Since the 1990s, organizations in the non-profit sector have increasingly adopted information and communication technologies (ICTs) to support a growing range of organizational activities. Generally this has involved installing and configuring standardized hardware and software packages for common administrative and communicative tasks. Still relatively rare, however, are community-based organizations (CBOs) that undertake major software development projects for strategic purposes, aimed at significantly transforming their operations and the ways they relate to their constituencies. This chapter reports on a case study of one such organization, St. Christopher House (St. Chris), which embarked on an ambitious ICT development project that promised fundamental capacity and service improvement. St. Chris is an urban community and social services agency in Toronto that, in 2002, received $300,000 in funding from the federal government to design and implement a content management system, or a Community Learning Network (CLN), to support organizational processes and the learning needs of the community they serve. Here, we consider the particular ways that a non-profit organization with a history of nearly a century of community service is learning with and about information and communication technologies.
How are non-profit organizations adopting and adapting ICT to build their own community networks?

St. Chris is a not-for-profit agency of the United Way that has served the southwest quadrant of downtown Toronto through a rich network of connections since 1912. It is widely recognized as a “pioneer organization of Canadian social services and community development . . . and has influenced community work across the country through innovative program development” (Shillington 2001). St. Chris offers a range of services and resources to disadvantaged community members of all ages, including computer and Internet access; counselling, employment, and skills training; nutrition, language, and literacy courses; and legal, recreation, and supportive housing services. The organization delivers over thirty direct service programs and community development projects. In 2001, before the project began, St. Chris was serving an average of over 10,000 community residents each year (Terada 2001). By 2009, it was serving 16,000 annually. Over 800 volunteers, many of whom work in the field, extend the reach of St. Chris further into the community to facilitate program delivery. Complementing its service work, St. Chris is also active in social policy advocacy.

In 1999, St. Chris formally engaged with ICTs when it received funding from Industry Canada to establish Community Access Program (CAP) sites, which provide public access to the Internet as well as hardware, software, and computer training. The addition of the CAP site, known as Bang the Drum, to St. Chris’s ICT infrastructure expanded their capacity for learning with and about ICTs. The objectives of Bang the Drum were:

- to raise the level of digital literacy and improve basic computer skills of community members,
- to promote life-long learning by breaking down barriers posed by differential access to knowledge by providing free online interactive learning tutorials, and
- to ensure all people become empowered, active digital citizens of the Internet regardless of age, race, ethnicity, class, or ability (Terada 2001, section 2.3).

By 2007, St. Chris had seven Bang the Drum locations providing community access to over seventy computer terminals with high-speed Internet service.

Building on their successes with providing Internet access and in an effort to enhance the long-term financial sustainability of the CAP sites, St. Chris applied to the federal Office of Learning Technologies’ (OLT) Community Learning Networks Initiative in 2001. This program, launched in 1998 by Human Resources Development Canada (HRDC), was designed to support pilot projects that made use of existing network technologies. St. Chris was not unique in pairing these funding programs; almost half (44%) of the approximately one hundred projects funded by the Community Learning Networks
Initiative were directly linked to existing CAP sites (Human Resources and Skills Development Canada 2002). Two other CRACIN community partners that similarly combined CAP and CLN funded projects case study were Vancouver Community Network and K-Net (see chapters 13 and 14 in this volume).

What is a Community Learning Network?

Community Learning Networks are, in official terms, “locally controlled structures that support community development and aspire to enhance the lives of their members through lifelong learning” (Government of Canada 2003, 29). A background paper prepared for an OLT policy discussion on the future of the Community Learning Network Initiative in relation to Canada’s National Strategy on Innovation in 2003 noted that CLNs come in many forms and are as varied as there are definitions of community: “While many players are engaged in the overall governance, one organization usually acts as champion for the overall effort and the diverse learning activities upon which the community decides to embark” (Government of Canada 2003, 30). In this case, St. Chris was clearly the champion of their CLN initiative, developed largely to meet organizational needs.

