Community building, emergent design and expecting the unexpected: Creating a quality eLearning experience

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Abstract

Given the extraordinary interest and growth in eLearning as a learning tool and as an industry, it is not surprising there is lively debate on quality. A research-based and tested eLearning model was used to design and evaluate an online M.Ed. course in order to study factors that influence the quality of an eLearning event. Several data collection methods were used to explore the experiences of key stakeholders in this case study: learners, design team, and instructors. This study reveals that learners engaged in a level of community that best suited their needs. Striving to achieve a spirit of community seemed to yield beneficial learning outcomes. This study also explored the tension between structure and flexibility in course design. While skillful planning and extensive organization help create a positive learning environment, the design must also be conducive to rapid re-design as the course progresses in order to respond to learning needs as they emerge.

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1. Introduction

Given that eLearning is a 23 billion dollar industry (Driscoll, 2002), it is not surprising there is lively debate on quality. Among increased calls for more robust learning experiences and outcomes (Garrison...
& Kanuka, 2004), the design of an eLearning experience is emerging as a critical cornerstone of quality (Jung, 2000; Rovai & Barnum, 2003; Song, Singleton, Hill, & Koh, 2004; Willis, 2000).

Quality eLearning courses are characterized by extensive upfront planning and design work, requiring a considerable investment of time and specialized resources (Bichelmeyer, Misanchuk, & Malopinsky, 2001; MacDonald & Thompson, in press; Smith, Ferguson, & Caris, 2002). Building a sense of community among learners is also important for quality eLearning experiences (Garrison & Kanuka, 2004; Rovai, 2002; Song et al., 2004; Stepich & Ertmer, 2003).

A well-designed course comes with clear expectations, examples of end products, deadlines for deliverables, and well-written course notes (Conrad, 2002; Song et al., 2004). Accomplishing this level of course design requires teamwork, input of skilled instructional designers, and painstaking attention to detail. Yet a quality learning experience must also be responsive to learning needs as they emerge throughout the course. Kanuka (2002) suggests that while greater structure needs to be built into eLearning courses to sustain quality, there must also be flexibility to facilitate higher levels of learning. Cavallo (2000) states that, “design cycles that cannot adapt to rapidly changing conditions miss emergent phenomena” (p. 769). He advocates the use of emergent design which melds the purposeful nature implied by “design” with the openness implied by “emergent” (p. 774).

Because a learning community does not develop easily or instantly, practitioners must thoughtfully weave strategies for community building into their course designs (Song et al., 2004; Vonderwell, 2003). Several studies demonstrate the viability of using technology to create virtual communities and heighten participants’ perceptions of eLearning as a social experience (for example, Gunawardena, 1995; Poole, 2000; Stepich & Ertmer, 2003). However, despite purposeful designs, building community can be challenging as other research has shown (Kanuka & Anderson, 1998; Thompson, 2003; Song et al., 2004). Song et al. (2004) comment that although lack of community is not a new criticism raised by learners or a new challenge identified in the literature more research is needed.

The purpose of this study was to: (a) use a research-based and tested learning model and evaluation tool to evaluate an eLearning course in a university setting; and (b) synthesize the experiences and needs of key stakeholders. The Demand Driven Learning Model (DDLM — see Appendix), (MacDonald, Stodel, Farres, Breithaupt, & Gabriel, 2001) and its companion evaluation tool (MacDonald, Breithaupt, Stodel, Farres, & Gabriel, 2002) was used to design and evaluate an online M.Ed. course, and in the process gain a better understanding of the key factors that influence the quality of an eLearning experience. The results of this evaluation are reported elsewhere (MacDonald & Thompson, in press).

The DDLM was used to frame this study, in part to discover its utility to help design and evaluate quality eLearning experiences. However, in analyzing the data, both community building and emergent design surfaced as critical elements of a quality eLearning experience. Neither of these factors is incorporated into the existing DDLM. This article therefore explores how these two factors enhance our understanding of how to design quality eLearning experiences and offers a compelling rationale for integrating these elements into the conceptual framework of the DDLM.

The DDLM currently proposes five inter-related dimensions that in concert create a high-quality eLearning experience: structure, content, delivery, service, and outcomes. The structure of an eLearning course provides the necessary foundation for quality content, delivery, and service. Structure includes anticipating learner needs, using appropriate pedagogical strategies, creating a positive learning environment, and conducting regular learner evaluations. The delivery of an eLearning course
includes usability, interactivity and tools. The content of an eLearning course should be comprehensive, authentic, and researched. Service includes resources, administration and technical support, accessibility, and responsiveness. Finally, the outcomes of an eLearning course should include lower costs for the learner and employer, personal advantages, and achievement of learning outcomes. Initial research demonstrates that the DDLM provides a psychometrically sound evaluation tool that can be used to assess the quality of eLearning against reputable guidelines (Breithaupt & MacDonald, 2003).

