

CHAPTER 2

Concepts of Online Collaborative Learning

This chapter provides a theoretical foundation for collaborative learning in the online community through multiple computer technologies. Three key concepts, collaborative learning, online learning, and community learning in addition to the assessment of teaching and learning, are the foundation of this chapter that sustain the designs introduced later in this book. The theoretical framework discussed in this chapter is composed of three major constructs (interactivity, social context, and technologies) (Tu & Corry, 2002). Interactivity concerns the concepts and designs that engage learners in active collaboration. Social context refers to the learner-centered learning community. The third construct details technologies that support and enhance knowledge development and knowledge management. These constructs form a framework and provide readers with a theoretical overview to build and sustain an interactive online collaborative learning community. These constructs are not contained within well-marked boundaries, they blend and overlap and one element cannot be implemented without the other two. Another key concept integrating collaborative learning into online learning is “community.” The sense of “community” must be sustained when implementing online collaborative learning. In addition to the theoretical framework of online collaborative learning community, the assessment of collaborative learning and teaching is discussed later in this chapter.

Collaboration is distinguished from cooperation throughout this book. Many authors use these terms interchangeably, but collaborative learning may be fostered differently than cooperative learning. In general, they are called small-group instruction. This book focuses on collaboration, but

many of the theoretical constructs, strategies, and guidelines can be applied to cooperation. It is necessary for readers to grasp the characteristics of both concepts. In practice, most educators apply a mixture of both strategies to their instruction.

Here are the main points distinguishing collaboration and cooperation:

Collaboration

- Applies small-group activities as strategies to develop higher-order thinking skills and enhance individual abilities to master knowledge
- Encourages the laissez-faire approach for higher-level, less-foundational knowledge content
- Assumes that knowledge is socially constructed
- Is applied in colleges

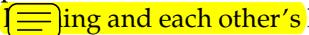
Cooperation

- Encourages an explorer approach but in a more structured manner for the foundational knowledge typified in gateway instruction
- Assumes knowledge that is socially constructed but is the methodology of choice for foundational knowledge
- Is applied in primary school

INTERACTIVITY

Interactivity includes collaboration and active learning. Collaboration does not occur unless learners are granted authority over and are actively engaged in their learning activities.

Collaboration

Collaborative learning uses small groups of learners in the instruction encouraging them to maximize their own ing and each other's learning. Collaborative learning engages learners in knowledge sharing, inspiring each other, depending upon each other, and applying active social interaction in a small group. Therefore, collaborative learning depends upon the art of social interaction among learners rather than a mechanical process. "Collaborative learning is a personal philosophy, not just a classroom technique. In all situations where people come together in groups, it suggests a way of dealing with people, which respects and highlights individual group members' abilities and contributions. There is a sharing of authority and acceptance of responsibility among group members for the group's actions" (Panitz, 1996). Instructors shift their authority, under the auspices of ideal collaborative learning, to the learners and provide the foundation and learning structures to guide them

through various learning processes and experiences and through active social interaction on substantive issues by applying modern technology. “Good learning, like good work, is collaborative and social, not competitive and isolated. Sharing one’s ideas and responding to others’ improves thinking and deepens understanding” (Gerdy, 1998).

Merely corralling learners into groups does not assure ideal collaborative learning. Four important issues must be considered when integrating online collaboration into instruction: empowering learners, building communities, continuing support, and being patient. Regardless of how collaborative learning is implemented, these four important issues must not be neglected.

Empowering learners

Instructors must empower learners in any online learning environment (Dickstein, 1998). Learners should be accountable for their learning and determine what, how, when, and where to learn. Therefore, instructors become facilitators to guide learners through different learning processes, permitting a variety of elements to accommodate different learning styles rather than attempting to force everyone into the same learning pattern. Some structure is necessary, but care must be exercised to prevent it from becoming too rigid, for example, a step-by-step instruction. Empowering learners is a difficult task for instructors because they must risk passing authority to their learners.

Building communities

Humans learn through rich social interaction in a community (Tu & Corry, 2002). Learners must associate and connect internally in the classroom and externally with other learners and instructors. This allows the review of multiple perspectives and enriches the learning experiences (Honebein, 1996).