St. Chris envisioned its CLN as both a process and a product. In the first instance, it was an experiment in open source software engineering, pursued with participatory design elements involving key stakeholders (community members, staff, volunteers, funders, software developers, and academic researchers). In the second, it was a content management system (CMS), a website and database that supports the creation, publication, and archiving of online content, which would offer new ways of learning for and with their constituents. Like many other organizations, corporate and not-for-profit alike, in the early 2000s St. Chris had difficulty maintaining its website, characteristically having “out of date material, poor control over design and navigation, a lack of authority control, and the constriction of the Webmaster bottleneck” (Browning and Lowndes 2001, 1). And too, like many organizations, St. Chris sought a solution in a CMS. In this regard, St. Chris’s broad objectives were twofold:

- Create an interactive CLN in which each program area could develop a distinct Internet presence encouraging community feedback and participation through the use of interactive tools, for which staff and volunteers are trained to administer and publish content, and program participants and community members gain computer skills and learn about the resources on the Internet.
- Build the capacity of St. Chris to use the Internet by establishing a “coordinated community-based training methodology” (Terada 2001, section 2.7).
To realize these two objectives, St. Chris senior management focused on the learning needs of staff who needed to be comfortable using ICTs before they could teach and support community members’ use of the CLN. Consequently, development focused intensively on working with and addressing the needs of St. Chris staff. In a later phase of the project, St. Chris expected to enable community members, especially those who are socially marginal, to use the CLN to find information and to communicate with one another. Organizations taking on these kinds of projects sometimes choose a group amenable to the role they could play in the overall long-term development of a project. For example, an initiative to develop the information design of a community network’s website focused on “innovators and early adopters” who served as “catalysts for the design” and “provided a means by which to gather community oriented feedback” (Vaughan and Schwartz 1999, 590).

In this chapter we seek to better understand the challenges facing non-profit sector organizations when adopting new technologies. Simpson (2005), in citing Dabinett (2000), reports that ICT initiatives in community settings typically confront: a variety of challenges, including tension between commercial and community aspects of networks, poor communications, unrealistic expectations, conflicting agendas, shortage of capital, and inadequate strategic and operational management. ICT initiatives in CBOs are also often characterized by an underlying desire to reflect organizational values of learning and participation. This raises a couple of questions: What are the particular challenges that CBOs, such as St. Chris, face in the development and use of custom-designed information systems? What can other CBOs learn from St. Chris’s CLN venture when undertaking organization-wide ICT initiatives that reflect the values of learning and participation? In this chapter, we proceed by drawing on the literatures of organizational learning, and management and community informatics, followed by a brief discussion of our research method. Based on our interviews with St. Chris staff, we highlight several recurring issues focused primarily on current use. We close with some suggested lessons to be drawn.

**ICT ADOPTION IN COMMUNITY SETTINGS: PARTICIPATION AND LEARNING**

While there is a desire for organizational innovation and transformation in many ICT initiatives, in corporate settings the failure rate for such initiatives is estimated to be as high as 75 percent (Davenport 1993, cited in Boonstra and Vink 1996). Some suggest that a balance is needed “between a top-down formulation of goals and coordination of the change process and bottom-up self-designing activities in which organizational members manage the change
process themselves” (Boonstra and Vink 1996, 374). Change processes can be further complicated when competing or conflicting organizational values coexist (Iivari and Huisman 2007). For example, participatory practices in development stages of ICT initiatives may conflict with an organization’s need to assert hierarchical controls in implementation. Similarly, CBOs must strike a balance between expert and participatory processes in development and implementation, particularly since ICT initiatives in community settings are often as much an expression of organizational values as they are about technology (Venkatesh and Chango 2007). Consequently, success in community settings in particular is very much tied to an organization’s ability to realize its values in new organizational practices and structures.

Elmholdt (2003) suggests that different types of organizational learning must also be balanced. This is especially true when social networking-based sharing systems that rely on participation are combined with an acquisitional approach to “capture” knowledge. When organizations take on new practices that conflict with existing norms a “double loop” of learning is needed to reconcile the differences. Organizational learning is understood to take place “when members respond to changes in the environment by detecting errors and correcting errors through modifying strategies, assumptions, or norms” (Choo 1998, 221). This kind of active or iterative learning is also an important part of participatory design methods in ICT development. Kensing (2003) suggests that active participation is required in all stages of development, which includes negotiation of desired outcomes, evaluation and selection of technological components, design and prototyping of IT (information and technology) applications, and organizational implementation.

