

Building Sense of Community at a Distance

Alfred P. Rovai

Volume 3, Number 1, April 2002

URI: <https://id.erudit.org/iderudit/1073000ar>

DOI: <https://doi.org/10.19173/irrodl.v3i1.79>

[See table of contents](#)

Publisher(s)

Athabasca University Press (AU Press)

ISSN

1492-3831 (digital)

[Explore this journal](#)

Cite this article

Rovai, A. (2002). Building Sense of Community at a Distance. *International Review of Research in Open and Distributed Learning*, 3(1), 1-16.
<https://doi.org/10.19173/irrodl.v3i1.79>

Article abstract

This article challenges the belief that strong sense of community is limited to the traditional classroom and proposes that the virtual classroom has the potential of building and sustaining sense of community at levels that are comparable to the traditional classroom. Drawing on research literature, the concept of learning community is applied to the virtual classroom by taking on the issue of how best to design and conduct an online course that fosters community among learners who are physically separated from each other. Course design principles are described that facilitate dialogue and decrease psychological distance, thereby increasing a sense of community among learners.

Copyright (c) Alfred P. Rovai, 2002



This document is protected by copyright law. Use of the services of Érudit (including reproduction) is subject to its terms and conditions, which can be viewed online.

<https://apropos.erudit.org/en/users/policy-on-use/>

Érudit

This article is disseminated and preserved by Érudit.

Érudit is a non-profit inter-university consortium of the Université de Montréal, Université Laval, and the Université du Québec à Montréal. Its mission is to promote and disseminate research.

<https://www.erudit.org/en/>

Building Sense of Community at a Distance

Alfred Rovai

School of Education, Regent University, Virginia

Abstract

This article challenges the belief that strong sense of community is limited to the traditional classroom and proposes that the virtual classroom has the potential of building and sustaining sense of community at levels that are comparable to the traditional classroom. Drawing on research literature, the concept of learning community is applied to the virtual classroom by taking on the issue of how best to design and conduct an online course that fosters community among learners who are physically separated from each other. Course design principles are described that facilitate dialogue and decrease psychological distance, thereby increasing a sense of community among learners.

Key Terms

Distance education, community, spirit, trust, interaction, learning, persistence, attrition, ALN, online

Background

There is growing acceptance for the view that educating students beyond the campus is a major element of a university's mission (Harris, 1999). This view is sustained by the enhanced capacity for efficient and widespread use of distance education through advanced electronic delivery systems. Many schools are moving rapidly toward the use of technology to deliver courses and programs at a distance. Several distance education models are presently in use, such as broadcast television, video and audio teleconferencing, and asynchronous learning networks (ALNs). Learners use computers and communications technologies in ALNs to work with remote learning resources, including online content, as well as instructors, and other learners, but without the requirement to be online at the same time. Arguably, the most common ALN communication tool is the World Wide Web used in conjunction with e-learning software such as Blackboard or WebCT, providing students and instructors electronic access to course materials, grades, activities, and communication options such as discussion boards, email, and chat rooms.

One area of concern is that dropout rates tend to be higher in distance education programs than in traditional face-to-face programs. Carr (2000) noted

that dropout rates are often 10 to 20 percentage points higher in distance education courses than in traditional courses. She also reported significant variation among institutions, with some post-secondary schools reporting course-completion rates of more than 80 percent, while others report fewer than 50 percent of distance education students finish their courses. There are a number of well-documented reasons for some dropouts, including the fact that adults sometimes only register for a course in order to obtain knowledge, not credit, and may therefore drop the course once they obtain the knowledge they desire.

