

Online Learning: Social Interaction and the Creation of a Sense of Community

Joanne M McInnerney

Faculty of Informatics and Communication
Central Queensland University
Bundaberg, Queensland 4670, Australia
cowlrick@optusnet.com.au

Tim S Roberts

Faculty of Informatics and Communication
Central Queensland University
Bundaberg, Queensland 4670, Australia
Tel: +61 7 4150 7057
Fax: +61 7 4150 7090
t.roberts@cqu.edu.au

ABSTRACT

This paper centres on the sense of isolation that online study may engender among learners, a factor often ignored by many educators, but one that may make the difference between a successful and an unsuccessful online learning environment for many students. The importance of a proper appreciation of the learners' social context is stressed, as is the concept of the 'virtual self' that individual learners may choose to portray during online communication.

The authors suggest three protocols that can be built into the fabric of online courses in order that a sense of community may be enabled to exist, and productive social interaction can occur. These are (1) the greater use of synchronous communication facilities (in addition to, rather than instead of, asynchronous ones), (2) the deliberate design and inclusion of a 'forming' stage, or 'warm-up' period, incorporated as an essential component into the course structure, and (3) a much greater emphasis on the provision of (and adherence to) guidelines for successful online communication.

The paper concludes by suggesting that by creating an online sense of 'self', the participants of an online course can alleviate feelings of isolation, and create an online community that assists the learning process.

Keywords

Asynchronous communication, Communicating online, Community, Forming stage, Insider, Outsider, Self, Synchronous communication

Introduction

For students studying in an online environment, social interaction with peers and educators can often be an exercise in frustration. If such frustration is to be minimised, much thought needs to be given to the methods of communication that will be utilized, so that the online environment fulfils the human desire for social interaction. Asynchronous communication may not give the immediacy that is required for successful social interaction. The lapsed time that can occur between question and answer may not assuage the tyrannies of distance, time zones, and isolation from which learners may suffer.

The inability to interact freely with other students may exacerbate feelings of aloneness, and provide a less-than-ideal environment for successful study. Techniques such as the incorporation of protocols and guidelines for social interaction into the learning concepts of the online environment (Curry, 2000) can be utilized to minimize the feelings of aloneness that affect many students.

What is Isolation?

Isolation or the feeling of aloneness that many students may feel is the hardest symptom for educators to combat (Palloff & Pratt, 1999). This feeling of isolation is not always generated simply because of geographical distance

- even on-campus students undertaking an online course may experience a feeling of isolation from the rest of the courses participants.

Many issues are cited in the literature that may cause students, undertaking online education, to re-consider their enrolment – such as technical problems, computer illiteracy and cost (Fyfe, 2000). It would be reasonable to suppose that all such factors, compounded perhaps by a difficulty with mastering the course concepts, are likely to feed in to feelings of isolation.

Daugherty and Funke (1998) indicate that this issue of isolation is ‘an important criterion for student satisfaction’ with the web-based online course. This feeling is often ‘based on the physical separation between student and instructor’ and is one that educators may be able to ameliorate, but are unlikely to ever be able to successfully eradicate (Daugherty & Funke, 1998).

Galusha (1997) points out that:

‘Support for distance learners should not be overlooked when planning distance programs (as) ...Students ...want to be part of a larger (learning) ...community.’

Isolation can influence a student’s attitude to online learning, and as such needs to be given greater consideration when designing web-based courses. Wegerif (1998) illustrates the frustrations that can so quickly become alienation by quoting from one of the students involved with his study of an Asynchronous Learning Network course:

‘It is a cold medium. Unlike face to face communication you get no instant feedback. You don't know how people responded to your comments; they just go out into silence. This feels isolating and unnerving. It is not warm and supportive.’

Curry (2000) states that:

‘...the attrition rate of online learners, ...(is)... brought about in large part by a sense of isolation’

thereby backing Wegerif’s student in the belief that the online medium can be a cold one. This view is further reinforced by Palloff and Pratt (1999: 29).

Cereijo, Young & Wilhelm (2001, p37) also indicate that isolation can be a problem with web-based learning.

‘Participants who expressed extreme frustration with isolation and technical problems also:

- 1.were extroverts ...*
- 2.were visual learners ...*
- 3.lived near campus*
- 4.had some serious technical problems, and/or*
- 5.were inexperienced computer users ...’*

Despite this, Cereijo et al (2001) are among many who indicate that for those students who are working and/or have families, the concept of online education is a preferred option, as their other commitments may prevent them from attending on-campus classes.