Merkel et al. (2004) observe that community networking studies have tended to focus on the need for ICTs to provide democratic access to community information and to facilitate civic engagement, whereas community informatics studies tend to “foreground the ways that information systems can be built to facilitate organizational goals” (1). Participatory Design approaches in the community context have produced research on how to engage community members in ICT-based projects (Merkel et al. 2005). However, this knowledge is somewhat tempered in light of the fact that participatory development approaches do not necessarily lead to changes in everyday practice (Boonstra and Vink 1996). In this chapter, we aim to shed light on the challenges CBOs face in designing and implementing an ICT initiative and, in particular, to identify and explore tensions that can emerge in attempting to meet the needs of various stakeholders: organizational, community members, and government funders.
OUR STUDY APPROACH

As is common with the case study as a methodological approach, in this study we triangulated three types of data sources: interviews, participant observation, and document review.

St. Chris was one of seven founding community partners in the CRACIN research alliance, a partnership of academic researchers, community networking practitioners, and government policy specialists funded by the Social Science and Humanities Research Council of Canada (SSHRC) from 2003 to 2007. Prior connections between researchers at the Faculty of Information Studies at the University of Toronto and St. Chris staff formed the basis of this case study research, in which good working relationships developed through earlier projects, the first starting in 2001 and studying everyday usage of Internet services (Viseu, Clement, and Aspinall 2004; Viseu et al. 2006), and then, as the CLN began development in 2002, a more collaborative project “to develop an evaluation framework that they would find useful in improving their ongoing practice as well as contribute to their accountability for their public funding” (Luke et al. 2004). St. Chris declined to pursue a full evaluation of the CLN project as originally envisioned. However, the case study formally took shape when all parties agreed to focus on semi-structured interviews with select St. Chris staff. Furthermore, researchers combined participant observation and document review to triangulate with the interviews to assure strengthened validity in the study.

The focus on St. Chris staff, as opposed to volunteers and program participants more generally, was due to the phased nature of development and use that concentrated on the staff in the early stages. We indicated that we were interested in talking with a broad spectrum of staff, ranging from those making heaviest use of the CLN to light users, and across a variety of program areas. St. Chris management readily agreed and offered to contact staff on our behalf. We then drafted a series of questions designed to provide some insight into how the CLN is used and by whom, and in what ways the CLN does or does not reflect and support organizational values. In the spirit of participatory action research (PAR), we collaboratively refined the questions to be mutually beneficial.

A member of the St. Chris senior staff sent a written request for an interview to select staff members, which the interviewer, MacDonald, followed up with a phone call. Starting in early 2007, she began conducting semi-structured interviews with eleven (n=11) St. Chris staff. Interviewees included five program coordinators, three program workers, and several managers. Interviewees were asked about the following:
1. Their current use of the CLN (e.g., Do you currently use the CLN? How do you use it? What tasks are you responsible for? Do you supervise anyone who uses it?)

2. Learning to use the CLN (e.g., How difficult or easy was it to learn to use? How did you overcome any of the difficulties that you encountered using the CLN? Did you receive enough training?)

3. Their involvement (if any) in the development process (e.g., What did you like or not like about the development process? What were your expectations as a result?)

4. Their hopes for future uses of the CLN (e.g., How would you like to see the CLN being used at St. Chris that it is currently not?)

Transcripts of the interviews were produced from audio recordings and analyzed for common patterns and themes. We asked senior managers at St. Chris to review drafts of this chapter to increase validity in the findings of our study.

In the early stage of the research, participant observation took place at several CLN advisory committee meetings that were designed to solicit feedback from St. Chris members on the various iterations of the software as it was being developed. Document review focused on materials produced about the St. Chris CLN, such as the “Blueprint for a Community Learning Network,” produced by The Working Group (2003), the application (Terada 2001), and the final report produced by St. Chris to the funder, the Office of Learning Technologies (St. Christopher House 2005). In the following sections, we elaborate on the themes that emerged from the interviews, as informed by insights from participant observation over several years with St. Chris and documents reviewed.