The physical separation of students in programs offered at a distance may also contribute to higher dropout rates. Such separation has a tendency to reduce the sense of community, giving rise to feelings of disconnection (Kerka, 1996), isolation, distraction, and lack of personal attention (Besser & Donahue, 1996; Twigg, 1997), which could affect student persistence in distance education courses or programs. Tinto (1993) emphasized the importance of community in reducing dropouts when he theorized that students will increase their levels of satisfaction and the likelihood of persisting in a college program if they feel involved and develop relationships with other members of the learning community. The importance of community is supported by empirical research. Wehlage, Rutter and Smith (1989) found that traditional schools with exemplary dropout-prevention programs devoted considerable attention to overcoming the barriers that prevented students from connecting with the school and to developing a sense of belonging, membership, and engagement. The key finding of their report is that effective schools provide students with a supportive community. In a study of adult learners in a worksite GED program, Vann and Hinton (1994) found that 84 percent of completers belonged to class cliques, whereas 70 percent of dropouts were socially isolated. As a final example, Ashar and Skenes (1993) found in a higher education business program that by creating a social environment that motivated adult learners to persist, social integration had a significant positive effect on retention. They found that learning needs alone appeared strong enough to attract adults to the program, but not to retain them.

Interest in community is not limited to the field of education. The past few decades have witnessed increased interest in the concept of community in general. Much of this interest is based on the perception that sense of community in the United States is weak and there is a need to get American citizens to think about working together toward the common good (Etzioni, 1993). John Goodlad of the University of Washington, head of the Institute for Educational Renewal (1997), echoed these sentiments when he quoted an editorial from the 1990 issue of the *Holistic Education Review*:

Our culture does not nourish that which is best or noblest in the human spirit. It does not cultivate vision, imagination, or aesthetic or spiritual sensitivity. It does not encourage gentleness, generosity, caring, or compassion. Increasingly in the late twentieth century,

the economic-technocratic-static worldview has become a monstrous destroyer of what is loving and life-affirming in the human soul. (p. 125)

Research provides evidence that strong feelings of community may not only increase persistence in courses, but may also increase the flow of information among all learners, availability of support, commitment to group goals, cooperation among members, and satisfaction with group efforts (Bruffee, 1993; Dede, 1996; Wellman, 1999). Additionally, learners benefit from community membership by experiencing a greater sense of well being and by having an agreeable set of individuals to call on for support when needed (Walker, Wasserman & Wellman, 1994; Wellman & Gulia, 1999). Royal and Rossi (1996) suggest that learners' sense of community is related to their engagement in school activities, with students who have a higher sense of community being less likely to experience class cutting behavior or thoughts of dropping out of school and more likely to report feeling bad when unprepared for classes. Additionally, they report that students reporting a high sense of community less often feel burned out at school.

Premise

Educators who perceive the value of social bonds in the learning process must re-conceptualize how a sense of community can be stimulated in virtual classrooms, particularly in Internet-based ALN courses. Learners in these courses are not only physically separated but interact with each other through the use of text-based discussion boards and email, without seeing or hearing each other and without the requirement to be online at the same time. As we will see in the following sections, given the particularly affective nature of forming and maintaining a sense of community, extra demands are placed on both facilitators and learners. This notwithstanding, this article will explain how through creatively addressing the various factors that are known to enhance the formation of a community, a sense of community can be created in an ALN environment.

Sense of Community

Bellah, Madsen, Sullivan, Swidler and Tipton (1985), in their book *Habits of the Heart*, define community as follows:

A community is a group of people who are socially interdependent, who participate together in discussion and decision making, and who

share certain practices that both define the community and are nurtured by it. Such a community is not quickly formed. It almost always has a history and so is also a community of memory, defined in part by its past and its memory of the past. (p. 333)

Additionally, McMillan and Chavis (1986) define community as “a feeling that members have of belonging, 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” (p. 9). Others define sense of community as a result of interaction and deliberation by people brought together by similar interests and common goals (Westheimer & Kahne, 1993), or as an environment in which people interact in a cohesive manner, continually reflecting upon the work of the group while always respecting the differences individual members bring to the group (Graves, 1992). These definitions suggest the most essential elements of community: mutual interdependence among members, sense of belonging, connectedness, spirit, trust, interactivity, common expectations, shared values and goals, and overlapping histories among members.

