USING COMMUNITY-BASED PARTICIPATORY RESEARCH FOR AN ONLINE DEMENTIA CARE PROGRAM

Colla J. MacDonald
Emma J. Stodel
Lynn Casimiro
University of Ottawa
Ottawa, Ontario

Lynda Weaver
SCO Health Service
Ottawa, Ontario

Abstract: In this article we describe our experiences using a Community-Based Participatory Research orientation (CBPR; Minkler & Wallerstein, 2003) with a group of community professionals in healthcare institutions. The purpose of the project was to design, develop, deliver, and evaluate an online dementia care program for registered and non-registered healthcare workers in long-term care homes who work with residents with dementia. The Demand-Driven Learning Model (DDLM; MacDonald, Stodel, Farres, Breithaupt, & Gabriel, 2001) was used to guide this process. The CBPR approach allowed multiple views, attitudes, and experiences to strengthen the content, delivery, and evaluation of the program. By addressing some of the issues involved in the process, we hope that our experiences documented in this article will help others develop research partnerships with community professionals, as well as plan, implement, and evaluate collaborative online healthcare training programs.

Résumé: Dans cet article, nous décrivons les expériences que nous avons vécues dans le cadre d'un projet communautaire de recherche participative (*Community-Based Participatory Research*, CBPR; Minkler & Wallerstein, 2003) avec un groupe de professionnels de la communauté oeuvrant dans des établissements de soins de santé. Le projet visait à concevoir, élaborer, mettre sur pied, et évaluer un programme en ligne pour les travailleurs de soins de santé autorisés et non autorisés oeuvrant dans des établissements de soins de longue durée auprès de patients souffrant de démence. Le modèle d'apprentissage fondé sur la demande

Corresponding author: Colla MacDonald, Professor, Faculty of Education, University of Ottawa, 145 Jean Jacques Lussiers, Ottawa, ON K1N 6N5; <cjmacdon@uottawa.ca>

(*Demand-Driven Learning Model*, DDLM; MacDonald, Stodel, Farres, Breithaupt, & Gabriel, 2001) a servi à guider le processus. L'approche de recherche participative CBPR permet d'intégrer des points de vue, des attitudes, et des expériences multiples pour renforcer le contenu, la prestation, et l'évaluation du programme. En abordant certaines des questions inhérentes au processus, nous espérons que les expériences que nous décrivons dans cet article aideront d'autres à forger des partenariats de recherche avec des professionnels de la communauté et à planifier, à mettre en œuvre, et à évaluer des programmes de formation participatifs en ligne dans le domaine des soins de santé.

In healthcare, continuing education (CE) for clinical staff is necessary to maintain competency and ensure a high quality of care. In long-term care (LTC) homes, many barriers hinder the delivery of CE, such as the logistical and budgetary constraints of releasing staff from their work for extended periods of time (even half an hour can be a challenge), difficulties in reaching healthcare professionals who work the evening and night shifts, and limited financial resources to pay for educators and materials. Research into effective CE designs and activities can provide educators with solutions for overcoming these barriers. However, our experience has demonstrated that researchers and evaluators often face difficulties encouraging program personnel (persons responsible for CE programs in healthcare facilities) to take notice of research or program evaluation findings regarding CE. Patton (1997) suggested that a collaborative effort between the community and academics is the best way to foster the use of research reports and their findings for program development. In this research we examined a collaborative inquiry project involving community professionals and university-based researchers.

Community-Based Participatory Research (CBPR) is increasingly being acknowledged as a valuable collaborative research orientation (Gallagher, Easterling, & Lodwick, 2003). CBPR projects typically act upon important, community-identified problems such as disparities based on age, race, or class and build on strengths and resources within the community (Israel, 2000; Wallerstein & Duran, 2003). The intent of the collaboration between the researchers and those affected by the research (those experiencing the disparity) is to balance differences in power and hierarchy, as well as to create an environment for the inquiry that fosters authenticity in the data that more accurately reflects the community's reality, fosters a sense of empowerment, and facilitates mutual learning. The knowledge constructed by and with the community helps cultivate change and social well-being (Minkler & Hancock, 2003).

Advocates of CBPR identify the "community" as a grassroots organization that impacts upon a marginalized society where social change is required. However, Easterling, Gallagher, and Lodwick (2003) suggested that "community-based" is not rigidly defined. They indicated that some projects are community-based only in the sense that the interventions are placed in the community setting, whereas others reflect significant input from the community members. Similarly, Israel et al. (2003) proposed that there is not just one way to conduct CBPR and that "each partnership will develop its own approach to inquiry and change, along with principles that are appropriate to working together in their specific context" (p. 71).