Online education is often chosen for its convenience and flexibility, and the resulting enhancement of the learning process that is frequently seen as a perceived outcome for the student. Although no one style of education is going to be successful for all students, it is important that educational bodies and educators appreciate that effective support may be given to distant online learners by the implementation of, and adherence to, appropriate communication protocols.

Synchronous and Asynchronous Communication

Many authors stress the importance of asynchronous communication: for example, Aitken and Shedletsky (2002) state that they:

‘...find chat and instant messaging to be less useful for group interaction than email or messageboard communication’

and

'... that messageboard and email discussion lend themselves to more serious, on-task discussion than does online chat.'

However, both types of forum are often required for the successful operation of an online course. Wang and Newlin (2001) advocate the simultaneous use of asynchronous and synchronous communication for an online course to be successful:

'...we believe that the type of interaction fostered by online chat rooms will enhance and clarify the information that is gathered via asynchronous interactions. Both types of information delivery systems are needed.'

Further

'... we think of asynchronous communication as the "backbone and muscle" for course content, online chats are the "heart and hustle" of our Web-based classes.'

They assert that asynchronous online courses often have a one-way flow of information between the lecturer and student, and are a passive method of teaching, which simply turns the Internet based online course into another form of distance education. By utilizing synchronous chat rooms, a sense of social presence develops that often leads to a greater sense of community.

The Importance of the Social Context

The social context of the learner is a factor in determining the success or otherwise of study. Few could dispute this, yet it is often ignored by many educators. Matel & Ball-Rokeach (2001) are of the opinion that the:

'...(the) theoretical corollary... is that the social effects of the Internet should be placed in the framework of people's sociostructural connections, including cultural, ethnic, social, and local-physical circumstances.'

The assertion that the study of social interaction in the online medium cannot be separated from an investigation into the social interaction that occurs in the everyday world is of course a valid one. Although the Matel and Ball-Rokeach (2001) study was undertaken outside of the educational environment, it is equally relevant to those seeking to learn online. Thus, educators need to have an appreciation and understanding of the non-academic social communities of the learners.

The notion of a learning community is relevant and Tu and Corry (2001; 2002) define such a learning community as:

'... a common place where people learn through group activity to define problems affecting them, to decide upon a solution, and to act to achieve the solution'

The sense of self alluded to by Tu and Corry (2001; 2002) is not given adequate coverage in much of the current research into online learning. This failure leads to an unsatisfactory understanding of the online community by educators.

A Sense of 'Community'

The use of the term 'community' most often refers to a place-oriented concept. The two most common elements, according to the Dictionary of Sociology (Marshall, 1998: pp. 97-98), in this concept are: (1) a gathering of people within a singular social structure, (2) a sense of belonging to a social structure. In today's world, the meaning of 'community' is changing from geographic specific to relationship specific and it is becoming increasingly difficult to define the term (Wilson, 2001).

Clifton (1999) points out that the level of trust between all involved in the educational process has to be high if a sense of community is to develop.

'...when people do not trust each other, and when they do not share norms, obligations, and expectations, as is presently the case in many universities, the community is not likely to develop, and the self-interest of people in their status is likely to predominate.' (Clifton, 1999)

In the face-to-face classroom, students are expected to absorb knowledge and social interaction is not given a lot of consideration (Palloff & Pratt, 1999). On campus, students tend to assemble and interact before, during and at the conclusion of class. This is where friendships are formed using a myriad of communication styles and activities. Conrad (2002a) states that:

Online educators who understand that safe, nurturing environments are foremost in contributing to learners' happiness, sense of comfort, and ultimately rates of completion place the creation of community high on their list of priorities.

Yet, conversely she found that the students in her study 'did not understand the concept of community' (Conrad, 2002a; 2002b). The question though is whether this really is unusual. In the online 'classroom', students and instructors are represented by text on a screen – they have become disembodied entities and in the majority of cases will never meet face-to-face.

With the text-based communication that occurs in the online learning community, it can be easy for that text to be misinterpreted (Curtis & Lawson, 1999) due to the lack of visual expressiveness by the participants involved. This misinterpretation, although it may occur unintentionally, can often either lead to a break down in the community's cohesion or be the reason behind the lack of community.