Continuing support

The process of collaborative learning must be constantly reinforced. The objectives of collaborative learning must be explained in detail to ensure that learners understand it clearly. Providing seamless intellectual, technical, social, mental, and emotional support throughout the entire learning process allows learners to demonstrate their independence. Frequently, learners embark upon a course of study with the simple expectation of a good grade; but they evolve into learning independently when they understand the process and have appropriate support. The absence of adequate support is a major failure. Time-consuming? Yes, it is a time-consuming process that engages learners in an enriched learning experience.

Being patient

Social interaction takes longer to develop in a technology-based environment (Walther & Burgoon, 1992), particularly a collaborative learning environment. Learners must be allowed enough time to build a social foundation and ~~to finish~~ their tasks. The rudiments of a community require more time to develop in online social environments than in face-to-face social environments (Tu & McIsaac, 2002); therefore, short-term online collaboration is inadequate to support the development of a community and is totally inadequate to foster community dynamics.

Active Learning

The second important construct in interactivity is active learning. Because of the blurred roles between students and teachers, more weight is placed on the learning process/experience than upon roles and “teaching” processes. Both students and teachers are learners and share their responsibilities in an online community and should be allowed a voice in determining what learning experiences they ~~would like to~~ receive. Collaborative online interaction is best developed with maximum autonomy, without excessive teacher intervention and control, allowing learners to find their voices with a democratic, student-driven learning environment. Morrison (1995) suggested that the learning process is unbounded by *time* (when one learns), *space* (where one learns), *mode* (how one learns), *pace* (the rate at which one learns), *level* (the depth of learning), and *role* (with whom one learns). These conditions can be applied to online collaborative learning. Therefore, a collaborative learning community is not merely learner-centered; it is a learner-driven process when learners are granted these five conditions.

Several effective designs are introduced later in this book dealing with the interactivity dimension. Please see Chapters 4 and 5 for Design 3, Peer Support Assignment; Design 4, Interactive Project Presentation; Design 5, Online Moderation; and Design 6, Online Debate, for the design instruction and strategies.

SOCIAL CONTEXT

The second construct, social context, emphasizes the characteristics of the learner and the learner-centered social learning environment (learning community). Collaboration is inherently social (Golub, 1988; Ocker & Yaverbaum, 1999). A social group holds values regarding one’s obligations to others. “Hence, people help others and/or their group because they feel it is the morally appropriate action” (Kramer & Tyler, 1996). These processes are related to the personal characteristics of online learners. Latham and Locke (1991) found that a group member skilled in self-management,

goal setting, self-monitoring, and self-assessment was critical for performance. Group members in a successful group were committed to the group's mission and norms, could be counted on to perform their respective tasks, and enjoyed working in a group (Snow, Snell, & Davison, 1996). Successful online collaborative learning is an online learning community, which is an organization where community members engage intellectually, mentally, social-culturally, and interactively in various structured and unstructured activities to achieve their common learning goals ~~on~~ electronic communication technologies. Learners learn together and the community, itself, learns as well (Schlager, Fusco, & Schank, 2000).

Learner-Centered

Learner-centered issues are independence (the opportunity to make choices), competence (ability and skills), and support (both human and material) (Baynton, 1992). Learner-centered education has been mistakenly thought to mean leaving online learners alone, passing all responsibilities to them, and denying them appropriate communication. Online learners demonstrate higher levels of independence in learning; but their competence and technological expertise should be considered and appropriate support provided to assure a richer learning environment. Inadequate analysis of these three components may result in online learners failing and dropping out of the online instruction.

Are students ready to be accountable for their own education through collaborative learning? The fact is that many of them are not ready (Tu, 2003). How often have we heard "Can I do a personal project instead of team project?" "It is unfair on grading." "It always ends up certain people (students) are doing the work for the entire team." Or "I want to earn an A from this class and I don't want to let ~~someone~~ affect my class grade." When learners ask these questions or make disparaging comments, it reveals that they do not see the value of collaborative learning, underscoring the necessity of explaining its purpose and its values at the beginning of the course.

In collaborative learning environments the teachers are learners as well. Are teachers ready for collaborative learning? Perhaps not many teachers will say yes. Most teachers may see the value of collaborative learning but they are reluctant to collaborate with other teachers, scholars, and content experts because of a fear of failure, the time involved, or being unfamiliar with online collaborative learning instructional designs.

Community

The broader view of "community" has been defined as a place where people conduct community activities, share common beliefs, and share a means of communicating (Brooks, 1997). Gilbert (2002) stated that education

at Massachusetts Institute of Technology (MIT) requires a combination of the content in conjunction with a faculty member and, the critical element, the learners, mixed together in an environment that provokes inquiry and provides useful facilities to support knowledge development. This reflects the importance of learning communities.