In this inquiry, we refocused the definition of community. We adopted a CBPR approach appropriate for the context of working together as a "community of professionals." Instead of the more typical partnership of academics and those experiencing disparity in CBPR, our inquiry involved a group of academic, university-based researchers and a group of community-based professionals (healthcare managers, administrators, hospital-based evaluators, and educators) responsible for CE in LTC homes. It was these community professionals who identified a practical problem: how to provide CE to healthcare providers in LTC who provide services to persons with dementia. The community professionals contacted university-based researchers with expertise in curriculum design, program evaluation, and eLearning to help them overcome the barriers of providing CE to their staff in LTC homes. This article explores the application of CBPR principles to this partnership between the academics and the community professionals. By addressing some of the issues involved in this process, we hope that our experiences will help others develop collaborative research endeavours aimed at online CE programs in healthcare.

WHY USE CBPR?

There are several reasons why university-based researchers and community healthcare groups choose to participate collaboratively in research projects. Involving the end-users of the research data, in this case community-based professionals, in the actual research process means they will be more likely to integrate the results into new policies, procedures, and education programs for their care facilities (e.g., LTC homes). Research outcomes therefore become more relevant to the community members than would be the case for more mainstream, traditionalistic approaches to research (Morrison & Lilford, 2001; Patton, 1997).

Furthermore, in CBPR the research problem is viewed from multiple perspectives, leading to a better understanding of the issue being investigated (Gallagher et al., 2003; Karim, 2001). By grouping a variety of partners, a wide range of attitudes, beliefs, experiences, thoughts, and opinions are uncovered (Sohng, 1995). University-based researchers and community professionals contribute unique strengths and share research-related responsibilities within the social and cultural dynamics of the partnership (Gibbon, 2002). Diversity of members in a CBPR project is considered an important aspect of creating outcomes that are relevant and useful to the community (Cousins & Whitmore, 1998). CBPR provides an educational opportunity for partners to develop a collective consciousness, as well as share skills in addressing the issues at hand (Minkler & Hancock, 2003). The goal is to enable community-based participants to fully immerse themselves in the research process and to understand the underlying concepts or evidence-based theories behind their interventions. They are then better positioned to promote social change. Simultaneously, the university-based researchers are able to come to a better understanding of the community of interest and its changing realities.

Despite the many benefits of CBPR, it is not without its challenges and shortcomings. Real collaboration takes time: time to engage in meetings, complete accountability processes, and resolve problems. Using a collaborative CBPR orientation often requires that participants deal with competing interests and conflicting schedules. The delicate balance between democracy and efficiency can be compromised when one has to choose between equal participation and looming deadlines (Stoecker, 2003). Weaver and Cousins (2004) described this dilemma as assessing "manageability" or having to make a choice between achieving complete diversity on the researcher-community team and the unwieldiness of working with a large committee. Compromise is often necessary.

While acknowledging the inherent difficulties of CBPR, the approach does present important benefits to both the community professionals and the university-based researchers. The cultural differences of both groups are acknowledged and sensitive strategies can be collaboratively developed in which the roles and expectations are clearly outlined (Agency for Healthcare Research and Quality, 2003). Full advantage can be taken of the knowledge, experiences, and perspectives of individuals in the community as they provide input on training needs, development of evaluation instruments, data collec-

tion and analysis, and the ultimate interpretation of the program's impact on individuals and the community as a whole. Thus, the research process becomes a collaborative, co-learning, community-building experience.

THE CBPR PROCESS IN THIS INQUIRY

Members of the Community of Inquiry

Since 2001, eLearning has been an interest of the lead community organization, SCO (Sisters of Charity of Ottawa) Health Service, a corporation with two teaching chronic-care hospitals and two LTC homes. Three members of the SCO Health Service (one of whom is the fourth author of this article) identified a problem common to many LTC homes. They found that LTC providers were faced with having to deal with challenging behaviours of residents suffering from dementia that led to staff burnout, stress, and high turnover rates. Differing expectations of elderly patient care, lack of team integration, and perceived lack of training to be able to deal with the demands of the job contributed to this. The community professionals felt that this situation could be partially ameliorated with staff education via eLearning. In line with CBPR principles, they contacted a professor (the first author) in the Faculty of Education at the University of Ottawa who was conducting research on eLearning. The purpose was to discuss the feasibility of their planned bilingual (French and English) dementia care training program and to consequently pursue a grant. A research group was formed with the SCO professionals, the professor, and a Ph.D. student (the third author) conducting research in the area of eLearning in healthcare. Together, they agreed to conduct a project involving front-line workers in LTC homes caring for persons with dementia that would be mutually beneficial to both the community and university-based researchers. The focus of the research was to identify the factors that facilitate or undermine effective online learning and performance for healthcare teams, as well as to identify lessons learned that can be used to improve future online learning initiatives.