When community is viewed as what people do together, rather than where or through what means they do them, community becomes separated from geography, physical neighborhoods, and campuses (Wellman, 1999). To fully understand sense of community, Rheingold (1991) and Hill (1996) call for extensive research in a variety of contexts. They believe that the dimensions of community differ from setting to setting suggesting that sense of community is setting specific. One such setting is the classroom, physical or virtual. Drawing on the definitions of community provided above, one can expect that members of classroom communities will have feelings of belonging and trust. They will believe that they matter to one another and to the group; that they have duties and obligations to each other and to the school; and that they possess a shared faith that members’ educational needs will be met through their commitment to shared goals. Accordingly, classroom community can be constitutively defined in terms of four dimensions: spirit, trust, interaction, and commonality of expectation and goals, in this case, learning.

Spirit

The first dimension, spirit, denotes recognition of membership in a community and the feelings of friendship, cohesion, and bonding that develop among learners as they enjoy one another and look forward to time spent together. Community spirit allows learners to challenge and to nurture each other. Learners need to feel a sense of connectedness, to feel a part of and be included in the group (Gibbs, 1995). In contrast, a lack of connectedness may affect the learner’s ability to cope. Non-involvement in the classroom community, according to Gibbs, can possibly lead to feelings of loneliness, low self-esteem, isolation, and low

motivation to learn, which in turn can lead to low achievement and dropouts.

Trust

Trust, the second dimension, is the feeling that community members can be trusted and represents a willingness to rely on other members of the community in whom one has confidence (Moorman, Zaltman & Deshpande, 1993). Trust consists of two components: credibility and benevolence (Doney & Cannon, 1997). The first component, credibility, is an expectation that the word of other learners in the community can be relied on. The second component, benevolence, is the extent to which learners are genuinely interested in the welfare of other members of the community and are motivated to assist others in their learning. With trust comes the likelihood of candor — that members will feel safe and subsequently expose gaps in their learning and feel that other members of the community will respond in supportive ways. Without trust, the classroom is filled mostly by the instructor's presence. It becomes formal and stiff and does not engender the open and caring environment needed to promote diverse and constructive interactions that empower learners to negotiate common understandings in their quest for learning new perspectives and ideas. As Preece (2000) points out: “When there is trust among people, relationships flourish; without it, they wither” (p. 191).

Interaction

Interaction is the third dimension of classroom community. Learner interaction is an essential element of, but not the full solution to, the development of a sense of community. As May (1993) points out, “increased learner interaction is not an inherently or self-evidently positive educational goal” (p. 47). If we cannot fully promote sense of community through the quantity of interaction, we must foster community through the quality of the interaction. A useful distinction in examining the relationship of community and interaction is the categorization of interaction by Hare and Davis (1994) as either task-driven or socio-emotional in origin. Task-driven interaction is directed toward the completion of assigned tasks while socio-emotionally-driven interaction is directed toward relationships among learners. Task-driven interaction is under the direct control of the instructor and often takes the form of responses to instructor-generated discussion topics and peer assessments. Factors such as student knowledge and personality, communication patterns, reluctance to criticize, fear of criticism and retaliation, and unwillingness to give honest feedback may negatively affect sense of community by reducing feelings of safety and trust among learners. Therefore, in facilitating their groups, instructors need to mitigate against these factors.

In contrast, socio-emotional-driven interaction is largely self-generated. Social-

izing can take on many characteristics, from exchanging empathetic messages (McMahon, 1997) to self-disclosure (Cutler, 1996). According to Cutler: “the more one discloses personal information, the more others will reciprocate, and the more individuals know about each other, the more likely they are to establish trust, seek support, and thus find satisfaction” (p. 326). Thus increased disclosure of personal information can strengthen classroom community. As Tinto (1975) observes: “Social interaction via friendship support is directly related to persistence in college” (p. 107).

Common Expectations: Learning

Interaction among learners also supports the learning process. Learning, the final dimension of classroom community, reflects the commitment to a common educational purpose and epitomizes learner attitudes concerning the quality of learning. Situated learning (Brown, Collins, & Duguid, 1989) maintains that learning and cognition must take account of social interaction and work. A unifying concept emerging from situated learning research is “communities of practice,” the concept that learning takes place through the sharing of purposeful, patterned activity (Lave & Wenger, 1991). This concept stresses practice and community equally. Learning is considered “an integral and inseparable aspect of social practice” within the classroom community (Lave & Wenger, 1991, p. 31). Rather than merely adding to the student’s knowledge, learning involves a “process of transformation of participation itself,” which occurs as a function of all active members of the classroom community “transforming roles and understanding in the activities in which they participate” (Rogoff, 1994, p. 209). This type of learning leads to deeper understanding of content and processes for the community members (diSessa & Minstrell, 1998). In sum, learning represents the common purpose of the community as members of the community grow to value learning and feel that their educational needs are being satisfied through active participation in the community.