Wegerif (1998) suggests that some students, who he has termed 'insiders', successfully complete and enjoy a course, while the students who do not complete or enjoy a course are termed as 'outsiders'. The difference between the two terms may be summarised in the following way:

- An 'insider' is comfortable with the medium being used during the course and is confident in its use.
- An 'outsider' is uncomfortable with the medium being used during the course and is not confident in its use.

At the beginning of a course, all students should be considered 'outsiders'. This gives them the impression that there is a threshold they need to cross to become a part of a successful 'insiders' domain.

A survey given at the conclusion of Wegerif's (1998) ALN course showed that one student was nervous about using her computer, and about entering the online community. As the course progressed, the nervousness dissipated resulting in her actively seeking out the company of her online community; this implies that she crossed the threshold and became an 'insider'. Another stated that she felt uncomfortable in conferencing sessions, because she could never catch up when sessions were missed. She also found the online aspect of the community unfriendly and cold. The implication here is that she never crossed the threshold and stayed an 'outsider' for the duration of the course. Wegerif (1998) further stated that:

'...this threshold is essentially a social one; it is the line between feeling part of a community and feeling that one is outside that community looking in'.

The use of synchronous chat rooms and the communication styles they represent may have made the progression from 'outsider' to 'insider' easier, as would tighter control on the communication guidelines required for any structured online course.

Technology supported learning communities can be fostered and assisted by educators to combat the feelings of isolation that many experience. Wang and Newlin (2001) advocate the use of synchronous chat rooms as a means of fostering communication and interaction between lecturers and the students in the online course because:

'Regardless of the exact method of interaction, asynchronous communication is slow and limits the type and amount of communication between instructor and student. Furthermore, this type of communication tends to remove any feelings of connection between the student and instructor.'

Wang and Newlin (2001) also discuss the use of synchronous communication in the facilitation of online courses and the impact it can have on the social interaction of the students and the decrease in isolation that occurs for both students and educators. They:

'...believe that online chats fulfil the promise of computer mediated communication: it offers the opportunity for people who are geographically distant to feel interpersonally close to one another.'

The students who participated in Wegerif's (1998) case study suggested that a 'warm-up' period be incorporated into the course structure. They wanted an informal setting where they could become familiar with each other's communication style, online personalities, level of commitment and learn how to develop a presentation of 'self'

(Tu & Corry' 2002). On-campus students already experience this in the time spent interacting before, during and after class (Palloff & Pratt, 1999).

The Presentation of the 'Self'

In educational systems the online community is one with set agendas and set rules of conduct and protocols, all of which have to be taken into account when analysing the concepts of social interaction, social community and 'self'.

The virtual 'self' can be different from the 'self' presented to the off-line world, but the differences that occur are likely to be slight, unless the participants are wilfully acting out of character. These differences though do not make that 'self' any less relevant to the study of online learning communities (Marshall, 1998: 589-590). Tu and Corry (2001) when discussing online communities state that:

'Participating in an online community creates uncertainty among its participants regarding which roles they should play, what scripts they should follow, how they should behave, and what are the appropriate interactions with fellow members.'

In sociological terms, all humans present themselves to others in a manner that will gain them acceptance within the community's norms – performing to 'scripts' (Tu & Corry, 2001; Goffman, 1990) helps them do this.

The simplest method of explaining the 'script' scenario is to look at our everyday lives and our conduct of them. Our sense of 'self' is bound up with the 'script' we read from and the role we play, whether it is as a worker, husband, mother, friend, or whatever. All of us follow the 'script' of the moment:

'... 'selfs' are presented for the purpose of interacting with others, and are developed and maintained with the cooperation of others through the social interaction. The practice of following certain scripts is a critical element in the development and portrayals of roles played out on various stages of the drama of life in which communicators have to perform.'
(Tu & Corry, 2001)

Of course, all of this is not to deny that, for some students, social interaction during the learning process is something of an anathema. They consciously prefer to study in isolation, without presenting a 'self', or performing a 'script' (except perhaps for an off-stage one), at all. A spirited defence of such students has been recently put forward most eloquently by Hopper (2003).

The Art of Good Communication

The use of both asynchronous and synchronous forums for communication, combined with a 'warm up' or 'forming stage' allows students to become comfortable with their sense of 'self' and also to develop their own online personality. All of this aids them in their learning and can lead to decreases in the attrition rate of the online course. They make the transition to 'insiders' rather than remaining 'outsiders'. Learning can and should be pleasurable, no matter how serious the content.