When learning activities and interactions occur electronically, the resulting environment is referred to as an online learning community. Researchers are now advancing toward the definition of a community that learns, retains, and evolves knowledge (Tu & McIsaac, 2001). How learners gather and apply appropriate information to knowledge construction is more critical than simply obtaining information; thus, examining knowledge construction in an online community and advancing it to the level of a community that learns, rather than a location where information is simply shared and individuals learn together.

A "learning community" is decidedly different from "community learning." Several researchers (Schlager et al., 2000; Tu & McIsaac, 2001) agree with this argument (Graham, 1997). A learning community is seen as a community for participants to learn together where learning is gained horizontally. In comparison, in community learning, learning is gained both horizontally and vertically. Community members learn and the community itself also learns. Both types of learning are critical because community growth and development and the learning of community members enhance each other. Therefore, the model that stretches learning from a school learning community to lifelong learning is a good example of the relationship between the learning community and community learning.

Full community integration should advance beyond just a team community. It is difficult to draw a boundary between communities. Team members learn from various communities. With advanced technologies, team members are exposed to a greater number of related communities that provide richer perspectives for learning. The course itself is a community. With appropriate design, learners can expand their communities across courses, programs, schools, districts, regions, and countries.

Trust is one of most important ~~factors in social context~~. Trust influences interpersonal relationships in social interaction (Bruffee, 1995; Tu, 2002). Different forms of trust have been defined: affective, cognitive, behavioral, or "integrated" (Cummings & Bromiley, 1996; Mayer, Davis, & Schoorman, 1995; McAllister, 1995). One accepted definition of trust is: "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer et al., 1995, p. 712). Jarvenpaa, Knoll, and Leidner (1998) stated that trust is based on the expectation that others will behave as expected; therefore, trust is a type of perception.

Community of Practice (CoP)

Communities of practice (CoPs) are groups of people who share similar goals, interests, and practices and, in doing so, employ common practices, work with the same tools, and express themselves in a common language. Through such common activity, they come to hold similar beliefs and value systems (Collaborative Visualization (CoVis) Project, 2000). These professionals are informally bound to one another through exposure to a common class of problems, a common pursuit of solutions, and, as a community, embody a store of knowledge (Peter + Trudy Johnson-Lenz, 2000). A common sense of purpose and a real need to acquire the knowledge of each other holds these professionals together. Members of CoP collaborate directly, use one another as sounding boards, and teach each other. They are not merely peers exchanging ideas who share and benefit from each other's expertise, but members committed to jointly develop better practices for the organization. Thus, developing a "community that learns" is as critical as developing a "community of learners."

Knowledge sharing is a process to guide someone through our thinking or use our insights to assist them in seeing their own situation better. Communities of practice (CoPs), one of the knowledge-sharing concepts, enables the employees to be conducive to mastery of new knowledge (Lieberman, 1996) in organizational learning and has become a cornerstone of the knowledge strategy of leading organizations (McMaster, 1999; Renyi, 1996). Several successful reform projects applied to learning organizations have supported this concept (National Science Foundation, 1997; Stokes, Sato, McLaughlin, & Talbert, 1997). Although CoP is not a new concept, we have little experience in how to foster this type of organic organizational learning community, particularly integrating electronic communication into CoP building. In fact, Sharp (1997) suggested that improved learning would often come from encouraging development both of CoPs and CMC communities of discourse.

Electronic media are pervasively applied to employees' daily work. With the popularity of e-learning in the workplace, employees are able to learn anywhere and anytime to advance their work-related knowledge and skills. Applying e-learning empowers CoPs to extend beyond the local environment and become global. Yet understanding how these largely informal, voluntary, and self-organizing communities actually work via electronic media presents a challenge for organizations. Without an understanding of their dynamics and composition, community initiatives can be wasteful, ineffective, or even harmful.

Two relevant theoretical frameworks, McDermott's (2000) Four Key Challenges of CoP and Tu and Corry's E-Learning Community (2002), address important issues in designing e-CoP.