This small start-up group submitted a Letter of Intent for a CANARIE eLearning Research Grant and was successful in obtaining an invitation to apply. Additional experts joined the project (i.e., two psychologists who could provide information on the content of the training program and representatives from the E-learning Centre at the University of Ottawa, the Royal College of Physicians and Surgeons

of Canada, the Network of Centres of Excellence in E-Health, and the Consortium National de Formation en Santé). Tasks for writing the proposal were distributed to different members of the group. It was decided that SCO would be responsible for providing the course content and that the eLearning Centre would produce the program. The university-based researchers advised the group to use a comprehensive framework to guide them in the design, development, delivery, and evaluation of the eLearning program and proposed the Demand-Driven Learning Model as a quality standard (DDLM; MacDonald, Stodel, Farres, Breithaupt, & Gabriel, 2001; see Figure 1). The core research group identified three LTC homes offering French-language services (one in Ottawa, Ontario, and two in Moncton, New Brunswick), as well as three LTC homes offering English-language

Figure 1
The Demand-Driven Learning Model (adapted from MacDonald et al., 2001)
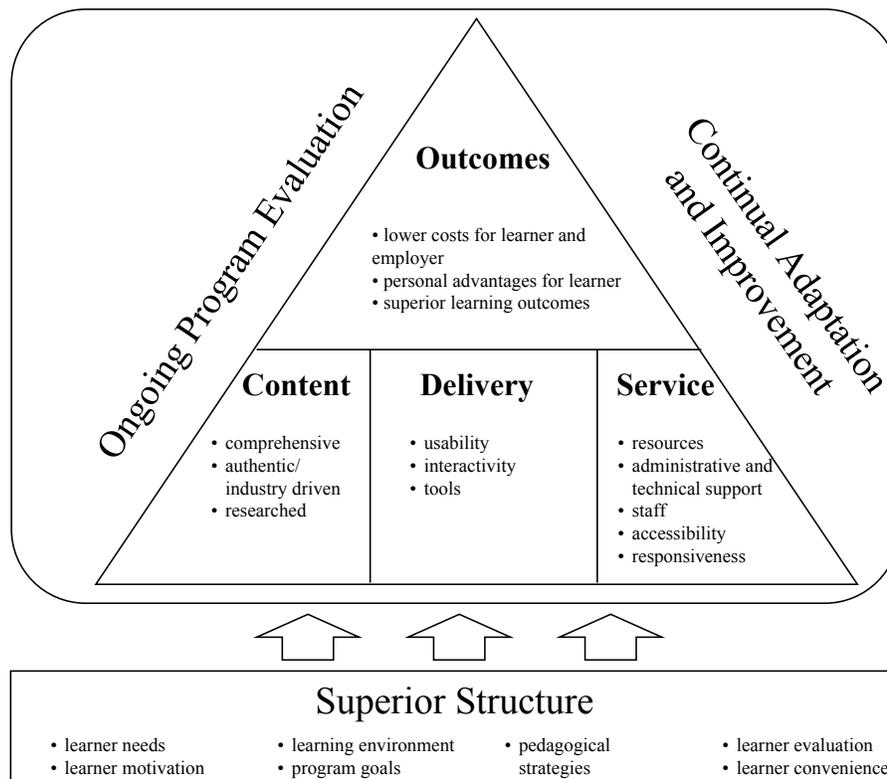
services (one in Ottawa, one in Medicine Hat, Alberta, and one in Edmonton, Alberta). Representatives from each home were included in the research team. The proposal was successful and the project was funded by CANARIE.

Once the project got underway, the first task was to divide members of the large research team into three working groups depending on individual expertise. The administrative team comprised three individuals: the principal investigator, a project manager, and a part-time administrative assistant. Together they were responsible for managing the project, participating in the meetings of the other workgroups, and completing relevant documents for the granting agency. The pedagogy team comprised 11 individuals including content (dementia) experts, eLearning specialists/instructional designers, and university-based researchers. The evaluation team comprised three individuals: two academics (a professor and a post-doctoral fellow who is the second author of this article) and an SCO program evaluator. Throughout the project, the lines were blurred between academic and community perspectives, as is probably true in most CBPR endeavours. Division of labour is an important aspect of a CBPR partnership. Due to time constraints and varying expertise, it was often necessary to assign certain aspects of the research to one person or a small group. While this may seem to be contrary to CBPR, it was done at the suggestion and consent of the research team. All members of the research team were informed and involved in the process while a core group led the research activity. This division of labour is a compromise that keeps projects on track (Weaver & Cousins, 2004).