'Online discussion provides a clearly unique way to experience communication, while simultaneously prompting discussion about that experience.' (Aitken and Shedletsky, 2002)

At its most fundamental level, teaching is a process of communication (Conway, 1996) and one that all educators have to understand. Students:

'...have to be there with you, meeting each point, thinking ahead, trying to get to the consequences of what you've said and testing their own knowledge all the time' (Conway, 1996)

The educator has to create an effective learning environment by first learning how to communicate and socially interact with the students and it is the very act of the 'warm up' period which makes this possible. Carbone, Conway and Farr (1996) state that:

'...teaching is the communication of the facts, ideas, skills, and techniques particular to a discipline ... teaching is the act of communicating the "comprehensibility" of the subject matter - demonstrating a mastery that reassures the students that they too can understand and master the material.'

Three Protocols To Aid Online Social Interaction

Three simple protocols:

- the use of synchronous communication;
- the introduction of a forming stage; and
- the adherence to effective communication guidelines

are suggested as an aid to the development of social interaction and community in the online environment. The implementation of these may be educationally beneficial, but expensive in terms of time and resources. The extent of their implementation may therefore depend to a significant extent upon the level of commitment of the college or university to the provision of the best-possible learning environment.

1. *The use of synchronous communication*

The implementation and operation of synchronous communication via the use of software tools (such as WebCT, Blackboard, etc.) is likely to enhance social interaction within the online course.

Synchronous communication can be an effective method of ensuring that all students are familiarized with assignments and tutorial topics, and questions and answers can be almost simultaneous, and can avoid repetition for the educator. Chat-rooms and other such forums are an excellent way for students to socialize, to assist each other with study, or to learn as part of collaborative teams. The intensity of interaction within these groups is likely to vary as the term progresses, assignments become due, and other factors intervene.

This is not intended in any way to negate the importance of asynchronous communication. Email and discussion boards are very important components of the online learning environment, particularly where the student cohort may include a large number of overseas students living in different time zones. It is notoriously difficult to coordinate synchronous chats even within a single country (due to work commitments and time zones etc.), and the problems become almost insurmountable when dealing with courses involving students from around the world.

To alleviate such problems, the educator may decide to allocate students to particular groups – given the consideration of time zone problems or work commitment – and to limit the size of the group to no more than the number one would have in a face-to-face group tutorial or workshop.

A successful online course may make use of both synchronous and asynchronous communication, which if properly structured and controlled leads to both the students and the educators creating a more enjoyable and productive learning and working environment.

2. *The introduction of a forming stage*

The forming stage is a warm up period, designed to assist the formation of a “sense of community”.

Synchronous chat rooms provide an ideal environment whereby students and educators can meet for initial contact, and the beginning of social interaction. Here all participants can be educated about the guidelines under which the room will operate, and assisted in understanding and effectively utilising the processes and resources to be used during the course.

One example of on-campus students building a learning community that will aid in social interaction is attendance at orientation. At most universities, orientation sessions are arranged for on-campus students, so that they may be introduced to the learning environment that they have joined. It allows students to meet others within their faculty (including staff) and develop friendships before study begins. It is at least plausible therefore to suggest that an orientation program would also be beneficial also to online students, as a means of building a sense of community in cyberspace. A timetable of synchronous and asynchronous discussion forums could be utilized to assist in this process.

Discussion on almost any topics (the latest movies, sporting results, etc.) can be utilized by the educator as a prelude to the building of trust and community that is essential to any successful online experience. This also

provides a means by which new students may be familiarised with such forums, and allows students and staff to find common areas of interest, and facilitate the ‘getting to know each other’ process (Palloff & Pratt, 1999).

Another support for a ‘warm-up’ period is that group development happens in stages, with the initial one being the “forming stage” (Tuckman, 1965; cited in Kemery, 2000) where students (and educators) tend to be excited and anxious about being new members of a group. Excited, because they are embarking on a new learning experience, and anxious, as to how they will fit into this new environment. Giving students and educators time to familiarize themselves with the new learning environment before actual study begins is likely to be advantageous to all parties involved.

The forming stage also gives educators the opportunity to conduct lessons on how to use the different forums with which each student must become familiar, and allows students who feel that they need additional help to gain the necessary skills and confidence required before the pressure of learning begins. Students who have used this environment before, and are therefore familiar with its protocols, may be able to be co-opted into helping their less experienced peers to learn how to use these communication forums effectively.