Learning at a Distance

Russell (1999), after cataloging over 400 students, concluded that the medium is rarely the determining factor in learning effectiveness. Campus students tend to perform just as well as their off-campus counterparts in the same courses. It is course design and pedagogy that matter the most. Consequently, if sense of community is related to learning as some research suggests, one could hypothesize that the medium is rarely the determining factor in the building and nurturing of community.

Rovai (in press) found support for this hypothesis in a study that examined community in fourteen university courses: seven traditional face-to-face courses

and seven ALN courses presented using the Blackboard e-learning system. This study found that feelings of classroom community were moderately related to interactivity, thus emphasizing the importance of dialogue over structure. The four Blackboard courses with the lowest amount of interactivity placed more emphasis on structure than on dialogue and the weakest sense of classroom community of all fourteen courses, significantly lower than the lowest traditional courses, suggesting that online instructors must place emphasis on building and nurturing sense of community. Kozma (1991) would probably characterize these four low-community courses as mostly delivering instruction versus designing instruction so that learners actively collaborate with the medium to construct knowledge. However, levels of learner-learner and learner-instructor interactivity represent only one aspect of nurturing community since the coefficient of determination in this study revealed that only 30 percent of the variance of classroom community can be explained by changes in the number of messages posted in course discussion boards. Clearly, other factors, such as the quality of interaction, also influence development of sense of community.

In this particularly challenging learning environment, then, a key question becomes: How do learners and facilitators in a virtual classroom build and sustain a sense of community? A review of the professional literature suggests that many factors influence the quality of interaction and thus the sense of community within any distant learning environment. These inter-related factors, in turn, influence course design and pedagogy. The remainder of this paper describes and examines the following seven factors that the professional literature suggests are positive correlates to sense of community: (a) transactional distance, (b) social presence, (c) social equality, (d) small group activities, (e) group facilitation, (f) teaching style and learning stage, and (g) community size.

Transactional Distance

One factor is transactional distance. Moore (1993) defines transactional distance as the psychological and communications space between learners and instructors. Transactional distance is relative and different for each person. According to Moore, the extent of transactional distance is a function of structure and dialogue. Structure is the amount of control exercised by the instructor in a learning environment and additional structure tends to increase psychological distance and decrease sense of community. Dialogue, on the other hand, is the amount of control exercised by the learner and more dialogue tends to decrease psychological distance and increase sense of community. By manipulating the communications media and designing an online course to take full advantage of these capabilities, dialogue can be increased and transactional distance reduced. To encourage all learners to access and participate in online discussions on a regular basis, learners should understand that course participation is not only a course requirement, but is also a graded component of the course. Accordingly,

all members of the learning community should be graded on quantity, quality, and timeliness of their contributions.

Social Presence

A second factor is social presence. Some instructors feel that once they design their course and place it online their job is mostly done, that the community of learners will take care of itself and thrive, and learning will occur. What is likely to happen in such situations is that sense of community will wither unless the community is nurtured and support is provided in the form of heightened awareness of social presence. “Social presence in cyberspace takes on more of a complexion of reciprocal awareness by others of an individual and the individual’s awareness of others. . . to create a mutual sense of interaction that is essential to the feeling that others are there” (Cutler, 1995, p. 18). Computer-mediated communications are regarded as less personal and possessing diminished social presence and social context cues when compared to face-to-face communication. As cues are fewer, social presence is lower, and as social presence goes down so does sense of community. Consequently ALN instructors must plan on enhancing social presence.