2. Review of the literature

2.1. Community building

Researchers have found that learners’ perceptions of community in the same eLearning course often differ (Rovai, 2002; Vonderwell, 2003), suggesting that commitment to collective learning is not guaranteed. Hawkes and Dennis (2003) analyzed the postings made by learners in an online Masters course and found that “cajoling learners to jump into the discourse often produced sterile and artificial additions to the discussion” (p. 55). Learners must do more than just go through the motions and instead understand how they benefit by engaging in the learning collective. Salomon and Perkins (1998) advise that learners need to learn how to “capitalize on the social milieu” (p. 5) by “learning to contribute to the learning of a collective” (p. 21) and mediating the learning of others.

The literature is ripe with references to community: community of practice, learning community, virtual community, community of inquiry, or a knowledge community. One vision of community is the community of practice, advocated by Wenger (1998) and characterized by mutual engagement, joint enterprise, and a shared repertoire (words, ways of doing things, stories). Another perception of community is the idea of a virtual learning community, in which joint learning tasks and outcomes motivate community efforts. In contrast to a community of practice, community composition in this view is limited to the group of learners who come together for a set period of time to engage in a formal eLearning experience. This could include the community of course alumni outlined by Trentin (2001) or the virtual community as defined by Johnson (2001). Situated in a learning context, Trentin argues that a community of course alumni provides support when individuals attempt to apply what they have learned in a common learning experience. Johnson suggests that a virtual community is a designed community while a community of practice emerges based on how the participants use the designed community. Merriam, Courtenay, and Baumgartner (2003) propose that the classroom can be “viewed as a community of practice where knowledge is shared and expertise resides not only with the instructor but also across the community” (p. 187). Rovai (2004) suggests that by bringing diverse expertise and experiences all members of a learning community can be teachers. But it is perhaps Rheingold (2000) who best captures the spirit of community as he describes virtual communities as “social aggregations that emerge ... when enough people carry on public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace” (p. xx).

Underlying all these descriptions is a belief that learning is enhanced when there is a commitment to the collective good and people engage in learning through and with others. In their qualitative study of how 20 Wiccans learned in a voluntary community of practice, Merriam et al. (2003) found that when learners were supported by a community in a safe environment they engaged in discourse and gained
confidence in their new role. Hung and Chen (2001) suggest that because “learning is about dialoguing in matters that we need to understand . . . with those that can challenge us” and provide different perspectives, communities are learning organizations (p. 10).

2.2. Emergent design

Several researchers have noted the importance of planning and upfront preparation of eLearning courses (Kanuka, Collett & Caswell, 2002; Palloff & Pratt, 2001; Smith et al., 2002). One finding from Kanuka et al.’s qualitative study of 12 university online instructors is that:

Over-planning is an essential virtue . . . course development is much more complex in the sense that I must not only plan for content and pacing, but also interaction, and pre-planning or highlighting what will happen. I need to have clear in my mind what will happen, what the expectations are, and to find a way to communicate all of it in a text environment (p. 158).

Furthermore, it seems that learners appreciate and expect this level of organization. As Conrad (2002) highlights in her study of 28 learners’ perceptions of starting an eLearning course, learners want early access to the course site to: (a) build comfort and familiarity with the site; (b) see what is there; and (c) get prepared and integrate the eLearning experience into their life.

However, while analyzing design issues in a two-year project to bring new learning technology to rural Thailand, Cavallo (2000) found that what was needed was a design approach that acknowledged that “no one could know beforehand what would resonate” and that to deliver a pre-set curriculum does not take “advantage of the very benefits that the technology affords” (p. 774). Advocating a more flexible approach, Cavallo believes that in the same way that a jazz group can improvise within the structure of a piece while remaining coordinated . . . so too can an emergent design remain consistent within a core set of principles (p. 770).

While there is a large body of research that delves into design strategies for effective eLearning, very little explores the possibility of using emergent design strategies as an online course unfolds. Emergent design was not planned in the investigation by Warschauer (1998) of sociocultural factors shaping an online writing course, yet it happened when the researcher conducted a second round of data collection interviews with 12 students during the course. The floodgate opened as learners shared their opinions on what could be improved and the instructor had no choice but to make changes. The findings about the value of emergent design in this study were serendipitous in nature; nonetheless, they help set the stage for a more in-depth look at emerging design strategies in eLearning course design.