Conducting the Needs Assessment

According to the DDLM (the model the research group opted to use to guide the design, development, delivery, and evaluation of the dementia care training program), the first step of the project required identifying the needs of the targeted learners in all six homes in the project. The learners were front-line staff (registered and non-registered) taking care of persons experiencing dementia. The process of planning the needs assessment was led by the university-based researchers who drafted the questions and collated the feedback from the other pedagogy team members. Since the pedagogy team was distributed across Canada, communication occurred by e-mail and telephone conference. Several iterations of the needs assessment questions were sent back and forth. Although developing the questions in collaboration took longer than if the researchers had developed

the questions on their own, it was felt that the process led to a set of questions that would obtain more relevant and useful information to guide the development of the program.

The university-based researchers conducted three in-depth focus group interviews with seven healthcare providers who would be participating in the program once it was developed and two of the site coordinators who would serve as the on-site support persons for the learners during the implementation of the program. Through this process the stakeholders were able to provide input to the pedagogy team regarding the design, development, and delivery of the dementia training program. The results are published elsewhere (MacDonald, Stodel, & Coulson, 2004).

Designing and Developing the Program

Designing and developing the program involved choosing what content to include, writing the content, developing the learning exercises, and putting the material online. The course facilitator, a content expert, and a psychogeriatric nurse were responsible for putting together the first drafts of the content and ensuring it was appropriate for an online delivery format. We encountered difficulties finding a course facilitator who had an understanding of eLearning and the content and who was bilingual. The course facilitator who was hired had the last two qualifications, though this was her first experience with eLearning. Consequently, feedback on her draft modules from the pedagogy team at weekly meetings was essential. The course facilitator was grateful for, and receptive to, the feedback and she learned quickly; the second and subsequent modules required only minor editing before going to the programmer and instructional designer. The need to rework the modules, however, slowed down the development of the content.

To ensure the content was authentic, as indicated in the DDLM, the course facilitator drew on her experiences working with front-line personnel who provide care to individuals with dementia, noting, "I have listened to the needs and challenges that healthcare providers experience on a daily basis. Their feedback determined the priorities for including this particular content." This demonstrates the connectivity between the academics, who provided the guiding principles with the DDLM, and the community professionals, who provided appropriate content, that was essential to the quality of the final product.

Ensuring the content was comprehensive, another DDLM component, was harder to achieve due to two types of time limitations. First, the pedagogy team was very aware, based on their experience and the needs assessment, that the learners would have difficulty finding time away from their work to engage in the program. Therefore, the learning had to be portioned into small sections that could be completed in 30 minutes. The course also had to fit into an eight-week period, therefore limiting the amount of content that could be included. Second, due to timelines imposed by the funding agency and problems hiring qualified project staff, the pedagogy team had limited time to develop the content. Thus, the pedagogy team had to deal with competing tensions. Content experts were advocating for certain content, while other community representatives sometimes presented differing views on what needed to be learned. On the other hand, academics were concerned with respecting pedagogical principles and the quality of the course design. Each member had equal opportunity for providing input into the content. The ensuing decisions reflected varying perspectives and, according to the CBPR process, were more likely to be relevant to the end-users of the program.

After the pedagogy team reviewed and approved each module, the English text was sent for translation into French and given to the instructional designer to be put online. The instructional designer developed the online program using WebCT, the online course management system adopted by the University of Ottawa. However, the pedagogy team quickly realized that, while having many advantages, this system limited certain aspects of course design and evaluation. There was a lot of discussion throughout the project, from the design phase until well after the completion of the program, about using a different system. Time constraints and the initial decision of working with the University of Ottawa's eLearning Centre prevented the research team from exploring alternatives to WebCT. This situation relates back to the concept of "manageability" brought forth by Weaver and Cousins (2004); perhaps a greater diversity of potential partners may have offered more choices regarding technology. However, meeting deadlines and anticipating the difficulties of working with an even larger research team weighed more heavily than the need for diversity.

Working within the constraints of the course management system was only part of the challenge faced by the pedagogy team. The collaborative approach was very time consuming—something that has been noted in the literature (Easterling et al., 2003). The in-

structional designer commented on the enormous amount of time the CBPR process added to the development of content, which left him approximately two weeks to transform each of the four modules into an online format. This is a process that has been documented to take between 6 and 12 months (Casimiro & Patry, 2004; Casimiro et al., 2005). The instructional designer questioned the efficiency of the collaborative process adopted in this project:

> There were too many people trying to reach a consensus and we all know that a consensus is a utopia. I don't mind asking and answering questions to make things clearer; at a consultant phase it's great as it makes us question our approach. But at the decision phase, the expert [instructional designer] should have the final say.