Four Key Challenges of CoP

McDermott (2000) proposes four key challenges in building, sustaining, and enabling CoPs to conduct effective knowledge sharing. The four key challenges are the Management Challenge, the Community Challenge, the Technical Challenge, and the Personal Challenge. The Management Challenge describes the structures and organizations necessary to guide and lead knowledge generation, sharing, and retention. The Community Challenge is the creation of real values for the community that bonds the members and coherently sustains the life of communities. The Technology Challenge is the design of knowledge management systems that ensure effective information exchange, capture, and retention in a reusable form and to reflect upon and stimulate complicated human thinking. Finally, the Personal Challenge focuses on the relationships between/among community members. These four keys should be nurtured, cared for, and legitimized to ensure that support systems are not too strenuous for the community to lose appeal for the members and not too little to allow the community to wither.

E-Learning Community

Tu and Corry (2002) propose “Instruction,” “Social Interaction,” and “Technology” as three major dimensions for e-learning communities. To develop an ideal e-learning community, the three dimensions should be consistently maximized. Piecemeal development may alter learning experiences. However, balanced development is a dynamic force. The development of e-learning communities may focus on different dimensions at different times, situations, and opportunities. The community may start with a greater focus on social interaction and technology. Once the community is formed, instruction can be integrated to facilitate communications. As the community develops, its influence increases and expands outward. This theoretical framework for e-learning communities is dynamic, not static; flexible, not fixed; and negotiable, not pre-set.

The effective designs to support this dimension can be found in Chapters 6, 7, and 9 and Design 7, Virtual Experts, Design 8, Guest Moderators, Design 9, Building CoP, Design 10, Electronic Media for CoP, Design 15, Understanding Social Context, and Design 16, Optimizing Online Interactivity.

TECHNOLOGIES

Technologies function as major tools in human learning. Electronic computing and telecommunications are converging into human communication and knowledge development technologies. Technology not only delivers content (information), but it has the capability to stimulate

opportunities for knowledge development. Many people prefer computer technology communication tools, such as computer-mediated communication (CMC), to face-to-face communication. Technologies, such as e-mail, threaded discussion board, listserv, and real-time discussion, are powerful tools for human communication and to bring people together. This is true in education communication as well. In fact, contents, bits, learning, and cognitive science are converging into “knowledge media” (Eisenstadt, 1995). Cooper and Robinson (1998) identified technology as the most important issue in small-group learning. The technology-based instruction may have a profound impact on student outcomes. Simply making technologies available for learners is not enough for nontraditional learners in the online collaborative learning process (Ocker & Yaverbaum, 1999; Tu & Corry, 2002). Therefore, appropriate technical designs of computing technologies become critical. CMC and knowledge management systems are discussed here to address how technologies should be applied to online collaborative learning.

Computer-Mediated Communication (CMC)

Keegan (1993) declares, “Without a medium of communication the concept ‘distance education’ would not be an educational process. . . . Both synchronous and asynchronous media are viable means of communication for distance education . . . [and] allow two-way communication” (p. 118). Discussing quality and access in online learning from theoretical constructs, Garrison (1993) states that the “concern for quality in distance education has identified an emerging paradigm based upon two-way communication as a necessary and central component of an educational transaction” (p. 17). In other words, interactive two-way communication is the critical component in online learning. CMC has been considered one of the most effective media for online learning.

CMC technologies can be classified as synchronous (real-time communication) or asynchronous (time-delayed communication) systems (Gunawardena & McIsaac, 2003; Walther & Burgoon, 1992). Asynchronous communication does not require participants to be communicating at the same time or in the same place, for example, electronic mail, electronic threaded discussion boards, and listservs. Synchronous communication requires participants to communicate at the same time, that is, real-time computer conferencing.

A recent analysis (Tu, 2000) reveals that CMC systems enhance *and* inhibit online interaction. The user’s perceptions and the attributes of CMC must both be taken into consideration (Gunawardena, 1995) because each of them has different attributes, which may impact online learning differently (Tu, 2002). The successful use of CMC in the classroom requires the selection of the correct CMC medium. CMC does not

replace face-to-face communication; however, CMC provides a more flexible delivery and a greater selection of communication channels for online learners.

CMC technologies should be examined extensively. Sharing thinking patterns and using these patterns among virtual learning communities should be a central practice. Valuable information about past project history generated by an individual is not captured, retained, or maintained in a useable format to enrich the community (Tu & McIsaac, 2001). Therefore, if an individual leaves the community, the community returns to where it started and considerable time and resources may be required to reconstruct the lost knowledge or expertise. Weiser and Morrison (1998) pointed out the importance of retaining knowledge, a concept that was emphasized almost 60 years ago by Bush (1945). The ability to capture thinking trails is crucial in future thinking devices so that individuals and groups can trace the ramifications of the thought processes and learn from it by examining their own thinking. This would lead us to the development of techniques of electronic knowledge management.

