that they may find useful."

The six major purposes of the online PD tools used were:

1. Developing and maintaining connections to the field, reducing isolation, maintaining relationships, sharing, and networking.
2. Doing specific collaborative literacy work with students and colleagues.
3. Saving time and money by reducing costs to find relevant materials and collaborate with others.
4. Keeping up-to-date on relevant new technological and pedagogical developments within and outside of literacy.
5. Accessing information and training of all kinds (formal and informal).
6. Enhancing personal computer skills.

Based on the above analysis, the following conclusions were drawn regarding objectives and purposes of technology use by these respondents:

1. Technologies were seen as allowing literacy workers to interact more often, widely, easily, and cheaply.

2. Technologies made geography less important to interaction (significant in Canada, the world's second largest country).
3. Literacy workers were motivated to learn new technologies, so they could potentially use them in their own practice.

Question 3: ***What results have you obtained using online practices and tools for PD?***

As a general finding, more positive (n = 46) than negative (n = 35) results were reported (*Getting Online Project*, 2008, p. 167). The distribution of positive results was as follows:

1. Improved skills and knowledge [33%]
2. Ability to save time and money on training [17%]
3. Increased access to PD opportunities and knowledge [35%]
4. Ability to be part of a network or community of practice [15%]

Mixed and negative results tended to arise from frustrations with malfunctioning or difficult to use technologies (respondents reported that most programs did not provide technical support or assistance), and dissatisfaction with distance learning itself, particularly the lack of face-to-face interpersonal interaction. The sixteen most common negative results clustered in three areas:

1. Technical glitches (7 mentions);
2. The challenge of getting people online and used to the technology (5 mentions); and,
3. Not having sufficient hardware/software to do the task (4 mentions).

Some negative attitudes toward distance methods and technologies with implications for online PD were detected in comments such as, *"Don't like to learn this way"* and *"Can't learn that way."* Some participants appeared convinced that genuine social networking required at least some face-to-face interaction. Those who felt this way experienced excessive "transactional distance" (Moore, 1991) in technology-only interactions. Problems were exacerbated when the technologies did not work well, but even when they did some participants only reluctantly tolerated online interaction, often adding that they still preferred face-to-face interactions.

Experience appeared to be a factor here. Distance education was new to many of the respondents, leading some to respond cautiously to online interaction and tools. (In consequence of this finding, providing experience and increasing awareness became two major purposes of the overall GO project.) For some time, there have been strong suggestions that attitudes toward distance learning are highly dependent upon factors such as timely feedback and availability of peer interaction, and that learners' attitudes toward delivery technologies tend to improve with time and use (Askov & Simpson, 2001; Bernard, *et al*., 2004; Dehler, 2004a; Howard, 2006; Threlkeld & Brzoska, 1994). Experience, it appears, does indeed teach.

Conclusions regarding the third research question were:

1. At its best, technology-based PD delivers greater convenience and cost-savings, and enhanced personal technology skills.
2. However, technical problems, when they occur, directly and seriously affect attitudes. In the literacy field, many workers are new to using technology for learning or interacting. Respondents often noted that, while they were increasingly comfortable with technologies, they needed and expected prompt help when something went wrong.
3. Those who preferred face-to-face interaction often reported distance interaction was a poor substitute, citing the absence of energy and "spark" in the training environment without a live instructor. While there was appreciation for the flexibility of online learning, some found the time lag in asynchronous interaction to be a barrier to communication.

Implications of the survey for phase 2, pilot online training

The project began by considering the available literature on effective PD, in order to design and deliver online pilot training to volunteer literacy workers, in phase 2. The need for phase 1 became apparent, in light of the dearth of existing information regarding online PD in the literacy field.

The adult education and training literature, and findings from fields with similar training needs and constraints, proved useful. Effective, practice-changing PD training requires interaction and reflection, if the experience is to be *transformative*. Mezirow's (1996) concept of "communicative competence," a element of transformative adult learning, was especially relevant to planning phase 2, pointing out the importance of "the ability of the learner to negotiate his or her own purposes, values, and meanings rather than to simply accept those of others" (p. 164). Mezirow states: *"A learner may acquire communicative competence by becoming more aware and critically reflective of assumptions, more able to freely and fully participate in discourse, and to overcome constraints to taking reflective action"* (p. 164, emphasis added). *Discourse*, as a mechanism for changing behaviour, is critical:

