DOES SENSE OF COMMUNITY MATTER? An Examination of Participants' Perceptions of Building Learning Communities in Online Courses

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Using a case study approach, this study explored the participants' perceptions of building learning communities in online courses in an online MBA program. The findings suggested that students felt a sense of belonging to a learning community when they took online courses in this program. The study found positive relationships between sense of learning community and perceived learning engagement, course satisfaction, and learning outcomes. In addition, interview findings revealed mixed perceptions of both online instructors and students with regard to the values and strategies for building learning communities in online courses. Many instructors have a weak awareness of online community and low value of its learning impact. The existing technology may still be a barrier without the supportive structure to enhance bonding within the online community. To design online courses for a learning community, the results suggest a more systematic instructional plan needs to be adopted to integrate elements of a learning community across different levels.

INTRODUCTION

Over the past decade we have witnessed exponential growth of online courses through a variety of educational or corporate settings. In line with this trend, there is an increased discussion with regard to building online communities in Web-based courses. This increased interest is primarily a reaction to two major concerns related to Web-based education: retention and quality (Rovai, 2002b). In online environments, the reduced social and visual cues might expose online learners to a risk of feeling isolated and disconnected. Studies found a weak sense of social cohesiveness could result in increased drop-outs of online students if they feel isolated and stressed (Eastmond, 1995). It is expected that an online community helps establish social connectedness among online instructors and students and thus reduces the potential attrition rates of online students (Rovai, 2002). Additionally, it is believed that the "social capital" (Schwier, 2004) derived from online communities—such

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as mutual understandings and shared values and behaviors—will eventually benefit online learners through the availability of greater support and socioemotional well-being (Rovai, 2001).

While there is a growing body of literature emphasizing the importance of building learning communities in online courses, clear directions based on empirical studies in this area are lacking and there is neither an accepted set of rules or strategies (Lock, 2002) nor clearly defined road maps or steps in the development of online communities (Bonk, Wisher, & Nigrelli, 2004). In addition, the research on the effects of online communities on learning is mixed. A few scholars criticize existing research for failing to demonstrate the role of community in learning through rigorous empirical studies. Although several studies claim to have found positive relationships between higher sense of community and enhanced learning experiences, those studies often fail to separate the effect of sense of community from other confounding factors or are unable to demonstrate a cause-effect relationship between the role of community and learner performance (Chao, 1999; Misanchuk, 2003; Moller, 2000).

Many existing studies seem to be based on the basic assumption that having a feeling of community is always likable by its members. However, several studies indicate that this might not be the case (Brown, 2001; Misanchuk, 2003). For example, Brown found that whether a student can find a community in a class appears to be an individual phenomenon based on personality, time, interaction, and level of participation and engagement. As a result, community will not happen unless the participants want it and make it happen. As in Brown's study, a significant portion of the participants were resistant to membership in a community and intentionally avoided community activities. In addition to the problems of resistance, there are also concerns regarding the cost involved in maintaining and participating in a learning community, especially in a virtual environment. And, a couple of studies note problems or risk when replacing academic rigor with an emphasis on social relationships and community building (Chao, 2001; Misanchuk, 2003).

If the building of a learning community is not always readily accepted practice and we have yet to prove the direct learning benefit through facilitating a sense of community in online courses, then it is important to examine the perceptions of online students and instructors on whether it matters to build a learning community in online courses, as well as the effective ways to build a sense of community. The empirical research is extremely lacking in this respect (Brown, 2001). Such examinations will provide insights into the factors that can facilitate or hinder community building in online education. Driven by this overarching research purpose, this exploratory study attempts to answer following specific research questions:

1. Do students feel a sense of community in online courses? How is the sense of community related to learner engagement, perceived cognitive learning, and satisfaction?
2. What are some communication and collaboration strategies used in online courses, and how do the participants perceive these strategies in facilitating community development in online courses?
3. What are student and instructor perceptions of factors affecting building communities in online courses?

LITERATURE

Definitions

Many definitions of learning communities are discussed in the professional literature. For example, Misanchuk and Anderson (2001) defined online learning communities as "a bounded group of students involved in cooperative learning online" (p. 3). Using social constructivist interpretations of online learning, Schwier (2002) defined the virtual learning

community as a particular online environment where individuals willingly "take advantage of, and in some cases invent, a process for engaging ideas, negotiating and learning collectively" (p. 8).

Although online learning communities have been defined in different ways, the majority of the definitions share common elements such as shared goal, membership, trust, connectedness, collaboration, and community boundaries (Shea, Li, Swan, & Pickett, 2002). In this article, an online class learning community is considered to occur when participants of an online course have "a feeling that members belong to each other, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (McMillan & Chavis, 1986, p. 9).