**THE ST. CHRISTOPHER HOUSE CLN**

As a content management system (CMS), the St. Chris CLN is structured as a series of “rooms,” or web pages, where content can be created and posted in either public or private spaces by any number of users. Prior to having their CLN, St. Chris had a fairly rudimentary website with a sparse amount of static, brochure-like content. Program information was limited to a short description of each program area on a single webpage. Furthermore, since St. Chris relied on an intermediary organization to post the content, the website was not regularly updated. Building a CMS has allowed individual program areas to develop their own web presence, putting some control in the hands of staff, program participants, and volunteers. The CLN home page (www.stchrishouse.org) is organized by program units and according to age groups (children and youth, adults, and older adults). Under “Older Adults,” for example, there
are links to almost twenty different programs, including Meals on Wheels, Friendly Visiting, and day programs for people with Alzheimer’s. In contrast to the original website, the CLN is comprised of regularly updated individual web pages that are full of images (mostly photos), program and contact information, upcoming events, newsletters, and resources.

**USE OF THE CLN BY ST. CHRIS HOUSE STAFF**

Use of the CLN is defined with respect to staff as any of the following activities: accessing information, creating and or posting content, and use of the various features, including the communication tools, creating tutorials, or quizzes. The most active users at St. Chris tend to be people working in the program areas that use the CLN to recruit volunteers, but all of the St. Chris staff interviewed use the CLN to access information about St. Chris and the various program areas.

St. Chris relies on the participation of up to eight hundred active volunteers, so ongoing recruitment and outreach is tremendously important. Often potential volunteers are referred from specific program areas, such as Literacy, which relies heavily on volunteers (up to forty-five at any given time) to be tutors for one-on-one learning partnerships. While the Literacy web pages provide information in the form of answers to frequently asked questions (FAQs) for potential volunteer tutors, formal administrative processes to recruit volunteers are taken care of by the volunteer developer, who regularly posts volunteer opportunities to the CLN, along with instructions about the application process, photos, and stories written by St. Chris volunteers about their experiences. This is one example of how the coordination of recruitment across program areas within St. Chris is facilitated and improved by the formal administrative capacity of the CLN.

The Literacy program also uses the CLN to gather online information and resources that support teaching and learning for both tutors and learners. The CLN is a common point of reference for tutor-learner partnerships, providing resources or links to resources useful to both tutor and learner. In the case of learners, because the issue of adult literacy is often sensitive (in that often even the participant’s family members are not aware that he or she is registered in the program), program materials and any online content produced by learners with their tutors are kept in a private, password-protected space on the CLN. Once participants are registered in the program, they have access to a calendar of events, information and resources about literacy, and the opportunity to create their own room (that is, web page) with the assistance of their tutor. Rather than reinvent the wheel, both learners and tutors access interactive learning tools that are in many cases created by other organizations.
Most of the staff interviewed do not create or post their own content, citing a lack of time or staffing. The majority, however, did express a desire to do so. For example, one interviewee (“A”) said: “To be honest with you, I don’t even have time to check email. I’m lucky if I can check it once a day . . . and I know I’ve been criticized for that. But the level of crisis for people here is more and more intense.” She also reported that a volunteer had recently taken on the task of gathering content, such as photos, to post on the CLN.

However, some program units within St. Chris actively used technology long before the advent of the CLN. The Older Adult Centre (OAC), for example, had previously developed online interactive plays through the Health Action Theatre by Seniors (HATS) project. HATS uses theatre as an educational tool to help seniors learn how to problem solve. The plays, now accessible via the CLN, are used as teaching tools in group settings by St. Chris staff, and are shared with other agencies. Such prior experience with technology informed, to some degree, the understanding of one interviewee (“B”) of the potential value of the CLN from its inception, when she actively participated in its development: “I was very involved in all aspects [of the CLN development]: the meetings, the steering committee, I was part of several working groups and I was the person who was to create a common vision [for the OAC].” Despite thinking of herself as a light user, she regularly publishes and archives a quarterly newsletter, but sees potential for more interactive uses of the CLN, including the internal use of the forums or discussion boards and maintenance of interorganizational relationships and contacts.

In general, however, CLN communication functionalities at the time of the interviews were somewhat underused by St. Chris staff, program participants, and volunteers. For example, in one program area, staff tried to use the CLN to support sharing and information exchange between volunteers. One interviewee (“C”) notes that it is often difficult to find time for formal training opportunities since most volunteers have full-time jobs: “So we thought we’d try this online thing and [the volunteers] all thought that was a really good idea but then nobody is really using it.”