Studying 10 online instructors, Jones and Asensio (2002) found that these instructors struggled to make a connection between their educational design and the outcomes, especially in the area of collaboration and participation. To close this gap, instructors struggled with the degree of structure that was necessary to organize the learners’ activity. Kanuka et al. (2002) found that both experienced and new eLearning instructors expressed the need for more advanced and thoughtful organization of their distance courses than their F2F courses. However, while noting that there must also be some flexibility built into the course activities, the instructors also believed that using online media tended to result in a loss of flexibility. Their study highlights that experienced eLearning instructors “tend not to design their courses with a great deal of flexibility” despite acknowledging that this can be supported by web-based technologies (p. 166). Both these studies foreground the tension between
structure and flexibility in eLearning course design; a tension that might be fine-tuned by using emergent design approaches.

3. Research design

The purpose of this study was to: (a) use a research-based and tested learning model and evaluation tool to evaluate an eLearning course in a university setting; and (b) synthesize the experiences and needs of key stakeholders. Merriam (2001) suggests that the case study is useful for studying learning innovations. The unit of analysis in this case study was the Synthesis Seminar (EDU5199), the last of 10 courses required to obtain a M.Ed. degree at the University of Ottawa. Because this was the first course in the program to be offered online, learners had completed all other coursework in a face-to-face (F2F) format. As the culminating course, participants reflect on their development and demonstrate that they can apply their learning to issues in their professional domain.

The participants in this case study were the learners, design team, and facilitators. The 19 learners in the 13-week course were primarily working adults — teachers, administrators, and counsellors. The design team was comprised of three members. Colla is a professor with twenty-four years of university teaching experience. Although she has been researching in the eLearning field for several years this was her first hands-on online teaching experience. The TA, Terrie Lynn, was completing her MA. As a learning consultant she has designed and delivered courses in several eLearning media. The course developer, Sylvie, is an experienced WebCT instructional designer. The facilitation team consisted of Colla, assisted by Terrie Lynn.

As one group of people in a unique setting was studied, a limitation of this study is that the results cannot be generalized (Wolcott, 1990). Nevertheless, Merriam (2001) advises that by providing detail, readers can determine themselves “whether the research setting sufficiently resembles their own situation to warrant adopting the same practices” (p. 222). A second potential limitation is the research design. Although multiple data collection strategies were used to understand the experiences of several stakeholders in this eLearning experience and the community building and emergent design themes emerged from the data, this study did not set out specifically to explore these themes. If this had been the case, different research methodologies or instruments might have been used to provide more in-depth study of these two phenomena.

3.1. Data collection and analysis

Because each data collection strategy “makes the world visible in a different way” (Denzin & Lincoln, 2000, p. 4), relying on multiple strategies helped construct a multifaceted understanding of this eLearning event and enabled triangulation. Data was collected in three ways: in-depth interviews with learners, course facilitators, and designers, analysis of course transcripts and other course documents, and online survey instruments, including the DDLM online survey.

To increase credibility, the interviews were conducted by a research assistant who was not involved in the course. The three members of the design and delivery team as well as seven learners were interviewed six weeks after the course finished. Purposeful sampling was used to select learners who varied in age, gender, depth and breadth of course activity, previous eLearning experience, course achievements, and concentration (the M.Ed. program includes four concentrations: Administration,
Teaching and Learning, Counselling, and Second Language Teaching). Eight interviews were conducted in-person, one by telephone, and one by e-mail. Oral interviews were taped and transcribed. Transcripts were given back to participants for verification and revision.

Course documentation comprised the second data source and included postings in the e-discussions, e-mails sent and received by the e-moderator and TA, and course participation data. Other documents available for analysis included course design files, e-mails between the design team members, and course documents.

The third data source was the online surveys. The course was designed to include several evaluation mechanisms, creating what Levy (2003) refers to as a “close connection between learning and research activities” (p. 101). A required activity in the course, there was 100% completion of the three temperature checks. Completed in weeks 3 and 6, these temperature checks were short Likert-scale online surveys with a few open-ended questions. Although it was possible to determine if a learner had completed the survey, responses were anonymous. The third temperature check was a reflective posting in the week 9 discussion group. In addition, the DDLM companion survey (MacDonald et al., 2002) was adapted to align with this course. Learners completed this online survey, called the e-Valuation, during the final week of the course. Designed to evaluate the five dimensions of quality outlined in the model (content, delivery, service, structure, and outcomes), it included 41 six-point Likert questions and five open-ended questions. Data pulled from these web-based surveys is identified in the text as follows: tc1, tc2, or tc3 refers to temperature check 1, 2, or 3; e-V refers to the final e-Valuation.