Strategies to Facilitate Community Building

Community is defined by the relationships and interactions between and among people who gather together (Riel, 1996). Research suggests that once a reliable technology system is in place, course design and pedagogy plays more significant roles in facilitating community building than the e-learning system itself (Rovai, 2002a, 2002c). Interaction is often encouraged to promote the identity and autonomy of community members (Schwier, 2002). Rovai (2001) suggested using two kinds of interactions that have different roles in facilitating a sense of community. From his perspective, task-driven interactions facilitate the goal of learning, whereas socioemotional driven interactions facilitate social well-being of members and helps develop friendships. A sense of community is affected by the quality and quantity of both types of online interactions. An online discourse constructed on shallow interactions or lacking an in-depth dialogue is unlikely to foster a sense of community in online courses (Liu, 2006).

Misanchuk and Anderson (2001) similarly suggest strategies to promote online learning communities through increasing levels of communication and interaction. Drawn from a comprehensive literature review, they particularly noted strategies that had students interact at high levels of communication, cooperation, and collaboration. Examples of these strategies include: (1) noninstructional strategies, such as designing an onsite orientation that quickly bonds students with each other, encouraging students to post personal profiles, and incorporating an online café for off-topic discussions; and (2) strategies for learning tasks, such as encouraging high quality discussion through assessment and peer critique, designing content-based group projects that require extensive negotiation and modeling of effective communication skills in online discussion.

As one of the ways to promote interaction, there is consensus that collaboration plays a key role in facilitating high levels of interaction in online courses. A positive and collaborative culture can provide a community with opportunities to learn from each other, accommodate diverse membership, contribute to others' learning, and nurture the authentic expression of multiple perspectives (Wilson, Ludwidg-Hardman, Thornam, & Dunlap, 2004). Studies have also found that intentionally building collaborative assignments and electronic sharing activities fosters a sense of belonging together with a shared experience (Barab, Thomas, & Merrill, 1999). Rice-Lively (1994) found that even with simple tasks such as requiring students to post regularly to a newsgroup or participate in a decision-making on communication rules or protocols can assist in facilitating a sense of community.

A few scholars suggest developmental stages for building online communities (Brown, 2001; Palloff & Pratt, 1999). For example, Brown (2001) argued that community could be experienced at any of three levels: making online friends or acquaintances through frequent interactions, feeling part of an online classroom community, and enjoying camaraderie. Brown also asserted that the students' interpersonal relationships could be amplified through enrolling in multiple

courses together and, thus, feeling higher levels of community. She encourages organizations to consider using strategies to strengthen such relationships beyond the course and program level.

Technology

Technology can moderate the growth of a learning community. Since technology essentially provides a gathering and communication space for members, the accessibility and effective use of technology for online discourse facilitates virtual learning communities (Schwier, 2002). A prerequisite for facilitating a virtual community is to provide a technology environment that is "glitch" free and has flexible access for community members. Frequent technical failures or connectivity issues may leave members out of the community gathering place and thus hinder the development of a sense of community (Hill, 2001; Kearsley, 2000; Lock, 2002).

A variety of technologies have the potential to aid in the development of a learning community. For instance, a Web site can provide a central space for people to gather as well as archived histories of the people who participated as well as showcases for "best practices." Further, asynchronous and synchronous discussion forums enable information sharing, idea exchanges, and mentoring (Bonk et al., 2004).

Empirical evidence suggests that both synchronous and asynchronous communication strategies foster virtual community building, but in different ways. Synchronous communications, text-based chat discussions, and video conferencing have been found to foster social interaction in online courses as well as contribute to the continuity of the class, whereas asynchronous communications foster deeper dialogue and continuous discourse without time or geographical limitations (Duffy, Dueber, & Hawley, 1998; Schwier & Balbar, 2002). For example, a study found that asynchronous computer conferencing can enhance a sense of community through developing camaraderie, connectedness, and sense of accomplishment among military students (Phelps, Ashworth, & Hahn, 1991, as cited in Bonk, Wisher, & Nigrelli, 2004). Another study revealed that using synchronous instant messaging in Web-based courses simplified communication and enabled more venues for informal and social communication. Consequently, students felt a stronger sense of community among each other than students who chose not use the tool (Nicholson, 2002).