Several program areas have experimented with the forums or discussion boards but have found little success in these efforts. For example, the Immigrant and Refugee services program began using the communication tools with some promise of success. A YouTube video and a link to the Immigrants’ Integration Discussion Forum are featured prominently on the Immigrant and Refugee Services home page, where there are eighteen different discussion threads on various topics related to immigrants’ experiences in Canada. However, most of the threads have only one or two postings, many of which were made in early 2007 when the forum was launched on the CLN. While some threads focus on online community resources or interagency sharing,
a few appear to be posted by program participants or community members who presumably are recent immigrants. On 27 January 2007, under the subject heading *Something that works*, Saosen wrote: “Well, probably [what] we need is some kind of a combination of volunteering and training? Vocational education? Something to deal with the precious Canadian experience which is needed for work and [that] you can not get it unless you work. Yet, you got here because you are need[ed] in some kind of work . . . confusing, eh?” More recently, a senior manager observed that such low use by St. Chris’s constituents is not surprising since there are so many options on the Internet now that St. Chris could never have anticipated.

Several interviewees see the CLN’s communication tools as an area for future use and development at St. Chris. For example, one interviewee noted that the CLN is a place to publish research conducted by St. Chris, such as their recent report on modernizing income security. In terms of content development by users, St. Chris senior management readily express some disappointment. In particular, community participation was low, which is reflected in the number of CLN members (only a few hundred members of the public created user accounts), but the surge of Internet and social media use in St. Chris’s various constituencies could not have been anticipated.

**CLN Development: New Practices in Participation**

As with many ambitious information systems initiatives, the development of the St. Chris CLN was fraught with difficulties—especially when initial enthusiasm that focused on needs assessment activities waned because of mismatched expectations. The development process included focus groups with staff and community members, and an intensive two-day needs assessment event in March 2003 facilitated by Cap Gemini Ernst and Young’s Accelerated Solution Environments (ASE), involving St. Chris staff and the software developers.

Following the ASE event, St. Chris and The Working Group (TWG), the software developer, agreed on a blue print document that constituted the software specifications. At this point communication between the St. Chris and TWG lessened considerably while the latter undertook the programming, periodically bringing provisional versions to a special St. Chris CLN advisory committee for testing. As is common in system development projects, deadlines slipped and costs far exceeded original estimates. However, St. Chris officially celebrated the public launch of the new CLN, replacing the old website, in February 2005.

The interviews revealed some ambivalence among St. Chris staff about their involvement in the participatory process. In one sense, participation was
very important to many staff who felt the process reflected the values of the organization. One staff member (interviewee “D”) suggested that even though “people expressed their concern that [the CLN] was unrealistic . . . there was still a lot of enthusiasm because we participated in the process.” In another example, interviewee “E” stated:

We all were [involved in the development process]; I have to give them [St. Chris senior management] credit for that. . . . Yes, we were all involved to some extent; some people more than others [depending on] personal interest. If I’m not mistaken there were several opportunities to join a working group, committees, discussions, there were interviews with all of us that took place to learn a little bit more about what we would like to see on the CLN. That was also [management’s] style of work . . . to be really open and wanting to engage with people and get their feedback.

Interviewee “C” suggested that perhaps participation came at the wrong time: “I think the ASE [Accelerated Solutions Environment] should have been much later, after they had talked to different staff to find out what [they] wanted and then once there was a rudimentary structure have an ASE event and [ask] how can we use this and what can we add and tweak to make it more of a community development and learning tool?”

**FIGURE 8.1 St. Chris House: Flipchart from the ASE needs assessment exercise**
In another sense, some staff felt that the emphasis on participation caused the development of the CLN to shift in focus from community learning and organizing to more of an internal communication and administrative utility. One staff member who was involved in the early stages of development remarked that the original objectives outlined in the application to the funder narrowly targeted CLN adoption in select program areas. However, early in the development process a larger debate about inclusiveness and participation across the organization shifted the direction of the project to be what another senior manager called being “all things to all people.” Interviewee “F” expressed frustration about the change in focus: “[The CLN is] just an office tool. That’s an administrative thing . . . that’s not a breakthrough about community learning together, because in fact when the staff are using the tool they’re not doing it in a way that brings them together with other staff. . . . They’re using it in order to get their tasks done and they’re not necessarily looking to see what else is going on [in the organization].”