He postulated the lack of efficiency was because "the roles of the people involved were not well-defined." Comments made by other members of the pedagogy team seem to concur with this observation. Some felt there was reluctance for individual members to take ownership of the project—or be allowed to take ownership. Suggestions and comments would be made and acknowledged but sometimes not followed through with, either because of time constraints or because team members expected others to take care of it. For example, the instructional designer related, "Even though, right from the start, I told the team what the maximum amount of content reasonable for our time frame was, it constantly came back too big." Similarly, another member highlighted that it would take the learners too long to complete the modules and stressed that learners must be honestly informed about the time commitment required by the project prior to their consent and participation. In the end, nothing was done to address this problem. Others reported finding the program hard to navigate and suggested changes be made in the online layout. However, neither the quantity of the content nor the navigation issues were addressed before the program was offered, and both were identified as weaknesses of the program by the learners in their evaluations (MacDonald, Stodel, & Casimiro, 2006).

Whose role was it to make sure these comments were respected? It appeared that no one took the lead to rectify these specific concerns or they were swept aside due to time constraints and thus no changes were made. Consensus was not reached by the pedagogy team on many of the decisions made once the production phase started. Rather, compromise was the decision method of choice especially as the

deadlines loomed closer. Our CBPR decision-making process allowed the team to discuss the issues but did not allow the group to reach consensus or force anyone to take action. Lack of role identification, inaction, or compromise can lead to conflict in CBPR and could have been responsible for the dissatisfaction voiced by various members of the pedagogy team throughout the production phase (Macaulay et al., 1999).

We feel a significant factor in lack of "project ownership" was that the principal investigator (PI) had to leave the project suddenly at the beginning of the production phase. This temporarily compromised the project's leadership. The position was filled by an individual who was unfamiliar with the project and new to eLearning. While CBPR calls for democracy, leadership is necessary for the smooth running of the project. This leader should bring expertise in optimizing group functioning such as defining roles and orienting the group toward action. This person should also ensure equality among members and aim for consensus. This role is different from a project coordinator, who is essential for organizing meetings, writing minutes, and following through with administrative tasks. We found that both positions were essential components of CBPR.

Delivering the Program

The program was delivered to 95 learners at six sites in three provinces across Canada. Forty-nine (52%) enrolled in the French-language program and 46 (48%) enrolled in the English-language program. Learners were expected to spend two hours each week, at their convenience, reading the content and completing the learning activities. Each site had a coordinator whose role was to support the learners in their learning and with the technology. These site coordinators were an integral part of the pedagogy team.

Throughout the delivery of the program, the site coordinators met with the pedagogy team for 30 minutes each week via teleconference. The purpose of these meetings was twofold. First, at these meetings, site coordinators were reminded of timelines set out for the learners to complete the different online activities. Second, it provided the site coordinators with an opportunity to provide feedback to the pedagogy team regarding the learners' experiences and progress with the program. These meetings were instrumental to the success of the program.

Because of the regular feedback from the site coordinators, the pedagogy team was able to expediently address some of the problems and concerns that arose. For example, it quickly became apparent that the program required much more than two hours a week to complete. The site coordinators reported that, in reality, some of the learners were spending up to five or six hours a week on the program and felt frustrated and overwhelmed. As a result, the pedagogy team immediately adapted the program by reducing the number of required exercises and extending the deadlines for completing the program. A number of site coordinators attested that the learners immediately felt less pressure once the amount of work was reduced, as they were able to spend more time on each aspect of the program rather than having to rush through it.

This connection to the learners' needs via the site coordinators allowed the research team to develop insight into the redesign of the dementia care training program and the development of new eLearning programs. Consequently, both the expanded group of community professionals and the university-based researchers obtained valuable information on eLearning program delivery to guide them in future endeavours. In fact, having everyone provide input into the direction of the program blurred the lines between the community and the researchers (Gaventa, 1981).

Evaluating the Program

One of the community's reasons for developing a partnership with academics was to develop relevant evaluation strategies for the program. The university-based researchers therefore led the evaluation, using the DDLM and its companion evaluation tool (MacDonald, Breithaupt, Stodel, Farres, & Gabriel, 2002) as a guide. While evaluating the program required specific knowledge of evaluation and online data collection procedures, the pedagogy team were invited to provide input on the process and give feedback on the development of the evaluation instruments. This process resulted in the development of relevant evaluation tools tailored to the needs of learners in LTC homes. As a result, the community professionals obtained the evaluation tools they required and the university-based researchers were able to adapt their tools to suit the healthcare field. Both formative and summative evaluations were conducted in French and English using qualitative and quantitative methodologies. Data were collected from the following sources:

Pre-program survey. The pre-program survey was designed to solicit information from the learners regarding their perceptions of computers, eLearning, and teamwork, as well as demographic information. To create this survey, the evaluation team provided a draft version to the pedagogy team who then added, deleted, or modified questions to create items that better served their organizations or their learners. The final product was a 21-item survey that the learners completed the first time they logged on to the program.