Communities of learners will not occur just because of the use of the technology itself. The role of technology in community building will be enhanced through careful planning and designing a psychologically safe, open, and inviting environment for information sharing and knowledge construction (Barab et al., 1999; Moller, 1998). A few researchers have emphasized the design of technological attributes to foster community development. For example, Preece (2000, as cited in Lock, 2002) believed that a technology-enriched environment needs to address sociability (social interaction) and usability (focus on human computer interaction) of the system.

Instructor's Role

Previous research indicates a close relationship between teacher behaviors and the development of virtual learning communities in online courses (Shea et al., 2002). Shea et al.'s study indicates that perceived teaching presence is associated with students' sense of learning community. A majority of the variance in students' perceptions of the sense of learning community can be explained by the students' sense of their instructors' teaching presence, defined as effective instructional design, organization, and "directed facilitation" (p. 62) of discourse (e.g., presenting content and questions, directing and summarizing discussion, and injecting knowledge from diverse resources).

Among Berge's (1995) four dimensions of online instructor roles, an important role is to promote a friendly environment and commu-

nity that supports student cognitive learning processes. From a constructivist perspective, online social roles require the instructor to develop nurturing skills for creating a context conducive to knowledge construction by encouraging participation, giving ample feedback and reward, attending to individual concerns, and using a friendly, personal tone (Kerr, 1986). Not only do the instructors need to establish a leader role in nurturing a sense of community, they also are expected to model the social roles for online students to motivate and engage students in a community of inquiry (Anderson, Rourke, Archer, & Garrison, 2001).

Despite these fairly commonsense findings, empirical studies indicate that social roles and activities of online instructors are not always acknowledged by online instructors. Studies have indicated that virtual learning community instructors who are new to teaching online may have difficulty getting used to the concept of community (Bonk, 2000; Conrad, 2004).

METHODOLOGY

The case study approach is often considered appropriate for exploratory research that examines the perceptions of participants in an online program. Such an approach can also be beneficial in providing better understanding of a complex system like the one studied here (Stake, 1994).

The field setting selected was an accredited online MBA program in a top-ranked business school at a large Midwestern university. The program was designed for professionals who wished to continue their employment while earning their MBA. Full-time, tenured faculty members were chosen for the faculty pool from various departments of the business school to teach in the program. Some faculty members had more years of teaching experience than others, since the program had grown to more than 1,000 students in just a few years. The researchers believed that such a rapidly expanding program would best illustrate the complexities of a social system and provide a rich context for participants' perceptual change.

For the purposes of this particular study, 28 faculty members and 20 second-year MBA students within this program were interviewed in a one-on-one format. Importantly, the subject areas of the faculty participants related to all the major disciplines offered in this program. Each interview took approximately 45 to 75 minutes and about 20 semistructured questions were asked. The interview questions primarily related to students' online learning experiences and sense of community.

Program evaluation survey data related to students' perceptions of their online learning experiences was used to assess students' satisfaction with online learning experiences and their sense of online community. The student survey instrument consisted of 65 questions. The 65-item survey questionnaire contained 5-point scale Likert type questions about their overall student perceptions and attitudes toward learning online. One hundred and two second-year MBA students responded to program evaluation survey data.The internal reliability of the survey, Cronbach's alpha, was reported at .91.

Twenty-seven online MBA courses across a wide spectrum of business disciplines were then selected for content analyses. The content coding scheme was a list of online collaboration, communication, and social interaction strategies drawn from the professional literature that were believed to facilitate community building in online courses (Misanchuk & Anderson, 2001; Rovai, 2001). Descriptive data were obtained by counting the frequencies of occurrences based on the coding scheme. Importantly, the intercoder agreement was 81%.

The present study employed Strauss and Dorbin's constant comparative method (Merriam, 1998) to triangulate the data from different interview transcripts and to identify emerging themes related to learning communities in online courses. To ensure intercoder reliability, two interview transcripts were

coded initially and the intercoder agreement achieved 89%. The researchers then continued coding independently and discussed their coding decisions with each other until a common set of codes based on all the transcripts were determined. All data were recoded again using the ATLAS.ti qualitative analysis software program to determine the frequencies of the different coding categories. Member checking was also used after the interviews to ensure the trustworthiness of the findings. At the later stages of this analysis, themes from different data sources (i.e., survey, interviews, and content analyses) were merged to obtain a more in-depth understanding of the emerging issues.

FINDINGS

Sense of Community

In general, students felt a sense of belonging to a learning community for the online courses in this program. About 90% of the respondents (N = 102) agreed or strongly agreed that they felt part of a learning community when taking online courses (M = 4.27, SD = 0.72, where 1 = *strongly disagree* and 5 = *strongly agree*). About 60% of the students never felt lonely while taking the classes. However, about 25% did, in fact, feel isolated.