The emphasis on the CLN as an internal information sharing and administrative tool also drew attention to an underlying schism that emerged between hierarchical organizational structures and new participatory practices. Early in the development process, it was decided that explicit managerial controls were needed to ensure only web content appropriate for maintaining the good reputation of St. Chris should be presented to the public and, in particular, to funders. This approach conflicted somewhat with the participatory philosophy that underpins the entire initiative. Many interviewees raised concerns about the permissions process, and the delays incurred, to get content approved before it can be posted on the CLN. Some felt this hampers participation of staff, and consequently of program participants and community members. For example, one interviewee (“G”) suggested that the permissions structures take away the potential for real community involvement and exchange: “If you
have so many people to approve, approve, approve you’re not having community involvement. Of course it’s very hard because you have to know the content. You cannot have discriminatory stuff . . . especially when you consider [that] the agency is liable for the content. It’s a virtual space but it’s also under the St. Chris umbrella, which [makes it] very hard to create a learning network opportunity.”

St. Chris managers felt they couldn’t take the risk of offensive remarks tarnishing their long-standing, hard-earned reputation for integrity. This points to the uncomfortable dilemma that open-content contribution processes pose for organizations that depend so heavily on outside funding and donations. With the recent proliferation of social networking services, organizations can more easily distance themselves from potentially embarrassing postings, but when the CLN was being developed social networking sites were less common.

Another key aspect of participation was the involvement of a group of St. Chris volunteers, foreign-trained IT professionals known as the Community of Practice Understudy (CPU) group in the ongoing maintenance of the CLN. The CPU was positioned to take on the responsibility of maintaining the CLN once the software development was complete. The aim was to ensure the operational sustainability of the CLN, such that a continuous cycle of volunteers would be trained to maintain it and potentially to create new modules as needed. The CPU was thus structured to help ensure that CLN expertise stayed within the organization. In practice, with the extended software development period, the original CPU lost momentum and was disbanded as volunteers moved on to other opportunities (such as jobs). However, a new CPU was started in 2006 with the goal of documenting the technical specifications of the CLN, which were not satisfactorily supplied by the software developer. One interviewee (“C”) stated that the new CPU “are more focused on sustainability than the other group was and making sure that going forward there will be some documentation so whoever comes in and takes on the technical part of it will have something to go from.” The new CPU has maintained a core of around four members who bring a range of PHP and Microsoft programming experience. It has made upgrades and fixes, such as making changes to the permissions structures. Rather than develop new capabilities within the main CLN system, the emphasis has been on incorporating connections to the growing number of freely available commercial services such as YouTube, Google Search, and Facebook. An indication of their success in maintaining the operational viability of the CLN is that following a recent internal evaluation in which alternative platforms such as Joomla were considered, St. Chris decided to continue with the CLN as their content management system.
Learning about and with the CLN

Interviews with St. Chris staff also focused on their experiences with learning to use the CLN, which revealed in many cases a general discomfort with ICTs. Learning for staff began in the development stages of the CLN when, in the needs assessment activities, they were introduced to new concepts and new ways of working across the organization and with their clients. Interviewee “I” described her experience of taking part in a meeting at which the CLN project team were discussing the CLN: “For me it was like listening to a conversation in Russian. It didn’t make sense, conceptually what they were talking about. ‘CLN,’ ‘Learning Network,’ ‘Open Source’; I didn’t know what open source was. So when I don’t understand something, I just disconnect. [But] I see that it is very important, that it is the future. That [the CLN] has a lot of potential if you know how to do it.”

Interviewee “F” suggested that many St. Chris staff did not understand the broader abstract implications of the CLN—how a CLN would both produce and support changes to the organization’s structure. He stated: “The idea of a Community Learning Network as it was put together in our application was clearly too abstract for most people to understand because they didn’t see the idea that somebody in their program would want to deal with anyone else and that their participants would actually care to be involved with other participants in another program.” However, as we have learned from other interviewees, the CLN does in fact facilitate sharing of information across program areas for which volunteer recruitment is concerned.