Temperature check. As advocated in the DDLM, a constant feedback loop was established between the learners and the pedagogy team regarding the content, delivery, service, structure, and outcomes of the program. The evaluation team presented the pedagogy team with an abbreviated version of the DDLM companion tool that would serve as a "temperature check" that the learners would complete at the end of each module. The pedagogy team was invited to submit feedback on the survey, and as a result questions were added, deleted, or modified based on the comments. Members in the healthcare field provided valuable input that made the survey more context-specific.

The length of the temperature check was hotly debated by the team. It was essential that a balance be obtained between the limited amount of time the learners had to complete the modules and the need to collect enough information so the program could be adapted where necessary to provide context-relevant learning opportunities for the learners. The team decided that it was more important that the learners spent their limited time engaging in the learning activities rather than completing long surveys. The final version included 20 questions on a 4-point Likert scale and 2 open-ended questions.

Originally, the learners were asked to complete a temperature check online after each module. However, it became apparent through the telephone conferences with the site coordinators that the learners were finding the program to be more demanding and time-consuming than expected. After the third week many were behind in the program and only some had completed the temperature check for the first module. The team responded by removing the temperature checks for the remaining three modules. The information obtained from the first temperature check was used to refine and improve the remaining modules in the program.

Post-program survey. The evaluation team also felt it was important to include a post-program survey in the evaluation. They presented

the complete version of the DDLM evaluation tool to the pedagogy team who removed and reworded certain questions to make the tool more context-specific. The final survey comprised 41 4-point Likert questions and 4 open-ended questions that addressed the five DDLM constructs: content, delivery, service, structure, and outcomes. Learners were required to complete the online survey after they had completed the program. Again, the length of the survey was debated among the pedagogy team members. However, upon reviewing it, no one was willing to drop any of the questions.

In-depth interviews. To obtain a rich description of the participants' experiences with the program, specifically in terms of the DDLM constructs, in-depth semi-structured interviews were conducted with 10 learners, all 6 site coordinators, the course facilitator, and the instructional designer. Knowing the importance of management buy-in for this program to be viable in the future, the pedagogy team also expressed the need to interview the higher management of the six LTC homes to gather their impressions of the value of the program for their organizations. Once again, the evaluation team drafted the interview guides and then solicited feedback from the pedagogy team.

As is typical, the evaluation team had a lot of work to do in the final stages of the project. They conducted, transcribed, and analyzed all the interviews, compiled and analyzed both the quantitative and qualitative data from the pre-program survey, temperature check, and post-program survey, translated French data into English where necessary, and wrote the final report—a 200-page document (MacDonald & Stodel, 2004). During this phase most members of the pedagogy team were unable to help for a variety of reasons, most commonly lack of time. However, since the evaluation team included one community professional as well as the two academics, and they received input from the remainder of the pedagogy team, the evaluation did reflect the CBPR process. Each decision was reached collaboratively and weighed the needs of the learners—a reality best understood by the community—against the outcomes needed for the funding agency—a reality best understood by the university-based researchers.

Disseminating Findings

CBPR should be an equal partnership throughout the research process, which includes disseminating the findings. There should be equal opportunities among the partners to co-author publications resulting from the research process (Israel et al., 2003). In this project, the

university-based researchers found that when they invited community members to co-author the final report they got little response, despite recurrent concerns voiced throughout the project regarding authorship. Perhaps this was due to individuals' time constraints and competing responsibilities with other projects. Perhaps different phases of the project were attractive to different team members based on their expertise, experience with that type of work, work mandates, and career motivations.

Wishing to keep in line with the philosophy of equal power in CBPR, the university-based researchers debated putting the names of everyone associated with the project on the final report. However, the list would have been too long. A compromise was made by listing all the organizations involved in the project (in itself a list of 10 names) and providing a special mention to members of the community who actually collected, analyzed, or participated in the writing of some aspect of the report.

The input that was received from community professionals definitely enhanced the quality of the final papers. Working collaboratively provided multiple lenses and richer information because the community professionals provided a different view from that of the university-based researchers. This article involved a collaborative effort between three university-based researchers and one community member. The collaborative approach added to the amount of time necessary to complete the manuscript, yet it added to the quality and accuracy of the paper on several fronts. First, both university- and community-based members' perspectives of the CBPR process were reflected. Second, healthcare-specific research and references were added to supplement the review of literature. Third, details on the process were clarified and elaborated. Fourth, the workload was shared between the authors. In the end, the process of collaborating in the publication process was a positive experience in which co-learning took place and a stronger article resulted.

Although community professionals' involvement in writing academic papers was limited, they made great efforts to disseminate the findings to various groups. The university-based researchers created a PowerPoint presentation and two professional posters comprising a project overview and the findings that they made available to the community. Several community members have used, or have plans to use, these materials at conferences and/or to make presentations in their local healthcare communities. This highlights another benefit of

CBPR for the community; while these individuals may not have had the time or the interest to prepare the presentation material, they are actively participating in the dissemination process by using the materials created by the university-based researchers.