Correlation analyses were conducted between student feelings of sense of learning community with other items in the survey (see Table 1). Positive correlations were found between feelings of belonging to the learning community with learning engagement (r = .62, p < .01), feelings of having learned a lot (r = .60, p < .01), and overall satisfaction with the quality of online courses (r = .61, p < .01). This result indicates close relationships exist between the sense of learning community in this environment and the perceived learning outcomes and quality.

In addition, moderately positive relationships were found between feelings of belonging to the learning community with several items (item 5, 6, 7, 8) related to social presence in online courses as shown in Table 1.

The results also showed that sense of belonging to a learning community was positively related to the behavior of instructor presence and facilitation (item 9, 10, 11) as shown in Table 1. Such findings indicated that aspects of teaching presence, such as facilitation and feedback, were linked to students' feeling of a sense of community.

Additionally, only 9% of the students surveyed responded that they ever thought about dropping out of the online MBA courses. Equally interesting, a correlation analysis revealed that the student's intention to drop out of the program was negatively correlated with the perceived helpfulness of the instructor's facilitation (r = −.51), the student's sense of community in the class (r = −.47), his or her comfort level with reading messages or materials online (r = −.40), and the student's engagement in learning (r = −.40), where the significance level was .05.

INTERACTION STRATEGIES USED IN ONLINE COURSES

As we have discussed in the literature review, strategies to promote collaboration, instructor presence, and social interaction have the potential to foster a sense of learning community. Table 2 displays the frequencies of major strategies used in online courses related to collaboration and interaction.

The content analysis suggested that compared with synchronous text-based forums that were in low to moderate use (41%), asynchronous discussion forums were employed in the vast majority of online courses (85%). Interview findings revealed that many instructors preferred asynchronous conferencing discussions over synchronous communication to facilitate online discussion due to the flexibility of accessing online discussion forums and the capability of this communication mode to mediate a learner-centered cognitive discourse and knowledge negotiation. For example, one instructor commented, "The discussions helped [building a sense of community] and I

TABLE 1
Correlation Matrix of Sense of be Longing to a Learning Community With Other Variables Based on Student Survey

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
1. Sense of belonging to a learning community	1										
2. Learning engagement	.62**	1									
3. Feeling of having learned a lot	.60**	.56**	1								
4. Overall satisfaction	.61**	.65**	.73**	1							
5. Perceived familiarity with other students	.44**	.36**	.27**	.39**	1						
6. Not feeling isolated	.41**	.29**	.33**	.40**	.34**	1					
7. His or her comfort level with reading messages or materials online	.42**	.29**	.31**	.33**	.24*	.30**	1				
8. Perceived emotional presence of other students through online interaction	.31**	.29**	.25*	.24*	.33**	.21*	.32**	1			
9. Instructor offering regular feedback	.46**	.33**	.42**	.35**	.43**	.24*	.40**	.29**	1		
10. The perceived helpfulness of the instructor's facilitation	.50**	.42**	.37**	.47**	.45**	.16	.37**	.28**	.43**	1	
11. Informative feedback on learning performance	.44**	.30**	.48**	.43**	.31**	.35**	.26**	.33**	.50**	.36**	1
12. Intention to drop out of the program	−.47**	−.40**	−.51**	−.51**	−.34**	−.30**	−.40**	−.28**	−.35**	−.51**	−.43**

Note: *$p < 0.05$, **$p < 0.01$

TABLE 2
Frequencies of Collaboration and Interaction Strategies in 27 Online Courses

Instructional Activities	*Instructional Activities*	*Percentage of Usage (N=27)*
Collaborative discourse	Asynchronous class conference	85%
	Synchronous class conference	41%
	Participation in online discussions as part of assessment	67%
Instructor presence	Course announcement	100%
	Email communications with students	100%
	Instructor's active participation in class discussions	44%
	Instructor participation in team discussions	4%
	Virtual office hours	11%
Virtual team	Team-based learning activities	81%
	Team deliverable	78%
	Small team discussions	41%
	Interteam feedback/critique	15%
	Peer evaluation	19%
	Team membership change	7%
Social interactions	Personal profile	100%
	Student online coffee house	7%
	Student introduction forum	7%
	Bulletin board to express student expectations	15%

Note: "Instructor's active participation in class discussions" was defined as posting at least two responses in each discussion forum.

thought people were very cordial toward each other." Several instructors noted the effectiveness of asynchronous discussions in engaging online learners in a professional dialog. For example, one instructor noted, "One of the things that I found that I think was pretty effective was when we got off script on occasion and talked about particular issues that were more practitioner oriented."