Learning to use the CLN was a frustrating experience for some staff members who felt like “guinea pigs” when they were trained on early versions of the software riddled with bugs. In general, however, with the final release of the software, learning to use the CLN, although not particularly difficult, generally takes an investment of time many can not afford. Other more technologically savvy users described the CLN as non-intuitive or “clunky.” One experienced computer user (interviewee “H”) commented: “I don’t think I found anything difficult about the CLN. I think I find it’s restrictive and inconvenient in that it doesn’t do exactly what we were hoping it would have done. . . . [Although] it does function in that it helps share information so everyone gets an account on the CLN, they log in, and they get access to a private site.” Similarly, another staff member (interviewee “C”) stated: “[The CLN] is very time consuming: there’s an awful lot of clicking and it’s not particularly intuitive. But once people have got used to it there aren’t usually any problems.”

In summary, the experience of learning how to use the CLN has been a frustrating experience for many St. Chris staff, which may partially account for its overall light use. Owing to their inexperience with ICTs in general, St.
Chris staff were unprepared to deal with an unfinished product, and it would seem that expectations had been unrealistically raised during the needs assessment phase of the project.

**TRANSLATING ORGANIZATIONAL VALUES IN PRACTICE**

The interviews with St. Chris staff shed light on how organizational values of participation and learning were being realized in the development and implementation stages of the CLN project. While staff participation in development was frustrating, it was also important because it reflected the organization’s values. However, Luke et al. (2004, 12) concluded that because the development of the St. Chris CLN “was not informed directly by Participatory Design (PD) research and practice” that additional opportunities for participation and learning were lost. In particular, there was no use of mock-ups, prototyping, or others forms of in situ design activities that would have helped refine in practice the many ideas that came out of the ASE brainstorming exercise, while also helping fill the interactional hiatus that many in St. Chris found so discouraging. In its final report to the funder, St. Chris noted: “The number of software iterations was insufficient to meet the vast diversity of demands of our user base” (St. Christopher House 2005, section 9). Perhaps leadership with a more unified vision during the development and implementation stages would have helped staff find new ways to work together across the organization while using the CLN. One interviewee suggested that while loose overall coordination suited the style of the charismatic leader of the CLN project (who left the organization before the development phase was complete), a more cohesive vision would have been more effective, especially during implementation. She stated that leadership was needed from “someone who understands the organization, how the information flows, how the programs are connected, [and] programs staff needs to be involved in this process [of coordinating program areas to use the CLN].”

**CONCLUSIONS**

In many respects St. Chris was ahead of the curve when they embarked on this open source project. In the early 2000s, few off-the-shelf content management software products were available. While this is no longer the case, with several good options to choose from (Joomla, Mambo, or Drupal), the St. Chris experience in building their own CMS offers valuable lessons about participation and learning that might not otherwise have been learned. Some of the principal lessons are presented here, drawing on the recommendations of St. Chris staff.
Active user participation is a powerful approach to system development processes, and likely even essential in CBOs such as St. Chris. Without the commitment that active participation brought, it is doubtful that St. Chris could have pulled off its very ambitious development project. That the CLN remains central to St. Chris’s internal and external communication is a remarkable achievement for an organization that had no prior background in major systems development. In effect, it designed and built its own bicycle (the CMS) without having ridden one. No small feat.

However vital, participation is no panacea and needs careful treatment. In this case, active involvement needed to be matched with the background and knowledge that members with widely varying degrees of interest and experience could bring. A more iterative approach, with shorter cycles of design, develop, test, and redesign, would likely have produced more satisfying results and reduced the frustrations experienced. One staff member (interviewee “B”) made the following recommendation:

Do not expose people to something that is not up to its potential yet because it’s a very frustrating experience. If you invite people to test and if they know enough about it, I think that’s wonderful. . . . But if you call it training, make sure you have a proper tool that will deliver and so people will see results and get enthusiastic and can see the potential. . . . Be creative, but realistic at the same time so people don’t get disappointed. If you make it look like it will solve all the problems in the world and then people realize . . . it won’t, its kind of a turn off. Always find ways of keeping people motivated.