Social Equality

A third factor that influences the growth of community is social equality. Benkeny, Clinchy, Goldberger, and Tarule (1986) identify two different communication patterns that can be detected in textual communications and are threats to social equality: (a) the separate voice, that is the separate, autonomous, or independent path which is typical of the majority of men (and some women); and (b) the connected voice, the relational, connected, or interdependent path, which reflects the majority of women (and some men). This communications model suggests that many female students place emphasis on relationships and prefer to learn in an environment where cooperation is more valued than competition. The connected voice supports classroom community building while the separate voice does not. A threat to community occurs when one or more students use an authoritative tone in online discussions, followed by those students who have a more inclusive style of discourse, who feel put off and thus reduce discussion participation. Online instructors must ensure equal opportunities for participation by all students. One technique to reduce anonymity and to help learners make connections with each other is for online instructors to have all members of the course introduce themselves during the first week of the course in a discussion area set aside for this purpose. Such an activity can help maintain etiquette and civility in discussions and promote a sense of community. However, introductions during the first week will not likely do much

to change the behavior of someone with an authoritative communication style. Such a style can dominate the tone and destroy the camaraderie of a discussion group. Other techniques may include interjection of alternative views in a discussion thread, soliciting views from other students, or even an “offline” chat with aggressive students.

Small Group Activities

The fourth factor is small group activities. Although too much structure can weaken community, some structure is needed. Breaking large numbers of students into small groups (typically under ten learners each), providing specific tasks, and setting timelines support the concepts of situated learning and communities of practice (Brown, Collins, & Duguid, 1989). The fundamental idea underlying small group work is that students become meaningfully engaged in a variety of learning activities such as student or teacher led discussion groups, debates, projects, and collaborative learning groups. Augmenting individual learning activities with small group activities promotes a sense of community by helping students make connections with each other.

Group Facilitation

A fifth factor is group facilitation. As noted earlier, dialogue is an essential component of an online course and facilitation efforts are meant to inspire learners to interact. Online instructors must be mindful of two kinds of functions: (a) functions related to the group task, and (b) functions related to building and maintaining the group. The online instructor has a duty to see that these functions are performed adequately, particularly in light of the potential for miscommunication in the ALN environment resulting from the diminished abilities of the medium to convey nonverbal communications. In facilitating task-oriented interactions, instructors should manifest a measure of humility, allowing attention to the voice of students as knowledge is constructed. Deutsch (1966) points out that humility is “an attitude towards facts and messages outside one-self openness to experience as well as to criticism a sensitivity and responsiveness to the needs and desires of others” (p. 230). Benne and Sheats (1978) describe group building and maintenance roles as those roles that are oriented toward the functioning of the group as a group. They are designed to alter or to maintain the group’s way of working, to strengthen, regulate and perpetuate the group as a group. Some of these group maintenance roles might be: encourager, harmonizer, compromiser, gatekeeper, standard setter, observer, or follower. Skill in performing these roles is useful to the instructor in facilitating group discussion and in promoting a sense of community.

Teaching Style and Learning Stage

A sixth factor consists of teaching style and learning stage. A sense of community is supported in learning environments where there is an alignment of teaching style and learning stage. Grow (1991) describes self-directed learning as the degree of choice that learners have within an instructional situation. He theorized a staged self-directed learning model in which learners evolve from being dependent learners through intermediate stages of becoming interested and then involved learners on their way to becoming fully functional self-directed learners. Each stage of learning requires an instructor who manifests the appropriate teaching style. For example, the dependent learner is usually most comfortable in a learning environment that emphasizes structure over dialogue, while the opposite is true for the self-directed learner who seeks more dialogue and less structure. Mismatches will occur and both sense of community and learning will suffer if there is a weak alignment of teaching style to learning stage. For example, when confronted with an authoritarian instructor who emphasizes structure, self-directed learners are likely to resent and to rebel against a series of low-level demands. However, even under directive teachers, some self-directed learners develop the ability to function well and retain overall control of their learning (Long, 1989). Grow (1991) suggests what is “good teaching” for one student may not be “good teaching” for another student. Good teaching does two things: (a) it matches the student’s stage of self-direction, and (b) it empowers the student to progress toward greater self-direction. Good teaching is situational and requires that the online instructor design and facilitate an online course that accommodates the needs of all learners, regardless of their stage of learning. However, as Lepper and Chabay (1985) point out regarding learner-control “It is unlikely that any choice of level of control will be optimal for all students, or even that the same level of control will be optimal for a single student for all activities or in all situations” (p. 226).