On the other hand, the low use of synchronous chat was attributed to a lack of typing or facilitation skills and, more importantly, the inflexibility of real-time interaction that might result in limited online member participation due to the difficulty of scheduling a time that accommodated all the students. For example, one instructor voiced his concern in the following comment: "My understanding of the chat rooms is that's more real time discussion and we just really had a group of people that it was difficult to get all at one time." However, several students' comments suggested that effective use of chat rooms in several courses enhanced the sense of community in online courses. For example, one student noted that "Only in the Quantitative [Analysis] course, professors used to hold lectures (literally) in chat rooms at specified times. That was the only real learning community experience so far."

The results indicated that all instructors (100%) seemed to highly prefer personalized e-mail communication in providing feedback and answering questions over other forms of communication with students. Announcements were used in all the courses (100%), most frequently to broadcast course related news. The survey results confirmed that regular course announcements and feedback was positively correlated with the feelings of sense of community ($r = 0.46$, $p < .01$). As noted subsequently in interviews, online instructors strongly valued the immediacy of providing just-in-time feedback through e-mail. Com-

pared to personalized e-mail interaction, the rate of instructors' participation in class discussion was relatively low. Only slightly more than half the courses that used asynchronous discussion forums had the presence of online instructors.

Virtual team activities (81%) were used in the majority of courses. The majority of courses (78%) used common team deliverables to encourage shared goals and close collaboration. However, the majority of the courses (93%) that used virtual teaming did not change team membership throughout the quarter, and few courses (15%) used strategies to promote classwide team interactions. (As we will discuss in detail in the section on qualitative findings, encouraging group work experience through a common goal or deliverable did promote a stronger sense of community in the working group but not necessarily at the class level.)

Compared with more content-based online discourse, extremely few courses used non-content-related strategies to establish familiarity and social bonding among online learners. For example, social icebreakers were used in 7% of the courses. Similarly, only 7% of course instructors provided an online coffee house for informal discussion. Fifteen percent of the courses used bulletin boards as a place for members to express course expectations. Interview findings from students and instructors supported the usefulness of social interaction strategies in boosting interpersonal relationships and positive interactions among students. For example, one instructor stated, "I had an introduction forum at the very beginning of the course where people wrote in and introduced themselves and so forth, and then several other discussions where I saw that they were talking to each other."

Participants' Perceptions of Community Building in Online Courses

Necessity to Build Learning Communities. There was a wide range of attitudes toward the importance of establishing a learning community in these online MBA courses. Overall, most instructors were not community-minded. They did not recognize the role of having a sense of community in their online courses. Corroborating with our content analysis results, the interview findings indicated that instructors strongly preferred to use e-mails or phone calls to provide personalized assistance to online learners instead of taking a progressive role in facilitating a community of learners wherein collaboration and the learner-centered process is the key to learning. For example, one instructor commented, "So I really encouraged the students to contact me in any way that they felt comfortable. I sort of gave them many options. But as far as creating a sense of we're all here at this moment, I did not." Another instructor said similarly, "Well, I think it's important [to building a sense of community] … The teams provide an opportunity to do that, whether or not it has to move to the class level, I'm not so sure. It probably is useful, but I'm just trying to think about why that would help beyond."

A few instructors did not think that a sense of community is a relevant concept for online learning because they believed that the advantages of online learning are flexibility and self-paced learning. Considering the students' multiple responsibilities, putting effort into building a sense of community seemed to be an extra burden on both the students and instructors. For example, admitting that he did not feel a sense of community in his course, one professor commented on the necessity to build a sense of community in online courses: "It's not necessary. It's irrelevant. Most of these [students] are people working by themselves. They are people who hold down a regular job; they're really not interested in trying to build social connections or anything like [that]. It just gives me what I need to know, I don't have time for that stuff." Another instructor was concerned about the extra time and effort community building required. He stated, "I certainly don't want to do any more; even if they offered me to do more I wouldn't do it. All of

those kind of interactive stuff is time that we can spend doing other work."

On the one hand, a few instructors were well aware of the needs of creating learning communities in online courses and indicated it was important for students to engage in a constant idea exchange and dialogue to understand the complexities of business issues. Those instructors usually seemed to demonstrate a strong empathy to the social needs of online students. One instructor had this to say: "What I have found is that they crave being a class. They crave thinking of themselves as a group studying this together, so I will be using their names to either applaud or not, thank you, Rich, for saying that, or Bless you, Irene, finally somebody has said this. They will come up and do the same, so they'll be complimenting one another, while I'm not there, complementing one another.