During this period, students may need to be encouraged to post introductions to the lists or chat rooms so that they can allow themselves to build an electronic presence within the online community (Palloff & Pratt, 1999). In order to maximize the advantages, the period should if possible include all students undertaking online courses that term. Such sessions may be run by each independent online educator, or as a combined effort by a team of online educators.

3. *The adherence to effective communication guidelines*

Foremost among these guidelines is the need for unambiguous instructions and communications from the educator to the students involved in the course. To this end instructions regarding both course requirements and communication protocols should be placed on the course web site. They then need to be reiterated at the beginning of term in a message sent to all students emphasizing their importance.

The moderators or facilitators of the synchronous and asynchronous forums are thus able to guide the communications to stop inflammatory messages (‘flaming’) from occurring and to keep the subject matter relevant to the course. The correct ‘netiquette’ is important for the effective operation of an online course (See for example <http://www.albion.com/netiquette/> & <http://www.fau.edu/netiquette/net/>).

If educators are to demonstrate their ‘mastery of a subject’ and inspire students to hope that they too will be able to master the material, they must first know how to communicate the information to the students. However, for successful communication to occur the following guidelines will need to be successfully implemented (Hurst, 1991: 11):

- ‘Understanding’ Ensure a limited use of jargon and complexity in instructions.
- ‘Common ground’ Do not digress from the objectives set in the course outlines.
- ‘Perception’ Realize that students are not experts in the area being taught.
- ‘Awareness’ Realize that students may be struggling with new ideas, concepts and technology.
- ‘Self-confidence’ Be self-confident but not arrogant when communicating with students.
- ‘Clarity’ Adhere to the K.I.S.S. principle – Keep It Short and Simple – where possible.

When communicating online, participants have to learn to fill in the blanks that are left when they are unable to ‘read’ the body language of the people to whom they are ‘talking’. Lewis (2000) asserts that it is:

‘... *helpful (to) engage in the W.R.I.T.E. way to communicate online. (W)arm, (R)esponsive, (I)nquisitive, (T)entative, and (E)mpathetic.*’

Lewis’ W.R.I.T.E. concept uses emoticons, warmth, promptness, and the ability to place oneself in someone else’s shoes. It would assist educators if they incorporated these concepts into the communication guidelines and encouraged the students to be W.R.I.T.E. in their communication in both synchronous and asynchronous forums. What Lewis did not, but should have incorporated into his concept, is the quality of (R)espect. This is a vital ingredient. All should give respect to the ideas of others, whether online or face-to-face, regardless of whether those ideas are right or wrong.

Summary

Often it is considered inevitable that students who study online will suffer a sense of isolation. This sense of isolation can however be minimized if forethought is given to the development of the online milieu by the educators involved.

Amongst the many methods which may be utilized to improve the development and therefore the interaction and socialization of students are the greater use of synchronous communication facilities (in addition to, rather than instead of, asynchronous ones). The deliberate design and inclusion of a 'forming stage', or 'warm-up' period, needs to be incorporated as an essential component into the course structure, and a much greater emphasis needs to be given to the provision of guidelines for successful online communication.

The development of an online community is of paramount importance, and can be achieved with the use of most synchronous communication software (such as WebCT and Blackboard). By so doing the educator can generate a feeling of trust amongst the students involved in online education. As suggested by Wegerif (1998), they become 'insiders' instead of remaining 'outsiders'.

Goffman (1990: 13) succinctly summed up the way people look at 'self' and the way that they socially interact:

'When an individual enters the presence of others, they commonly seek to acquire information ... or to bring into play information ... already possessed.'

By creating an online sense of 'self', the participants of an online course can be enabled to alleviate that feeling of isolation, and a truly online community can be created.

To help ensure that the creation of a sense of community has the maximum possible chance of success, the educator should implement and adhere to a series of communication guidelines. The guidelines formulated by Hurst (1991) are simple to follow and ensure that effective and clear communications occur. The K.I.S.S. principle applies very effectively to clear communication, and further helps to ensure that the three protocols for creating a sense of community elucidated in this paper are successful.