DISCUSSION

In this project we applied the CBPR model to a collaborative inquiry project with university-based researchers and community professionals, instead of the usual group of community members experiencing disparity of knowledge, education, and/or funding. Although several of the community professionals were experienced at, and capable of, conducting research and disseminating the findings without the assistance of the university-based researchers, they felt the need to develop a partnership with academics who had specific expertise in the area of interest. The purpose was to strengthen their research position in the field of eLearning and gain information on quality eLearning design. In turn, the academics wished to apply their knowledge to the healthcare field but lacked the intimate knowledge of this group of learners. Consequently, they benefited from the input of the community professionals and gained valuable knowledge of the content area (dementia care) and healthcare culture. In addition, they were provided access to a rich data source. Even though the university-based researchers had much to gain from the partnership, this project was instigated and led by members of the community—key characteristics of CBPR (Minkler & Hancock, 2003; Stoecker, 2003).

Sullivan et al. (2003) stated that in CBPR all members should have decision-making power to avoid tokenism. We believe that this project respected this principle by including all partners and hearing all voices. The collaborative partnership allowed the research problem to be viewed from multiple perspectives and resulted in a better understanding of the various issues being investigated (Gallagher et al., 2003). Both the community and academics were involved in the project from the proposal writing stage and continued to work together through to the evaluation. The weekly meetings between and among the pedagogy team and site coordinators provided a forum for open communication on a timely basis. The ideas that stemmed from the discussion were invaluable when redesigning the program for future offerings.

Our experiences in this project also made it clear that the internal workings of healthcare organizations, such as a change in PI, can

have a profound impact on the project. In this case, academics who were less affected by the organizational change and oblivious to the internal politics of the healthcare organization were able to keep the project moving during the transition. However, the research team as a whole had difficulty in defining roles and taking ownership of the project. We feel that in a CBPR project it is essential there is a "champion leader" who follows up on issues discussed by the research team. However, this job is often a double-edged sword—a balance between hearing and incorporating members' suggestions and meeting deadlines. In this project, were there "opinion leaders" with subtle power who did not agree? Was taking on the task of fixing a problem too great and the rewards for doing so too little? Or was it just a time issue? Did the fact that the meetings were conducted via telephone conference and not face-to-face have an impact? Was it because the key decision makers were new to eLearning? The original PI was not only invested in the project but had experience with educational technology. A change of project leadership has been reported as a common problem with CBPR, whether dealing with a grassroots community or a community of professionals, and can actually cause a project to collapse (Macaulay et al., 1999). The fact that this research team was able to overcome the loss of their leader and meet the set research objectives is a testament to the conviction of the community and the academics on the importance they attached to this project.

With regards to time constraints, Stoecker (2003) addressed the issue of trade-offs between efficiency and democracy in CBPR when one has to decide between maximizing participation and meeting a grant deadline. In this project we felt the pressure of timelines to get the program online and completed by a specific date, and we acknowledge that compromises were made regarding the quality of the design. Our experience suggests that taking a CBPR approach significantly increases the amount of time required to complete the project, though the research team felt it was a worthwhile trade-off given the contributions made by each member. From an eLearning perspective, it is critical that the content be developed early in the process. A common fallacy is that once the content is developed it can be put online quickly.

Stoecker (2003) also suggested that it is unrealistic to expect that those involved in a CBPR project be equal partners in the process. His claim appears to be grounded in concerns for the time demands on community members. Indeed, as Israel et al. (2003) have suggested, efforts were made to involve community members in the

publications resulting from the research process, but few wanted to get involved as they did not have the time to do so. Sullivan et al. (2003) recommended that communities receive concrete benefits in return for their involvement in research partnerships, noting that without such tangible benefits the partnership may not be advantageous to the community. In this case, the community can rely on its experience and on the publications to guide future eLearning program development. They can also use the presentation material to continue to disseminate the findings.

We also realized that CBPR is all about communication. Working in a large team means that many relationships need to be developed and maintained. In this project we found that relationships could be delicate at times. Constructive criticism about the program was sometimes taken as a personal affront to the individual responsible for that aspect of the program and hard feelings resulted. Our experience revealed that it is imperative team members present their concerns and suggestions in a sensitive manner. This point becomes even more poignant when communication between members is via e-mail where tone, emotion, and other non-verbal cues are lost. In the case of this project, misunderstandings in communication caused some minor conflicts, but effective communication also allowed the rifts to be resolved.