Merriam (2001) describes data analysis as the process of meaning making. The first grouping of the data was created as data was re-read and connections started to surface. The DDLM proposes five inter-related dimensions that create a high-quality eLearning experience: structure, content, delivery, service, and outcomes. As the research focus of this study was to use the DDLM as an evaluation tool, the model framed some of the data analysis work. However, this framework did not restrict the themes that emerged. It was the unexpected discoveries regarding community and emergent design which prompted further probing of the data to find concepts that would unite divergent perspectives. Data was also searched for positive and negative evidence as well as connections between and among participants.

Direct quotations are used throughout to present the voices of the participants, who have been given pseudonyms. As the two authors played dual roles as researchers and participants in this online learning experience, the authors have used their real names throughout this document, guided by the argument of Charmaz and Mitchell (1997) for audible authorship. They state that voice “clarifies the researcher’s place in, and experience of, that action” (p. 208).

3.2. The context

Work began seven months before the course was to be offered. At that time, the only eLearning technology supported by the university was WebCT. Guided by the DDLM, design decisions linked this eLearning technology with sound pedagogical principles. In the Synthesis Seminar learners reflect on their professional development throughout the M.Ed. program and demonstrate that they can apply new learnings by writing a 25-page research paper. There was no prescribed course content. The knowledge built throughout this learning experience was directly related to the learners’ professional and personal interests and constructed as they wrote their paper and shared insights in the discussion groups. The only content provided were brief online documents designed to support learners in this constructivist learning
environment. Even though this was an asynchronous course a sense of timing was established by creating a course chunked into 13 weekly modules, each ending Wednesday at midnight.

As mandated by the University, this pass/fail course was based on assessment of the research paper. To help learners produce the best possible paper, a series of five cumulative assignments provided opportunities for formative assessment and enabled the learners to build their papers in stages. Although there was no mark assigned per se to “online participation” several strategies were employed to encourage it: (a) online participation was included in the list of course requirements to emphasize its importance; (b) online forums were intended to be useful to the learners and designed to have the potential to engage a diverse group of people in a meaningful dialogue that would enhance their research papers; and (c) the focus of each discussion group was highlighted in the course outline and Colla posted frequent reminders and encouragement.

While there are different viewpoints among constructivists (Barab & Duffy, 2000), Levy (2003) suggests they all acknowledge that learning is active, situated, and social. She adds that “in practice this leads to a commitment to participatory and dialogic approaches to learning design and facilitation, including … participation in learning communities” (p. 93). Consequently several strategies were implemented to facilitate community. First, learners were grouped into triads. Designed as a support mechanism, learners self-selected triad members during the initial F2F session; triad members were expected to give each other feedback on course assignments. Second, dialogue in the discussion groups was emphasized. Eight one-week discussion groups were strategically placed throughout the course. Learners were asked to share: aspects of their paper, opinions and insights, their journey as eLearners, and how their research related to challenges in their professional work. The third strategy designed to nurture a learning community was enabling learners to meet the facilitation team and other learners during an initial three-hour F2F class. This optional session was designed to help ease learners into their first eLearning experience. In the first week learners also participated in E-Venture, a series of activities to familiarize them with WebCT. One of these activities was to create an e-Page which included a short introduction and optional image.

4. Findings

As a barometer of the success of the design strategies, the data suggests that despite some trepidation and a lingering desire for F2F contact, the learners did enjoy the eLearning experience (see Table 1 for

<table>
<thead>
<tr>
<th>e-Valuation</th>
<th>The course was well structured</th>
<th>As a result of my participation in this course I have acquired personal or professional growth</th>
<th>The course met my learning objectives</th>
<th>The course was in line with my expectations</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Agree</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>9</td>
<td>11</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>
excerpts from the final course e-Valuation). Moreover, the learners consistently reported that they learned what was intended and that this learning was relevant. For example:

The paper that I had written allowed me to participate in discussions at the provincial level and it also allowed me to become a member of two committees within our school board. . . . I did something that was practical and very, very useful (Duncan, interview).