References

- Aitken, J. E., & Shedletsky, L. J. (2002). Using electronic discussion to teach communication courses. *Communication Education, 51* (3), 325-331.
- Carbone, A., Conway, D. M., & Farr, G. E. (1996). Techniques for effective tertiary teaching. 96/273, Department of Computer Science Technical Report CS 96/273, Department of Computer Science, Monash University, Melbourne, Victoria, Australia, Retrieved July 19, 2004, from <http://www.csse.monash.edu.au/~damian/papers/HTML/TeachingTechniques.html>.
- Cereijo, M. V. P., Young, J., & Wilhelm, R. W. (2001). Factors Facilitating Student Participation in Asynchronous Web-Based Courses. *The Journal of Computing in Teacher Education, 18* (1), 32-39.
- Clifton, R. A. (1999). The education of university students: A social capital perspective. *College Teaching, 47* (3), 114-118.
- Conrad, D. (2002a). Community, Social Presence, and Engagement in Online Learning. *A Dissertation*, Retrieved July 19, 2004 from <http://www.unbf.ca/education/welcome/people/conraddissertation.htm>.
- Conrad, D. (2002b). Deep in the Hearts of Learners: Insights into the Nature of Online Community. *Journal of Distance Education, 17* (1), 1-19.
- Conway, D. M. (1996). *Only Connect: Teaching as Communication*, Retrieved July 19, 2004 from <http://hawthorn.csse.monash.edu.au/~ajh/adt/resources/DamianAnecdotes.html>.
- Curry, D. B. (2000). *Collaborative, Connected and Experiential Learning: Reflections of an Online Learner*, Retrieved July 19, 2004, from <http://www.mtsu.edu/~itconf/proceed01/2.html>.

- Curtis, D., & Lawson, M. (1999). Collaborative online learning: an exploratory case study. *Paper presented at the HERDSA annual International Conference*, July 12-15, 1999, Melbourne, Australia.
- Daugherty, M., & Funke, B. L. (1998). University faculty and student perceptions of Web-based instruction. *Journal of Distance Education*, 13 (1), 21-39.
- Fyfe, S. (2000). Collaborative learning at a distance: The Human Biology experience. *Paper presented at the 9th Annual Teaching Learning Forum*, February 2-4, 2000, Perth, Australia, Retrieved July 19, 2004, from <http://lsn.curtin.edu.au/tlf/tlf2000/fyfes.html>.
- Galusha, J. M. (1997). *Barriers to learning in Distance Education*, Retrieved January 19, 2004, from <http://www.infrastructure.com/barriers.htm>.
- Goffman, E. (1990). *The presentation of self in everyday life*, London: Penguin Books.
- Hopper, K. B. (2003). In defense of the solitary learner: A response to collaborative, constructivist education. *Educational Technology*, 43 (2), 24-29.
- Hurst, B., (1991). *The Handbook of Communication Skills*, London: Kogan Page.
- Lewis, C. (2000). Taming the Lions and Tigers and Bears. In K. W. White & B. H. Weight (Eds.), *The Online Teaching Guide: A Handbook of Attitudes, Strategies, and Techniques for the Virtual Classroom* (pp. 13-23), Boston: Allyn and Bacon.
- Marshall, G. (1998). *A Dictionary of Sociology*, Oxford: Oxford University Press.
- Matel, S., & Ball-Rokeach, S. J. (2001). Real and virtual social ties: Connections in the everyday lives of seven ethnic neighborhoods. *The American Behavioral Scientist*, 45 (3), 550-564.
- Palloff, R. M., & Pratt, K. (1999). *Building Learning Communities in Cyberspace: Effective strategies for the online classroom*, San Francisco: Jossey-Bass.
- Tu, C.-H., & Corry, M. (2001). A paradigm shift for online community research. *Distance Education Journal*, 22 (2), 245-263.
- Tu, C.-H., & Corry, M. (2002). *Research in online learning community*, Retrieved July 19, 2004 from <http://www.usq.edu.au/electpub/e-jist/docs/html2002/chtu.html>.
- Tuckman, B. W. (1965). Development sequence in small groups. *Psychological Bulletin*, 63, 384-399.
- Wang, A. Y., & Newlin, M. H. (2001). Online Lectures: Benefits for the virtual classroom. *T.H.E. Journal*, 29 (1), 17-24, Retrieved July 19, 2004 from <http://www.thejournal.com/magazine/vault/A3562.cfm>.
- Wegerif, R. (1998). The Social Dimension of Asynchronous Learning Networks. *Journal of Asynchronous Learning Networks*, 2 (1), Retrieved July 19, 2004 from http://www.sloan-c.org/publications/jaln/v2n1/v2n1_wegerif.asp.
- Wilson, B. G. (2001). *Sense of Community as a Valued Outcome for Electronic Courses, Cohorts, and Programs*, Retrieved July 19, 2004 from <http://carbon.cudenver.edu/~bwilson/SenseOfCommunity.html>.