> Discourse involves an informed, objective, rational, and intuitive assessment of reasons, evidence, and arguments, and leads toward a tentative, consensual, best judgment. Consensus-building is an ongoing process and always subject to review by a broader group of participants. (Mezirow, 1996, p. 163)

Phase 2 of the GO Project, the pilot online learning modules, blends instruction with opportunities for dialogue, to facilitate collaborative consensus-building about "best" practices. Specifically, these features, identified in phase 1, will be incorporated in phase 2:

1. information acquisition and exchange, in support of skill-enhancement;
2. practice with technologies to pursue knowledge, and to provide non-competitive experience with new skills;
3. networking opportunities;
4. demonstrating the advantages of distance access to information and interaction;
5. addressing reservations about distance education by use of robust technologies, *teaching*

presence in the tutoring relationship, and *social presence* in the interrelationships among participants;

6. application of new skills and information, with follow-up and feedback;
7. changing literacy workers' attitudes toward technology, through applications of low complexity, with high compatibility with present views and practices, and with opportunities to learn more about and to observe innovations in realistic contexts (Rogers, 1962, 1983; Havelock, 1973).

The message to the developers of PD for similar audiences, and to those developing phase 2 of this project, is that, while some literacy workers have discovered the value of technologies for interpersonal communications, information seeking and exchange, formal learning (courses), and systematic collaborative development, others seem reluctant to give up traditional face-to-face interaction – certainly not if doing so entails use of technologies or methods perceived as excessively impersonal or unreliable (Purnell, Cuskelly, & Danaher, 1996). The observation of one participant, that she was "resigned to online learning," illustrates this point of view, and describes a central challenge to online PD training for audiences with similar backgrounds, characteristics, and expectations.

CONCLUSION

Contrary to expectations, the survey suggests that many literacy workers are already users of technologies for their own learning, for interactions with colleagues, and for accessing information. But, while some literacy practitioners already seem to know the potential value of online technologies and techniques, others have reservations about becoming isolated, or about reduced or failed interaction. Some simply have negative attitudes about distance education or technology-mediated communications (Robertshaw, 2000). Other researchers (Dehler, 2004b; French, Hale, Johnson, & Farr, 1999; Loomis, 2000; Neuhauser, 2002; Rovai & Barnum, 2003; Threlkeld & Brzoska, 1994) have reported that, when well designed and supported, online learning systems can be equal, or sometimes even superior, to conventional versions in depth and richness; they have also noted that, for these effects to occur, instructional developers and instructors must engage in superior preparation, sensitive communications, clarity in interpersonal interactions, and the provision of opportunities for reflection and personal growth (Tsai & Wu, 2005; Wilson, Varnhagen, Krupa, Kasprzak, Hunting & Taylor, 2003). This advice, with the findings of the survey, as well as containing an altered view of the PD needs and preferences of literacy workers in Canada, provide guidelines and set out major challenges for phase 2, when technology-based training will be developed, delivered, and evaluated within the project.

Authors' note

Overall project research questions

1. What online or distance tools or methods do you presently use for your own or for staff training, professional development, or support?
2. What are the objectives or purposes of the online or distance practices you presently use?
3. What results, good or bad, have you obtained with your online or distance learning or support practices, and how did you determine this?
4. Do you find online or distance training or support methods produce different results from face-to-face methods or strategies? If so, what are the differences?
5. How were online or distance training or support methods or tools introduced? Did the introduction go smoothly?
6. What future do you see for the use of online or distance training or instruction, support or professional development methods in your practice?

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About the authors

Patrick J. Fahy is a Professor in the Centre for Distance Education, Athabasca University. His career has included high school and adult education teaching and research from basic literacy to graduate levels, five years in the private sector, and private consulting. Presently, in addition to developing and teaching educational technology courses in the MDE program, he coordinates the MDE's Advanced Graduate Diploma in Distance Education (Technology) program, and teaches the first course in AU's distance doctoral program. He is a former president of the Alberta Distance Education and Training Association (ADETA), the Movement for Canadian Literacy, and the Alberta Association for Adult Literacy.

Diana Twiss is the Director of Literacy Development for Literacy BC [www.literacybc.ca] and a faculty member in the Community Development and Outreach Department of Capilano University. Literacy BC is a provincial literacy coalition that specializes in training, information and referral services, resource development, practitioner research and raising awareness about the role increasing literacy can play in the many social issues we face today. Diana was the project manager and one of the five researchers and writers on the Getting Online Project. For more information about the project and the wealth of information that was produced please visit www.nald.ca/gettingonline.

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