4.1. Community

As outlined earlier, design efforts focused on fostering a sense of community. Two key strategies were the learning triads and e-discussion groups for large group dialogue. Learners reported that the triads were invaluable. However, there were differing perspectives on the value of the e-discussions. By the first temperature check (week 3), it was evident that the “community” was proving to be overwhelming for some. One learner shares: “Although I am reviewing the discussion groups, I am generally confining my feedback to my triad due to sheer time requirements to provide thoughtful feedback.” (tc1). The triad became the “life boat” for those feeling inundated by the volume of postings and diversity of research topics reflected in the large group discussions. Most learners reported that the triads were a source of encouragement and feedback as well as a personal connection that helped decrease feelings of isolation. For one learner, though, the triad seemed to reduce the EDU5199 community to just a few people: “I also feel at times it [the online experience] is sometimes impersonal. I know only two of my classmates (the members of my learning triad).” (tc2).

In Week 4, one of the readings, Building a Learning Community, explored: (a) what a learning community is; (b) its importance for learning; and (c) how to build an online community. At this point in the course, some learners were wrestling with how to participate in the learning community. Behind the scenes, there was a lively debate within the facilitation team as to how best to nurture the fledgling community. A few days later, Colla made this posting:

Thank you to all of you who have been contributing to the discussion board and giving encouragement and support to your peers. This is important and does not go unnoticed. If we do not maintain some level of discussion the course will quickly become individual as opposed to collaborative learning. If you haven’t been making any postings, please make a concerted effort to at the level you are comfortable (Message posted in week 4 at 17:51).

By week 6 learners seemed to have settled into one of three perceptions about the value of the large group discussions: (a) most found them useful to the work they were doing on their paper, enjoyed the dialogue, and realized that the interactivity helped them feel part of a learning community; (b) several appreciated the interaction with others but did not find the dialogue specifically helpful to their research paper; and (c) for a few, the diversity of perspectives and sheer number of postings made this an unworkable forum. While some learners struggled to understand if they were meeting the “participation” expectations, most learners felt the large group discussions served their purpose. Karah shares:

I could pretty well choose to interact with others students in the course at my own discretion. There was a moderate requirement to interact online . . . that helped me not to do too much independent work and I really appreciated the feedback I received from others. Hopefully my
interaction with them was helpful or at least created a sense of a virtual supportive community (Interview).

Many learners relied heavily on pre-existing relationships and this defined the community in which they interacted. Perry shares:

Community had been created with the few people that I had taken courses with before. There were about 5 or 6 of us who had taken the last few courses together. So we knew each other. When you saw their name on an email you could put a face to it so you’d always read it (Interview).

The data suggests that there were three levels of community within this eLearning experience: the triads, the second layer based on pre-existing relationships, and the large group. An important social network, the second layer was perhaps more manageable for learners as they had already established a F2F relationship with this smaller self-selected group. John comments, “All things being equal, I would tend to give more responses to people I did know. Not just in my triad, but outside my triad there was still a second layer and I would tend to interact more with them.” (Interview). However, the trade-off for some learners who chose a “smaller” community was fewer new relationships and connections.

These findings indicate that most participants in this eLearning event were searching for a sense of connection to others and struggled to understand what conversation and participation in this medium entailed. Creating vibrant and open online dialogue, and therefore community, was challenging. In the interviews, learners revealed several factors that influenced their interactions and conversations. Some learners did not participate because of divergent interests and perceived lack of expertise to make insightful comments. How others might perceive them and uncertainty about the context in which others might read their comments also emerged.

Learners seemed to take on different roles in the large group discussions. Jason admitted that he was a lurker, reading more than he posted, and that his level of interaction was a conscious decision: “I didn’t gain as much as I might have. . . . I think I might have let the group down in that respect. But you also have to weigh your life demands as well” (Interview). John commented on his tendency to be more of a listener:

Like any class, I guess, there would be people who would enter into the discussions and there would be . . . others [like me] where sometimes I would sit back. It didn’t mean I wasn’t engaged in the conversation. Just I wasn’t taking part in the actual contributing of answers. I think this is still community (Interview).

However, Karah consciously took on a very active role within the community and tried to have “equal contact” with the others:

You’ve got to be really diligent about . . . not only giving feedback and responding and putting things out there in the discussion, you’ve got to be on top of all the suggestions from people as well. . . . I had to make sure I went regularly and reconnected with some people (Interview).