Knowledge Management

An additional advantage of communication technology is its ability to be used as an extension of human knowledge. Knowledge cannot be created from emptiness. The foundation of current human knowledge is previous knowledge and maintaining knowledge for re-use is a critical issue in online learning. Therefore, a tool that is able to assist in the preservation and extension of human knowledge is important.

When using knowledge construction technologies, one should move beyond a forum for exchanging tidbits and opinions to structures that readily capture knowledge-value and foster rapid accumulation and growth of a community's capabilities (Schlager et al., 2000). For example, a technology should have the capacity to capture and index knowledge construction processes and patterns and allow users to retrieve and manipulate information from the knowledge data bank. In that manner, an online community can lead to the development of personalized, self-adaptive learning systems. In an ideal online community the contributions that are made by one member should be readily located and retrieved by other members. The processes involved in contributing knowledge and locating and retrieving it are keys to knowledge mining and knowledge construction. Knowledge becomes an emergent property that transcends the fixed-size-and-space concepts of media and information. It transcends the notion that one can impart knowledge to learners by filling them up from the teacher's vessel.

Effective knowledge management can lead to significant improvements in learner performance. A community that can effectively manage its

knowledge assets is able to treat the knowledge component of learning activities as an explicit concern of learning reflected in strategy, policy, and practice at all levels of the learning environment. Tu and Corry (2002) proposed five steps to implement a knowledge management solution: (a) identify the essential elements of knowledge management; (b) assess infrastructure by evaluating network, computer systems, security, and information; (c) anticipate the new roles of the knowledge officer, managers, or administrators, and their responsibilities; (d) select the right tools, technologies, and partners to ensure scalability and usability, and (e) support and adopt realistic collaboration. Tu and McIsaac (2001) stress the importance of knowledge management tools for online learning, making a direct connection between both explicit (recorded) and tacit (personal know-how) intellectual assets. In practice, knowledge management often encompasses identifying and mapping intellectual assets within the learning environment, generating new knowledge for competitive advantage within the learning environment, making vast amounts of information accessible, sharing the best practices, and implementing technologies that enable all of the above, including groupware, database, intranets, etc. Discovering the important factors that have an impact on the knowledge construction process should occur in future research. In addition, the selection and use of appropriate technologies to support the process is also critical.

Chapter 8, Technology, includes three designs that will provide more details in appropriate applications of technologies. These designs are Design 12, Communication Technology; Design 13, Collaboration Tools; and Design 14, Selecting Appropriate Online Communication.

ASSESSMENT IN COLLABORATION

Online collaborative learning is an effective instructional design to enhance learning and training. The issue of how to evaluate online collaborative learning has been critical and challenging. Many researchers and practitioners have not reached an agreement on effective ways to assess learners' educational gains in the collaborative learning process, particularly in an online environment. Which assessment is more appropriate for collaborative learning, a group grade or an individual grade? Traditionally, instructors apply summative evaluation methods to assess the end-product and provide one grade for all team members. When a team grade is applied, learners opine that some team members contribute more to the team's work than others and a single team grade is unfair. We have all heard learners comment that doing collaborative projects is unfair because some participants fail to be involved in team activities. Additionally, instructors are usually not participants in the collaborative processes of learners; therefore, it is difficult for them to determine a fair

grade. The learning process is critical to collaborative learning. Online collaborative learning, unlike cooperative learning, puts more weight on the team process in addition to the end-product. If individual grades are applied, it is difficult for instructors to assess the collaborative process since instructors are not part of the process.

Current Weaknesses in Instructor Evaluation

Weaknesses exist in the traditional instructor evaluation methods for online collaborative learning. Traditionally, instructors have determined the evaluation by an appraisal of the end-products of collaborative projects and one grade is given to all team members. This method of evaluation results in concerns that must be addressed, namely: fairness of evaluation; end-product driven; teacher-centered; inability to improve collaborative skills; and less active collaboration.

Fairness of Evaluation

Commonly, one grade is assigned to all of the team members in an online collaborative learning setting. Learners often conceive that one grade applied to all team members is unfair because some members contribute more than others. It is challenging for the instructors to be fair in evaluating each individual team member because they are not likely to participate in every single activity. Unfortunately, the only evidence of collaborative learning the instructor can evaluate is the end-products.