Students' perceptions of the role of learning communities in online courses also showed variance. Many students desired to get to know their peers better so they could obtain social and academic support when needed. A few others seemed unconcerned about interacting with other students. Their attitudes seemed to be associated with the lowered social expectations when studying online and also personality differences.

For example, the following quote demonstrates the importance of shared experiences in an online program: "I think it is very important that students feel they are in it together, for both emotional and academic support. It is not easy to get through this program since it is very demanding. And only students who are in the same program would understand the difficulties."

However, some students perceived the lack of interaction as an expected tradeoff of online learning experiences. For example, one student commented, "I'm not having as much fun as I would at a regular program, and, again, that's only revolving around social activities, that's really it. I feel like networking goes along with that. I think you meet some really neat and interesting people, and I'm passing some of that up, but, at the same time, I still get to work and continue my career, so what I'm passing up is justified."

It should be noted that both instructors and students seemed to have narrowly defined learning community as purely social network or social "buddies" that were established among students but did not necessarily influence the overall learning outcomes.

Preexisting Community. Many instructors noted that students had a strong desire to work together with people from previous communities. For example, even though a professor did not think it was necessary for building community in online course, he did feel that the students would like to work with members of their previous social network. He commented on this,

"So there are some students that do like to work together but normally they're people who know each other before they come to class. Other than that the class is just give me what I need to know as quickly as possible."

Another instructor mentioned the students from the same corporation who had previously worked with each other requested to work with these same members. He said, "But, that I can see now is a potential issue, they are comfortable doing this in a cohort, they want to be able to talk to their group of 30 or 32 … it's easier to teach students who come in with a sense of community because they feel as if, I think, they are part of a team, whether or not they're actually a group in my class, they're part of a team from [company name] and they want to do well."

Students' interview results showed existing social networks that were either from their previous work company or from prior group work experience in online courses were key sources of gaining academic or emotional support.

Social Presence in Online Courses. The majority of online instructors regarded the low social presence afforded by the asynchronous technology as a barrier to establishing social rapport in online courses. The instructors were frustrated with impersonal environments that were deprived of tacit social and visual cues in

an online environment. Such environments made it difficult to form an impression of online participants, thus making it almost impossible to establish intimacy among students and instructors. For example, one instructor expressed his concerns in the following comment: "That's one of the difficulties. It's a very impersonal environment whereas the face-to-face is much more personal. You can develop a rapport with a student. You see the interaction that's going on between people and you can use that in a teaching environment. That's much more difficult to do in an online environment and that's one of the things that I feel is missing from the online environment."

A few instructors recommended the improvement of existing technology to build technological attributes to promote social identity in the online learning space although they realized that it might not be a perfect solution. For example, one instructor stated, "But, [in]conversation with him directly or indirectly, cued the thought of sort of talking heads—just animation graphics, maybe—and that would be artificial but nevertheless if we could inject something like that then peer team level meetings would appear to install identity maybe a little bit more robustly. Deeper, it's still pseudo-personal but maybe just a little more personal."

The student survey results suggested that the social presence and familiarity among the students in these online courses was not very high. Almost half of the students (49%) could not saliently feel the emotions or feelings of other students in their online courses. The majority of the students (over 70%) indicated they did not really know their fellow students and the instructors well when taking online courses. The interview findings of students revealed that a low sense of social presence created barriers for online interaction and collaboration, as noted in the following comment: "Because we don't understand each other's personalities and we've only had a very short amount of time to meet one another, so for me the most difficult part of, and the worst part, the hardest part, is to try and understand who these other people are."

However, as noted subsequently, students seemed to have higher tolerance of the impersonal nature of online media itself, but attributed the low social presence to the lack of social structures to promote identity formation and socioemotional ties in the online courses. As the following quote indicates, several students recommended intentionally designing social interaction strategies and allocating a sufficient amount of time to establish familiarity and interpersonal relationships. For instance, one student stated that "I think one of the biggest things that could be done is to either extend the length of the in-residence or do a lot more ice breaking activities because there is a lot of ice."

Importance of Group Work. Both students and instructors agreed on the importance of group work in building learning communities. Although online MBA instructors preferred to use virtual teams for reasons such as simulating the real business world and developing real skills, they did not intentionally structure any team interactions for community building purposes. However, retrospectively they thought they helped build a sense of community among online learners by encouraging group learning experiences through a shared task goal. For example, one instructor commented as follows about group works: "In some cases, they're from the same company and the same location, but in other cases, they're in the same company and they're in totally different parts of the world. So I don't know whether they know each other or not. But at least with the teams I create a sense of community with four or five people."