Community Size

A seventh and final factor is community size. Appropriate class size seems to be a perennial debate that divides educators when discussing traditional face-to-face education. Common sense tells us that smaller classes facilitate increased learner-instructor interaction and learner-learner familiarity, so one would expect smaller classes to promote a sense of community. The research conducted by Glass and Smith (1979) in traditional class size continues to influence discussions to this day. Their meta-analysis consisted of 80 studies that compared smaller and larger classes with respect to student achievement, classroom processes, and teacher and student attitudes. They concluded that smaller classes were significantly better than larger classes on all these variables.

However, distance education can increase the student-instructor ratio (i.e., class size) by allowing one instructor to teach hundreds of students, such as occurs in large university lecture halls. Large class sizes, with greater student-instructor ratios, can rapidly amortize high development and initial technology costs. The result is fewer and fewer teachers teaching to more and more students as course design moves toward the independent study model. What may be overlooked is that some specialized subjects, such as research and statistics, require equally specialized learner attention.

Rice (1994) found that community size in computer-mediated environments strongly influences learning activities. Too few members generate little interactions and too many members generate a sense of being overwhelmed. Exact numbers to guide community size are difficult to determine since the chemistry of the community is situational and varies with content area, instructor, and learners. Nonetheless, eight to ten students appear to be a reasonable estimate for the minimum critical mass needed to promote good interactions. At the opposite end of this continuum, 20-30 students seem to be the most learners that a single online instructor can reasonably handle in a single class if it contains active discussions. However, large ALN courses, that is, courses with over 30 learners, can be managed by using a team teaching approach in order to maintain a reasonable student-instructor ratio and by using multiple active discussion groups so that each learner can make connections with a reasonable number of community members. Alternatively, large courses that focus on delivering content can be created, followed by small discussion groups led by subject matter experts providing one-on-few coaching and mentoring. Still other strategies are possible to manage larger classes efficiently, such as using teaching assistants monitored by the online instructor, to facilitate discussion. When instructors assign small group work in the face-to-face environment, the groups are often sent away to conduct this activity on their own while the instructor focuses on other aspects of the course. This strategy can also be used in an online environment.

Conclusion

The literature provides evidence that persistence in distance education programs is lower than that of traditional face-to-face programs. There are many contributing reasons why students drop out of distant programs, such as large financial commitments, care of children and other social obligations, changing work situations, limited academic support, dissatisfaction with teaching methods, low learner self-confidence and self-perception, and student feelings of isolation (Cookson, 1990; Tinto, 1993; Besser & Donahue, 1996; Twigg, 1997). Some factors are beyond the control of the school to influence, while other factors can be mitigated by the school.

In order to improve persistence in distance education programs, schools need to assist students in making the adjustment to learning at a distance by enhancing student satisfaction and commitment. Those students who possess strong feelings of community are more likely to persist than those students who feel alienated and alone (Tinto, 1993). Therefore, one strategy to help increase retention is to provide students with increased affective support by promoting a strong sense of community. Such a strategy has the potential to reverse feelings of isolation and, by making connections with other learners, to provide students with a larger base of academic support.

As sense of learner community may be viewed as consisting of four related dimensions: spirit, trust, interaction, and commonality of learning expectations and goals. A strategy that enhances these four dimensions should result in stronger feelings of community. A review of literature suggests instructors teaching at a distance may promote sense of community by attending to seven factors: (a) transactional distance, (b) social presence, (c) social equality, (d) small group activities, (e) group facilitation, (f) teaching style and learning stage, and (g) community size. If we can design and deliver courses at a distance that build and sustain community by drawing on these factors, perhaps our actions will help promote satisfaction and retention in e-learning programs.