End-Product Driven

Traditional formative evaluations, such as a final examination, are unable to assess online collaborative learning because online collaborative learning accentuates the process of learning in addition to the product of learning. Therefore, simply applying summative (evaluating the learning process) evaluation methods to assess the end-products of online collaborative learning is inaccurate.

Teacher-Centered

Traditional evaluation methods for collaborative learning are teacher-centered because instructors predetermine the evaluation norms and evaluation methods. In other words, it is norm-referenced rather than criteria-referenced. Learners rarely are provided an opportunity to be responsible for their own learning enough to determine and negotiate how they would like to be evaluated. Falchikov (1995) stated that traditional teacher-centered evaluation systems result in conformity in learners

and inhibit personal development, such as interpersonal skills. It is likely learners gain knowledge externally rather than internally.

Unable to Improve Collaborative Learning Skills

Traditional formative evaluations for collaborative learning deny learners the opportunities to improve their collaborative learning. Frequently, instructors provide a grade and feedback for the project content to the collaborative team members at the end of the project. This method does not allow learners to become aware of their own strengths and weaknesses and to improve their future collaborative learning experiences.

Less Active Collaboration

Evaluation can be more than just an examination of the learning outcome; it can be advanced to another interactive and collaborative learning experience. Conventional formative evaluation for collaborative learning occurs when learners produce a collaborative end product that the instructors evaluate, and provide feedback. The collaborators, who are most capable of evaluating the events that occurred during the production of the end product, are omitted from the evaluation process, thus limiting their interactive and collaborative learning experiences. Collaborative evaluation can be advanced to maximize the level of interaction.

Weaknesses in Student Evaluation

Although instructor evaluation has weaknesses, student evaluation has a few concerns as well. Rowntree (1987) identified eight “side-effects” of student assessment: (1) the prejudicial aspect of assessment; (2) the student’s knowledge and capability of the assessment; (3) the extrinsic rewards of assessment; (4) the competitive aspect of assessment; (5) the bureaucratic aspect of assessment; (6) the nature of specific assessment techniques; (7) the giving of grades; and (8) the reporting of assessment results. The effect of these when applied to an online collaborative learning assessment is even more critical because online collaboration heavily relies on online communication that has potential for miscommunication due to the absence of facial contact.

Falchikov (1986) suggests three alternatives to traditional forms of assessment that addressed the side-effects that Rowntree identified. They are self-evaluation, peer team evaluation, and collaborative evaluation. All three are seen as promoting a learner-centered, criterion-referenced, formative, and process-oriented approach (Somervell, 1993) that has the potential to eliminate the weaknesses when both instructor evaluation and peer evaluation are applied to assess collaborative learning.

Collaborative Evaluation

A collaborative evaluation method has the potential to eliminate the weaknesses of traditional instructor evaluation and the limitations of the peer methods. Collaborative evaluation includes self-directed evaluation, self-evaluation, peer evaluation, and instructor evaluation. It permits learners to take control of their learning and negotiate with peers and instructors on how their collaborative learning processes should be evaluated; it achieves a more democratic and comprehensive learner-centered types of evaluations that possess distinguishable changes from traditional methods and include collaborative evaluation:

- Shifts the learning responsibility from the instructor to the learners
- Shifts from ~~the~~ norm-referenced to ~~the~~ criterion-referenced
- Shifts from the purely summative to a mixture of formative and summative
- Shifts from external to internal
- Shifts from the evaluation of product to the evaluation of process.

The collaborative evaluation goes beyond the process of an assessment and the end procedure of the learning. It engages learners in another active learning process and another initiation of collaborative learning while reflecting on peer evaluations and self-evaluations to further develop and improve collaborative learning skills. This process also allows learners to develop an awareness of their strengths and weaknesses while interacting with their peers.

Self-Evaluation

Self-evaluation is when learners take responsibility for their own learning and further monitor and assess their learning (Boud, 1986). Learners are empowered and encouraged to take responsibility and to monitor themselves and other sources to determine what criteria should be used in judging their work rather than being dependent solely upon instructors. Baum and Baum (1986) distinguish two types of self-assessment. The first is self-assessment where the learners make judgments and evaluate their own work. The second type of self-assessment is what they call self-determined assessment, indicating that learners determine how they want to be assessed, such as determining criteria that are related to personal learning goals, what information is to be obtained, and what resources are to be contacted rather than being solely dependent on their instructors. In fact, both assessments can be applied together to allow learners more room to negotiate and to be integrated into the online collaborative learning environment.