4.2. Emergent design

The organization of the course and the design team’s level of effort was a key contributor to a positive eLearning experience, as this comment from Duncan illustrates: “I really liked the layout
of the course. I liked the way each of the units was laid out right from the beginning. You knew exactly what you had to do and how much time you had to do it.” (Interview). The attention given to the course design led to positive first impressions, which helped alleviate some concerns learners had about their first eLearning experience. It also seemed to create a “cushion of tolerance” and softened the impact of the inevitable glitches of a new eLearning course. The data also suggests that learners felt the course design helped them succeed in this learning experience. For example: “I was more than a little nervous about being able to get things done but the course organization and feedback has been very useful in providing me the structure and direction that I needed.” (tc2).

Placed at three-week intervals, the temperature checks provided continual feedback throughout the course and enabled the facilitation team to monitor the climate. At two points throughout the 13 weeks, the facilitation team made changes to the course design in response to assignments that were falling short of the expectations as well as learner anxiety over workload. One major change occurred after Colla read Assignment 2 and realized that the learners needed more time to develop this outline into a complete draft paper. She balanced the existing structure of the course against the need to be flexible: “I was impressed with their conceptual frameworks and then I wasn’t impressed with their first [paper] outline. So in order to get the quality of the paper up I gave up the poster session [planned assignment #4].” (Interview). Terrie Lynn adds, “The technology was quite responsive to emerging needs. . . . We had already decided what the discussion group topics were going to be for each week, but then these were fine-tuned or totally changed depending on the way the course was going” (Interview). The learners appreciated these changes. The online surveys reflect that while the workload may have seemed daunting at first, in the end, it was perceived as fair (see Table 2). This shift may in part reflect learners’ reactions to the changes in the course design.

The facilitation team also shared the feedback they received with the learners which resulted in public discussions of what and what was not working. Colla wrote in one of her postings, “I have never gotten so much feedback during a course!” This degree of public feedback does not happen in many courses and had the potential to create discomfort for the instructor; a factor the design team had not considered when designing the course. Overall, the data reveals a positive attitude toward feedback. This climate may have been facilitated in part by the emphasis on collaborative feedback in the triads, the responsiveness of the facilitation team to suggestions they received from the learners, concerted efforts to help solve problems, and reporting back to the whole group on the results of the temperature checks throughout the course.

<table>
<thead>
<tr>
<th>Perceptions of workload</th>
<th>Temperature check 1, week 3, n=19</th>
<th>Temperature check 2, week 6, n=19</th>
<th>e-Valuation week 13, n=18</th>
</tr>
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<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>6</td>
<td>2</td>
<td>1</td>
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<td>Neutral</td>
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<td>5</td>
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</tr>
<tr>
<td>Strongly agree</td>
<td>1</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>
5. Discussion

Surfacing from the extensive research data are two challenging eLearning design issues: community building and emergent design approaches. The findings suggest that despite intentional design strategies to create community, it is not a guaranteed outcome. Many factors influence the richness of the dialogue upon which community is based. Given that a community exists to facilitate discussion (Johnson, 2001), we need to pay more attention to how learners build the connections that will enable meaningful and honest dialogue. Although the literature suggests that community is an important characteristic of a quality eLearning experience, this study suggests that learning practitioners and researchers are still wrestling with how best to channel the power of social learning in eLearning events; insights which will impact the purposeful design strategies used to achieve these goals. This study illustrates that learners weigh a diverse array of factors when deciding on their level of participation and the value they derive from a joint learning endeavor. We therefore need to be clear about why we promote community and how we expect it will enhance the learning experience.

Given the nature of the Synthesis course, the intention of the design team in this case study was to create a spirit of community. Participants were not working together to achieve a mutually negotiated end but rather to achieve diverse personal goals — their Synthesis paper. Nevertheless, the design team believed there was value in building a sense of camaraderie. A community is symbiotic in nature: by clarifying and altering their beliefs, people attempt to make sense with, and for others, and in the process make sense for themselves (Bruner, 1996; Wells, 2000). As the diverse interests of the group made it challenging to find content-specific commonalities, the online discussions were designed to provide a venue for people to share insights, and in the process, make the knowledge built throughout the entire M.Ed. program visible. By attempting to build a social infrastructure to help learners to achieve their learning objectives, the design team hoped that the spirit of community would ensure this eLearning event was engaging as well as personally and academically satisfying.