References

- Ashar, H., & Skenes, R. (1993). Can Tinto's student departure model be applied to nontraditional students? *Adult Education Quarterly* 43(2), p. 90-100.
- Belenky, M., Clinchy, B., Goldberger, N., & Tarule, J. (1986). *Women's ways of knowing*. New York: Basic Books.
- Bellah, R. N., Madsen, R., Sullivan, W.M., Swidler, A. & Tipton, S.M. (1985). *Habits of the heart: Individualism and commitment in American life*. New York: Harper & Row.
- Benne, K. & Sheats, P. (1978). Functional roles of group members. In L. Bradford (Ed.), *Group development*. 2nd ed., p. 52-61. La Jolla, CA: University Associates.
- Besser, H. & Donahue, S. (1996). Introduction and overview: Perspectives on . . . distance independent education, *Journal of the American Society for Information Science*, 47(11), p. 801-804.
- Brown. J.S., Collins, A.. & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18, p. 32-42.
- Bruffee, K. A. (1993). Collaborative learning: Higher education, interdependence, and the authority of knowledge. Baltimore: John Hopkins University Press.
- Carr, S. (2000). As distance education comes of age, the challenge is keeping the students. *The Chronicle of Higher Education*, 46(23), A39-A41.
- Cookson, P. 1990. "Persistence in Distance Education." In M. G. Moore and others, eds., *Contemporary Issues in American Distance Education*. Oxford: Pergamon Press, p. 192 - 204.
- Cutler, R.H. (1995). Distributed presence and community in cyberspace, *Interpersonal Communication and Technology: A Journal for the 21st Century*, 1(2). [Online] Retrieved April 6, 2002: <http://jan.ucc.nau.edu/~ipct-j/1995/n2/cutler.txt>.
- Dede, C. (1996). The evolution of distance education: Emerging technologies and distributed learning. *American Journal of Distance Education*, 10(2), p. 4-36.
- Deutsch, K.W. (1966). *The nerves of government*. New York: The Free Press.
- diSessa, A. & Minstrell, J. (1998). Cultivating conceptual change with benchmark lessons. In J. Greeno & S. Goldman (Eds.) *Thinking practices in mathematics and science learning*, New Jersey: Lawrence Erlbaum, p. 155-

188.

- Doney, P. M. & Cannon, J.P. (1997). An examination of the nature of trust in buyer-seller relationships, *Journal of Marketing*, 61(April), p. 35-51.
- Etzioni, A. (1993). *The spirit of community: Rights, responsibility, and the communitarian agenda*. New York: Crown.
- Frymier, A. B. (1993). *The impact of teacher immediacy on students' motivation over the course of a semester*. Paper presented at the Annual Meeting of the Speech Communication Association, Miami Beach, FL. (ERIC Document Reproduction Service No. ED 367 020).
- Gibbs, J. (1995). *Tribes*. Sausalito, CA: Center Source Systems.
- Glass, G.V. & Smith, M.V. (1979). Meta-analysis of research on class size and achievement. *Educational Evaluation and Policy Analysis*, 1, p. 2-16.
- Goodlad, J.L. (1997). *In praise of education*. New York: Teachers College Press.
- Graves, L.N. (1992). Cooperative learning communities: Context for a new vision of education and society. *Journal of Education*, 174(2), p. 57-79.
- Grow, G.O. (1991). Teaching learners to be self-directed. *Adult Education Quarterly*, 41(3), p. 125-149.
- Hare, A. P., & Davies, M. F. (1994). Social interaction. In A. P. Hare, H. H. Blumberg, M. F. Davies, & M. V. Kent (Eds.) *Small group research: A handbook*, p. 169-193. Norwood, NJ: Ablex.
- Harris, D. A. (1999). Online distance education in the United States, *IEEE Communications Magazine*, 37(3), p. 87-91.
- Hill, J.L. (1996). Psychological sense of community: Suggestions for future research. *Journal of Community Psychology*, 24 (4), p. 431-438.
- Kerka, S. (1996). Distance learning, the Internet, and the world wide web. *ERIC Digest*. (ERIC Document Reproduction Service No. ED 395 214).
- Kozma, R.B. (1991). Learning with Media. *Review of Educational Research*, 61(2), p. 179-211.
- Lave, J. & Wenger, E. (1991) *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Lepper, M.R. & Chabay, R.W. (1985). Microcomputers in education: Motivational and social issues. *American Psychologist*, 20(4), p. 217-230.
- Long, H. B. (1989). Self-directed learning: Emerging theory and practice. In