Interviewee “C” recommended that other CBOs take on similar initiatives using a participatory approach, but on a smaller scale and maybe having more training before asking for input. . . . It was an impossible project in terms of what everyone wanted. I think once they’ve got . . . ready-made, off-the-shelf [software products] . . . then I think it’s a lot easier to be participatory and say, ok, “What of these specific things [do you need]?” and, “This is what they do, and do you need that?” and “What do you use it for?” Then I think, yeah, [participation] would be really critical. Because I think . . . to do any kind of project in a community organization that is not participatory is not going to work very well.

Finally, a senior manager reflected on the fact that St. Chris did not meet its goal of reaching socially isolated community members. She stated:

There are a number of people we work with who are pretty socially isolated. We thought giving them an online community would maybe open their community [and] their worldview up. . . . That’s been one of our biggest disappointments with [the] CLN, that it still hasn’t reached program participants
much less a broader community in a meaningful way because of the incredible delays we experienced [in the software development stages].

Furthermore, aspiring to link isolated individuals, she noted the success of **CRACIN** community partner K-Net, which connects over sixty geographically isolated First Nations communities in Northern Ontario (see chapter 13). Reaching those who are socially isolated is a particularly challenging goal, perhaps more so than reaching the geographically isolated, since there are increasingly robust wireless communications technologies to call upon. While new social networking technologies appear to hold promise, and there is evidence that they can be important ingredients in successfully connecting otherwise isolated individuals, new technologies alone can never produce desired results. With the growing availability and popularity of social networking services, St. Chris is becoming relieved of the need to take on major software development tasks, and can bring to bear its considerable talents in addressing the more fundamental social and learning issues.

It is ironic, then, that by treating the **CLN** development mainly as a construction project aimed at building ambitious e-learning applications, rather than principally as a learning project in its own right, St. Chris missed a number of other participation and learning opportunities along the way. In particular, there was potential, especially if a more iterative approach had been taken in the earlier stages of development, to learn more about new ways to work within the organization and with its constituents. In general, however, this reflects the pressure noted elsewhere in this volume (see chapter 19) for organizations to focus on more tangible project outcomes that satisfy funders.

This account of the challenges that St. Chris faced in undertaking a very ambitious community networking/learning project, and how in hindsight things might have been done differently, should not overshadow the substantial achievements. While the **CLN** did not achieve all that it set out to, it did much more than enhance the information infrastructure of the organization. The **CLN** played a vital role in developing the digital literacies of its staff, volunteers, and clients. The commitment to a free, open source approach to software development reflecting strongly held community values remains firm. The **CLN** has become deeply established in St. Chris, with several programs well embedded in Internet-based activities.

Furthermore, as with any major software project, learning and development continues after the initial implementation phase, and St. Chris is well positioned to tackle the emerging challenges. In this we hope that St. Chris’s involvement in the **CRACIN** project to study this initiative may be helpful. At the very least, our investigations, and interviews in particular, show that St. Chris staff are dedicated to further shaping the **CLN** to meet organizational
and community needs, and that they have valuable insights to offer in this ongoing process.

NOTES
1 See http://www.ic.gc.ca/eic/site/cap-pac.nsf/eng/home.
2 While the combination of CAP and CLN programs seemed well suited, a struggle to achieve financial sustainability for these ICT initiatives is ongoing. CAP has proved to be a highly unstable source of funding (Moll 2007), so organizations like St. Chris have learned not to rely on it. Further, as Rideout and Reddick (2005) observe, capital expenditures such as computer hardware and connectivity costs do not qualify under the CLN program as allowable expenses. Once the development funds for the CLN project were spent, computer training and support must come from the organization’s core funding. In the case of St. Chris, this has meant that staff members juggle multiple jobs. See chapter 19 for a discussion of the challenges faced by organizations such as St. Chris in managing funds from different agencies each of which provide only partial funding for complex projects.
3 The reasons for this are several. The significant delays in the implementation of the CLN and the urgent need to focus on getting it working meant that the original timetable for a formative evaluation had to be scrapped. Also, the proposed evaluation approach, drawing on Outcome Mapping, would have required extensive participation by staff, volunteers, and program participants. These groups were expressing “evaluation fatigue” and not enthusiastic about this potential addition to their existing time burdens.
5 For more on the role that foreign-trained immigrants with ICT skills play in community networking initiatives, see chapter 9.

REFERENCES