Student survey results also showed the positive impact of teamwork on their learning experiences online. Eighty percent of students felt that group work was helpful for their learning ($M = 4.22$, $SD = 0.91$). Approximately 93% of the respondents felt that sharing information and giving peer feedback on team projects contributed to student learning ($M = 4.17$, $SD = .63$). Approximately 86% of the respondents

felt collective knowledge is created through group work in taking online courses ($M = 4.18$, $SD = 0.8$). Students frequently mentioned that they felt a sense of community within their work groups. However, they did not think that a sense of group community can be projected as a sense of community across an online course because there are few extensive interactions with the rest of one's classmates outside of the group members. For example, one student's comments related to this issue is included here: "I think we're all going through the same thing in the course and in reading what the other classmates are thinking, whether it's different or the same, it kind of, yeah, it forms a kind of community, but I think the major community that we do form is with our own team members."

Further analysis of students' interview findings suggested that sometimes the small group community was highly task oriented. Camaraderie and trust might never develop in such highly task-oriented settings and within the short duration of most online courses.

DISCUSSION

The present study revealed evidence of a significant relationship between sense of community and perceived learning engagement, perceived learning, and student satisfaction. In addition, the study also found a relationship between students' sense of community and lowered feelings of isolation as well as reductions in likelihood that they will drop out of their online courses. These results are consistent with the findings from previous studies that also found a significant relationship between classroom community and perceived learning (Rovai, 2002c). This study also added to the evidence that supports the importance of community in reducing course attrition rates (Rovai, 2002a, 2002c; Tinto, 1993).

As noted subsequently, in addition to this relationship between sense of community and learning quality, several important themes emerged from this study.

Community Awareness

The findings of this study suggested a weak awareness of online community and low value on its learning impact. This result was highly similar to those of Conrad's (2004) study. As with her work, there was limited awareness of the possible value of learning community to online learning and a general lack of an active social role of online instructors in facilitating a learning community. In the present study, the weak community awareness seems to have resulted in a low level of social presence in online courses as reported in the survey of online students.

This result indicated that although the concept of a sense of community is widely acknowledged in online education research, its value may not be as readily accepted in the reality of existing practices in many online programs. With both online instructors and learners having competing roles within their respective lives, they need to be convinced that the benefits of a learning community are worth the extra time to invest in their creation and maintenance. Not too surprisingly, existing research with regard to the benefits of community seems to be mixed and in need of further large-scale testing (Misanchuk, 2003). Data from the present study indicated a need to further explore the relationship between actively facilitating learning communities in online courses and high quality learning.

Technology Versus Pedagogy

An interesting finding from this study is that both students and instructors felt a low level of social presence in online courses due to the nature of asynchronous text-based technology. However, instructors seemed to resort to technology as a solution, whereas the students stressed the importance social activities as a solution to heighten the level of social presence and collegiality in online courses. The dichotomy of technical solutions and social solutions to the development of online learning communities is worth noting. It

seemed that at first glance, a high media-rich technology can immediately raise the level of social awareness by exposing the image or identity of online learners. However, this solution may be cost prohibitive for most online programs and, worse still, may be highly superficial.

As we discussed, a deep trust or spirit of community lies in the commitment and mutual engagement of community members. Fundamentally it lies in the pedagogical or socially supported interactions rather than in technology itself. The present study found that many features of the available online technologies were not sufficiently explored to promote such social presence using established pedagogical practices. For example, a simple opening activity that asks students to introduce themselves and their previous experience may help establish the familiarity among students. A social acknowledgement in online conferencing such as "Hello" or "Glad you could join us" can help students feel part of a learning family. However, our content analysis indicated that there was a lack of such social prompting in the online discourse in general. This result also indicated an urgent need to develop social skills of online instructors if a community of learners is planned.

Social Skills

The present study indicated several limitations related to the social skills of online instructors. Similarly, Wilson et al. (2004) noted that it is important for online instructors to "model community participation skills and values, including turn-taking, netiquette, thoughtful responses to peer's posts, and organization and facilitation of community events and chat. They should actively monitor the community discussions to answer questions, resolve conflicts, and guide discussion as needed." However, in this study, we found such roles were absent in half of the online courses. During the interviews, we asked how instructors would facilitate online discourse. Somewhat surprisingly, many instructors admitted that they lacked skills in facilitating an interactive online discussion and creating a sense of class community.