On the one hand, community seems most likely to materialize when learners have an outcome-oriented reason to work together. Johnson (2001) argues that simply setting up an “infrastructure without this premise will not automatically cause a community to form” (p. 53). As the findings illustrate, without a well-defined community-driven goal and assessment strategies to evaluate community-oriented contributions, some learners did not value community building. As Wenger, McDermott and Snyder (2002) state, a community is formed as people become “bound by the value they find in learning together” (p. 4).

Hung and Chen (2001) suggest four dimensions that contribute to a vibrant sustainable community: situatedness, commonality, interdependency, and infrastructure. Commonality and interdependency created the most challenges within this study. According to Hung and Chen, commonality refers to shared interests and problems. Did the participants in EDU5199 see a valid reason to work together? To some degree, a sense of commonality did emerge in the triads as learners were invested in the feedback process on assignments. However, within the large group, this sense of common purpose was not well-defined and divergent interests presented a challenge, resulting in some learners opting out. Hung and Chen define interdependency as interactions based on varying needs and expertise and focused on mutual benefits. Although the Synthesis projects were personally relevant, the data suggests that the individual nature of this
work made it difficult to “force” a sense of interdependency. Given these factors, the literature may suggest that community building might not have been realistic for this particular eLearning event.

On the other hand, these findings suggest even without engagement in a mutual project, a spirit of community is an essential component of a quality eLearning experience and can be fostered. The data in this study illustrates that it is this spirit that prevents isolation and enables learners to build relationships that humanize the eLearning experience. It also enables learners to be supported emotionally, receive validation for ideas, and create a sense of belonging and connection. This study highlights the unique way in which a spirit of community can co-exist on multiple levels within an eLearning course. Learners who did not feel a strong sense of community with the large group turned to their learning triads or the “second layer” for the support and collaborative environment they needed. The design of the course seemed to allow learners to choose the degree of community that was most comfortable and useful. Regardless of the community in which they focused their energies, all learners found interactions with other learners to be beneficial. The literature alludes to a feeling of community. Rovai (2002) developed and field-tested the Classroom Community Scale with 375 students enrolled in 28 online courses and found that one factor that influences learners’ community experience is connectedness, which he describes as feelings of spirit, cohesion, trust, and interdependence.

Findings support the assertion by Hawkes and Dennis (2003) that conversation is pivotal to interaction. The search for conversation with others seemed to influence the way people participated. Some favored the one-on-one nature of e-mail while others liked the exchanges facilitated in the e-discussion groups. Furthermore, while learners in this study were dispersed across four professional domains, three “shared repertoires” seemed to emerge and learners used these common languages to connect with others: emotional support, technology, and the process of eLearning.

However, the findings reveal that not being fully conversant in online dialogue, along with cautiousness about how input would be regarded by others, seemed to present obstacles for creating vibrant online interaction and fruitful relationships. These themes resonate in the literature. In an in-depth case study of a 17-week online course, Levy (2003) found that contributing to online discussion groups was one of the most challenging aspects of the course. It entailed “learning a different form of communication” and one learner in her study commented it was “anything but a conversation” (p. 102). Levy concluded that factors that negatively impact relationships within a community constrained the constructivist aspirations of “inclusiveness and dialogical engagement” (p. 102). In a personal inquiry into online learning, Mann (2003) found that acceptance and performance anxieties were exaggerated online due to her “sense of clumsiness and illiteracy in this new medium” (p. 116). Shedding this awkwardness may be part of the groundwork necessary to engage in meaningful dialogue; dialogue which then contributes to community building. The level of effort expended by learners in this study to figure out participation, communication, and connection in this new medium perhaps explains why some focused on their own survival. Mann explains:

I was too caught up in my own concerns to take much responsibility for the Other. I was not explicitly engaged in working to establish a sense of community in which both I and the difference of the Others could reside productively (p. 122).
Findings support the work of Macdonald (2003) that suggests that online collaborative learning is a complex process which includes familiarity with the discourse, online interaction skills, and confidence; all of which demand purposeful design and facilitation strategies. In a study of 76 graduate students to explore perceptions of useful and challenging characteristics of eLearning, Song et al. (2004) also argue that there is a need to work with learners to help them establish community in eLearning contexts. Although web-based technologies can support online socializing, Salmon (2000) asserts it is appropriate design and the e-moderator’s intervention that causes the socializing to occur. We can learn from the work of Hawkes and Dennis (2003) in which the instructors provided clear criteria for assessing discussions and used this to give direct feedback to the learners on the quality of their contributions.