- H. B. Long & Associates (Eds.), *Self-directed learning: Emerging theory and practice*. Norman, OK: University of Oklahoma Research Center for Continuing Professional and Higher Education.
- May, S. (1993). Collaborative learning: More is not necessarily better. *The American Journal of Distance Education*, 7 (3), p.39-50.
- McMahon, T. A. (1997). *From isolation to interaction? Network-based professional development and teacher professional communication*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL. (ERIC Document Reproduction Service No. ED 408 257).
- McMillan, D.W. & Chavis, D.M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14(1), p. 6-23.
- Moore, M.G. (1993). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical principles of distance education*. p 22-38. New York: Routledge.
- Moorman, C., Zaltman, G. & Deshpande. R. (1993). Factors affecting trust in market research relationships. *Journal of Marketing*, 57(January), p. 81-101.
- Palmer, P.J. (1993). *To know as we are known: Education as a spiritual journey*. San Francisco: Harper.
- Preece, J. (2000). *Online communities: Designing usability, supporting sociability*. New York: Wiley & Sons.
- Rheingold, H. R. (1991). *Virtual reality*. New York: Summit Books.
- Rice, R. (1994). Network analysis and computer-mediated communication systems. In S.W.J. Galaskiewka (Ed.), *Advances in Social Network Analysis*. Newbury Park, CA: Sage.
- Rogoff, B. (1994) Developing understanding of the idea of communities of learners. *Mind, Culture, and Activity*, 1(4), p. 209- 229.
- Rovai, A.P. (in press). A preliminary look at structural differences in sense of classroom community between higher education traditional and ALN courses, *The Journal of Asynchronous Learning Networks*, 5(3).
- Royal, M.A., & Rossi, R.J. (1996). Individual-level correlates of sense of community: Findings from workplace and school. *Journal of Community Psychology*, 24(4), p. 395-416.
- Russell, T. L. (1999). *The no significant difference phenomenon*. Chapel Hill, NC: Office of Instructional Telecommunications, North Carolina University. [Online] Retrieved November 24, 2001: <http://cuda.teleeducation.nb.ca/nosignificantdifference>.

- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), p. 89-129.
- Tinto, V. (1993). Leaving college: Rethinking the causes and cures of student attrition. (2nd ed.) Chicago: University of Chicago Press.
- Twigg, C.A. (1997). Is technology a silver bullet? *Educom Review* (March/April), p. 28-29.
- Vann, B. A., & Hinton, B. E. (1994). Workplace social networks and their relationship to student retention in on-site GED programs. *Human Resource Development Quarterly* 5(2), p. 141-151.
- Walker, J., Wasserman, S., & Wellman, B. (1994). Statistical models for social support networks. In S. Wasserman & J. Galaskiewicz (Eds.), *Advances in Social Network Analysis*. p. 53-78. Thousand Oaks, CA: Sage.
- Wehlage, G. G., Rutter, R.A. & Smith, G.A. (1989). *Reducing the risk: Schools as communities of support*. New York: The Falmer Press.
- Wellman, B. (1999). The network community: An introduction to networks in the global village. In Wellman, B. (Ed.) *Networks in the Global Village*. p. 1-48. Boulder, CO: Westview Press.
- Wellman, B. & Gulia, M. (1999). The network basis of social support: A network is more than the sum of its ties. In B. Wellman (Ed.). *Networks in the Global Village*. p. 83-118. Boulder, CO: Westview Press.
- Westheimer, J. & Kahne, J. (1993). Building school communities: An experience-based model. *Phi Delta Kappan*, 75(4), p. 324-28.

Citation Format

Rovai, Alfred (April, 2002) Building Sense of Community at a Distance. *International Review of Research in Open and Distance Learning*: 3, 1. <http://www.icaap.org/iuicode?149.3.1.x>