In addition, the facilitation of class community may be limited by the instructors' lack of using strategies for cross-pollinating virtual teams for a classwide interaction. Without cross-team interaction, it is unlikely students will naturally feel connections to other students when they mainly interacted within one team during the course. Although maintaining one team throughout the course is a reasonable strategy for semester-long projects, other strategies such as classwide discussion or ad hoc groups should be used to connect students with other class members other than those in the working groups.

Different Levels of Community

Although the survey results indicated that students in general felt a sense of community in their online MBA courses, the interview findings suggested that the sense of community may come from the group or program level rather than from the course level. The findings of the present study also confirmed Brown's (2001) study that found different levels of community existing in online courses. Students may feel a strong sense of community at the group level through extensive team collaboration but not feel a sense of community at the course level. This study also corroborated Hill, Raven, and Han's (2002) study findings—that the impact of community building strategies seemed to occur more readily and faster in small teams. Students may have much stronger relationships with small collaborative groups and virtual teams than with the larger class group. Such team bonding and social networking may be due to the close networks and shared knowledge that forms for building joint products and supporting each other to complete challenging tasks.

Both Brown (2001) and Wilson et al. (2004) stressed the importance of considering larger contextual factors such as students belonging to a program. They argued that

although it may be difficult to establish a deep sense of community due to the brief duration of an online course, the sense of learning community is worth pursuing, as the process of building community itself enhances effective collaboration and communication, learner engagement, and social networking that will eventually benefit both participants as well as the online program.

Based on our findings and discussions, we believe that to design online courses for a learning community, a more systematic instructional plan needs to be adopted; one that integrates learning community across different levels.

CONCLUSION

This study added further evidence that the there are positive relationships between sense of community and perceived learning gains, learner engagement, and satisfaction. Moderate relationships were also found between sense of community and social interaction activities. The interview findings revealed mixed perceptions with regard to the values and strategies for building learning communities in online courses. For both online students and instructors, it seemed that there was no uniform agreement regarding the necessity to build communities in online courses. The existing technology may still be a barrier without the supportive structure to enhance the bonding within the online community. This study also confirmed that three levels of community—group, class, and beyond class—exist in online courses.

The results of this study remind online educators that building learning communities in online courses may not be as intuitive as advocates and promoters might suggest. Communities cannot develop on their own without careful planning, continued support, and intentional tasks and activities. Instructors may fail to value the role of online community either within the present class or for long-term relationships, student satisfaction with the program, and overall persistence to complete it. Findings from this study indicated a need for a systematic effort to build a sense of learning community, starting from perceptual changes from online instructors to providing substantial training support and best practices for community building to programmatic plans for three levels of community building.

The results of this study highlight several areas for future research. First, there is a need to conduct similar studies in other online programs or disciplines. Understanding the perceptions of online participants toward community building is important to get them to buy into community building goals and activities. Second, there is a need to examine the interaction effect of technology and pedagogy within community building since there is a dearth of research on the technological and pedagogical variables necessary to foster virtual communities (Bonk et al., 2004). Third, there is also a need to understand the development of the three levels of communities (group, class, and beyond class). How do they interact? Which level is most important? By answering such questions, we will be better able to understand the complexities of community building in online courses and provide enhanced strategies, advice, and training for online instructors to plan and facilitate community building.

This study has several key limitations. First, the participants of this study were limited to one online MBA program and only a small sample of participants from that program were selected for interviews. As a result, generalizations of the findings presented here to other online programs or disciplines should be cautious. Second, the correlation analyses of this study (e.g. the relationship between sense of community and learning engagement) should not be misconstrued as causal relationships between a sense of community and other variables in the study. Correlation is not causality. As a result, controlled experimental studies that examine the causal effects of a sense of community would strengthen the findings of the present study. Third, the time duration of

this study was too short and limited to thoroughly investigate a complex sociocultural phenomenon such as a sense of community in online environments. A longitudinal study could be conducted to examine whether perceptions of sense of community is associated with change in time. Fourthly, the study used a program evaluation survey to measure students' perceptions of sense of community. A more vigorous and valid instrument could be employed in the future to measure sense of community as a multidimensional construct.

In summary, as a program level study, the generalizations from the results in this study may be limited. However, the analysis of emerging issues and recommendations raised in this study provide highly valuable information and insights to assist distance educators and policy makers to make educational policies and practices for successful and engaging online learning experiences. We hope we have shed some light on variables that can positively influence the sense of community in online environments.

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