This study also explored the tension between structure and flexibility in the design of an eLearning course. The data suggests that skillful planning and extensive organization are essential for creating positive first impressions. Learners seem to need and expect a high degree of structure at the outset; a well mapped out eLearning course seems to increase learners’ sense of competence and confidence. These findings support the assertions by Conrad (2002) that organized courses include all the pertinent details upfront so that learners can approach their eLearning experience systematically. However, data also suggests that the design of an eLearning course needs to have the flexibility to respond to emerging learning needs.

Ideally, design is ongoing throughout the delivery of the course. A course that lends itself to rapid re-design as learners’ needs become better articulated and understood leads to a quality eLearning experience. Jones and Asensio (2002) argue that the end-point of the design process is up to the designer to determine. The findings support the need for ongoing design work and consideration of emergent design strategies to re-design elements of an eLearning course as it unfolds. The data suggests that community building may be particularly sensitive to emergent design and facilitation strategies given the challenge of predicting how community will unfold in any eLearning event.

How the facilitators in this case study reacted to emerging learning needs contrasts to the findings presented by Warschauer (1998). In Warschauer’s study, the instructor neither solicited nor was initially receptive to making changes to her course design partway through the learning experience. He concludes that inviting learner feedback throughout an online course can be threatening to instructors:

Though the students were not accustomed to complaining to the teacher, nor the teacher accustomed to soliciting their views, the very fact of conducting the [data collection] interviews seemed to prove a catalyst for change. . . . The teacher . . . now aware the students were unhappy, had to contend with the realization that their unhappiness was somehow coming out for inspection (p. 75).

The data suggests that because the facilitation team in this case study used feedback mechanisms throughout the eLearning experience and demonstrated a willingness to listen and act on learner feedback, the overall atmosphere of receptivity, openness, and flexibility enhanced the overall learning experience. One key finding of this study is that commitment on the part of the facilitation and design teams to respond positively to emerging learning needs is essential.
According to Cavallo (2000), emergent design is suited to scenarios in which some of the desired outcomes are unpredictable. Realizing they needed to expect the unexpected drove the design team in this study to use an emergent design approach. Consistent with the findings of Jones and Asensio (2002), the degree and type of collaboration and participation presented some of the largest uncertainties and were the areas in which the team spent the most time formulating “What If” strategies.

6. Conclusion

Palloff and Pratt (1999) urge practitioners to look more closely at the eLearning environment and what it demands in order to create successful learning outcomes. The purpose of the study was to assess the quality of an eLearning event. In so doing, two challenges were identified for those who design, implement, and/or evaluate eLearning initiatives: community building and using emergent design strategies to respond to learning needs.

This study reveals that striving to achieve a spirit of community can yield beneficial learning results. Learning benefits were attained as learners engaged in a level of community that best suited their comfort and capability. Furthermore, this study supports the assertions by Cavallo (2000) that emergent design strategies can lead to unexpected and positive outcomes. Designing courses that are responsive to emergent needs depends on four factors: (a) keeping your finger on the pulse of the learning experience by creating opportunities to collect and act on feedback; (b) a modular course design that enables quick modifications; (c) access to resources (time and money) and skilled professionals in order to implement just-in-time changes; and (d) a willingness for e-moderators to play dual roles as both facilitator and designer. In addition to creating a learning opportunity for the design team, the lessons learned in one eLearning course can be repurposed to benefit learners in other eLearning experiences.

Varying levels of success and differing perceptions of the value of online community makes this concept worthy of more in-depth study. Future research should continue to study the nuances of community building in different eLearning experiences to provide clarity around how community is promoted and what level of community is most beneficial. In order to better understand how community enhances the quality of eLearning in different media, a future study might also use a community evaluation tool, such as the Classroom Community Scale of Rovai (2002), to complement instruments such as the DDLM, which are designed to assess overall quality of eLearning initiatives. There are also research opportunities to explore the design tension between structure and flexibility in eLearning events. Given the increased call for quality eLearning programs, it is timely to explore the flexibility of eLearning design strategies and media to respond to emerging learning needs, while at the same time providing the structure and organization that are hallmarks of a quality eLearning experience.

The DDLM proposes five inter-related dimensions that in concert create a high-quality eLearning experience: structure, content, delivery, service, and outcomes. Building community online and using emergent design strategies to respond to learning needs as the eLearning event unfolds are critical elements of course design that thread themselves through and impact all five dimensions of the DDLM. The results of this study illustrate the importance of expecting the unexpected.
Appendix

Fig. A1. The Demand Driven Learning Model (DDLM) (MacDonald et al., 2001). The demand driven learning model: A framework for web-based learning.

References