Clarification of members' roles at the beginning of the project is also critical. In writing this article it emerged that the evaluation team was ill-defined. Each of us had a different view of whom the evaluation team comprised. Further, one of the pedagogy team members who had expertise in online pedagogy and eLearning applications in healthcare—a skill set very relevant to this project—felt that her expertise was not used as much as it could have been. Perhaps this was because her role was poorly defined at the start of the project. Not only was this a frustrating experience for her, but she also predicted many of the problems experienced during program delivery.

The project resulted in an educational opportunity for all involved (Minkler & Hancock, 2003). The community professionals succeeded in offering a generally well-received eLearning program to help healthcare providers manage persons with dementia. They also enhanced their skills for designing, developing, delivering, and evaluating a successful eLearning program by using the DDLM. The university-based researchers learned more about healthcare in general, and dementia care specifically, obtained further appreciation for working

individuals' needs for learning online, and became aware of the values and complexities of CBPR. Further, the university-based researchers also profited by gaining access to data for research purposes.

CONCLUSIONS

There is a growing interest in participatory and related approaches to evaluation that involve collaborative working relationships between members of the evaluation and program community (Patton, 1997; Whitmore, 1998). In the current study, evaluation was embedded within a comprehensive collaborative design and development project. In this context, we conclude that the adoption of a CBPR orientation with a community of professionals is not only beneficial but also desirable to enable those responsible for educational endeavours to take notice of research or program evaluation findings regarding the development of a successful eLearning program. The CBPR allowed multiple views, attitudes, and experiences to strengthen the program. By describing the complexities involved in this process in this article, we reveal both the challenges and achievements inherent in designing a quality online learning event using this approach. Moreover, by addressing some of the details involved in this process and sharing the lessons we learned, we hope that our experiences help others plan CBPR partnerships with community professionals and develop and evaluate collaborative eLearning programs for healthcare providers.

LESSONS LEARNED

1. Select the collaborative team strategically so that team members' strengths, knowledge, skills, and expertise complement one another. Involve members of healthcare organizations and universities to allow the research problem to be viewed from multiple perspectives. This will result in a better understanding of the various issues being investigated and will lead to a better eLearning program.

2. Clarify members' roles at the beginning of the project. This will help utilize team members' expertise and help eliminate possible frustrations and misunderstandings in the division of labour.

3. Conduct weekly meetings between and among the pedagogy team and site coordinators to provide a forum to include all partners' voices. This provides invaluable input into designing the program and its evaluation.

4.   Develop and maintain relationships throughout the project. It is imperative team members present their concerns and suggestions in a sensitive manner. This point becomes even more poignant when communication between members is via e-mail where tone, emotion, and other non-verbal cues are lost.

5.   Aim to reach consensus on decisions rather than compromise. This will ensure equality in the voices heard and promote member participation. It also minimizes the risk of conflict.

6.   Choose a team champion in eLearning to lead the CBPR project. This person must attend the meetings to hear team members' suggestions and be able to follow up and implement appropriate suggestions in a timely manner.

7.   Use an eLearning model such as the DDLM as a quality standard to design, develop, deliver, and then evaluate the program.

8.   Hire a curriculum designer to take the raw content produced by the content experts and adapt it to ensure appropriate pedagogy strategies for online learning are respected.

9.   Allow enough time to transform the content into an appropriate eLearning format that is engaging for the learners. We recommend approximately eight weeks per unit (topic) depending on the length.

10.   Extend the application of CBPR to a "community of professionals." It is possible to respect CBPR principles with community professionals who are not necessarily representing a grassroots community. In this project, the community professionals were empowered with the knowledge and skills necessary to design, develop, deliver, and evaluate eLearning programs for healthcare providers.

11.   Provide concrete benefits for community members in return for their involvement in research partnerships. Such incentives increase participation in all aspects of the research, increase the amount of personal time community members are willing to invest in such projects, and provide direct advantages to the community.

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Colla MacDonald, Ed.D., is a full professor in the Faculty of Education at the University of Ottawa where she conducts research on eLearners and eLearning environments. She has designed and taught several online courses including two that won the WebCT Exemplary Course Award. She has worked extensively on large healthcare research projects designing, delivering, and evaluating online programs for healthcare professionals.

Emma Stodel, Ph.D., is a post-doctoral fellow in the Faculty of Education at the University of Ottawa. Her research focuses on understanding how online learning can be improved in different contexts, including mental training in sport, education, and healthcare. Specifically, Dr. Stodel is interested in the concept of presence online.

Lynn Casimiro, P.T., M.A., is a physiotherapist and a Ph.D. candidate in the area of eLearning in healthcare. She currently works as a project coordinator at the University of Ottawa for the *Consortium national de formation en santé* training and research project.

Lynda Weaver, M.H.A., M.Ed., is the Coordinator for Palliative Care Education and Quality Management at SCO Health Service in Ottawa. She specializes in planning and evaluation, and continues to be involved in online learning projects.