Both types of self-evaluations engage learners in a more learner-centered approach. They have the potential to motivate learning and improve

problem-solving skills of learners (Somervell, 1993). Self-determined evaluation grants learners the ability to achieve more challenging goals because it requires learners to assume control of the instrument and learning outcome by negotiating with team members and the instructors.

Peer Evaluation

Peer evaluation is a more interactive evaluation method and instructional activity (Sluijsmans, Dochy, & Moerkerke, 1999) where learners take the opportunity to evaluate each other's learning process and provide feedback. It is frequently implemented through a collaborative team project. The contributions from peers are useful for reflections on self-evaluation because learners have an opportunity to observe their peers throughout the learning process and often have more detailed knowledge of the work of others than do their teachers (Boud, 1986). Normally, it is implemented as a more formative means of evaluation. Horgan (1991) concluded that peer evaluation leads to better understanding of the work involved and better learning outcomes in collaborative learning. Based on the peer evaluation and feedback, learners can develop their own skills of reflection and enhance their collaborative learning experiences.

Peer evaluation provides a fair evaluation for online collaborative learning since team members have opportunities to evaluate their fellow team members and make contributions to the integrated evaluations. Generally, learners perceive this combined approach as a more accurate and a more fair evaluation of team projects rather than a single grade that applies to all the members of the team. Peer evaluation is conceived to be a part of self-evaluation because peer evaluation can stimulate self-reflection that makes the self-evaluation more effective. Even though Rowntree (1987) had questions on the accuracy of peer evaluation, Falchikov (1993) found that peer evaluation correlates highly with instructor evaluation. In fact, learners tend to be more critical to their team members than the instructors.

Additionally, Bulman (1996) argued that peer assessment influences the work process through peer pressure and also operates as a release valve. Learners know going into the project that they will evaluate their peers and be evaluated by them. This causes them to work harder on the project than they might if only their grades were at stake. On the rare occasion when learners avoid their fair share of work, the other members of the group have an opportunity to reveal that problem. From her observations, Bulman (1996) concluded four important issues that are successful for peer assessment in collaborative learning:

1. Learners should be aware of the importance of team projects as a part of their intellectual development (researching, critical thinking, and writing skills) and as part of workforce training;

2. Goals and objectives need to be identified clearly for any team project;
3. Organizational skills are important (assignment of individual tasks and implementation of time-tables); and
4. Each individual has a responsibility to the team and must follow through, and that this includes a responsibility to note and address problems within the team.

Important Issues

Regardless of the types of assessments, instructor evaluation, peer evaluation, self-evaluation, and the combinations for collaborative learning, it's important to follow the guidelines that Bulman (1996) proposed:

1. Allow learners to negotiate how they want to be assessed;
2. Provide an opportunity to assess the contribution of each team member;
3. Allow practices in assessment; and
4. Integrate both qualitative and quantitative assessment formats so learners can see the difference between the two.

EVALUATIONS OF TEACHING ON ONLINE COLLABORATIVE INSTRUCTIONS

Proponents of online instruction are continuously searching for effective strategies to improve online training and learning. Practitioners and researchers have focused on designing sound online instruction, using appropriate technologies to deliver the instruction, and enhancing the effectiveness with which learners use these technologies to improve training performance. Methods for evaluating these improvements and the subsequent introduction into instructional evaluation are being investigated. Issues about evaluating online training and assisting online trainers to improve their instructional design skills and online teaching skills are important for improving online training. Evaluating teaching performance is a major consideration in improving instruction and determining suitability for promotion (Tu, Yen, Corry, & Ianacone, 2003). Peer evaluation of teaching (PET) and student evaluations of teaching (SET) represent the common methods of conducting these evaluations (Cavanagh, 1996). Three challenges exist in both methods of online teaching evaluation. They are (a) summative evaluations, such as a survey, that fail to capture the values of the process of online training; (b) the results produced from PET and SET methods that yield inconsistencies (Burns, 1998; Hutchings, 1996) and create difficulties in consolidating the feedback necessary to improve training; and (c) many organizations attempting to apply criteria suitable to evaluate face-to-face instruction that may be unsuitable for evaluation in the online training environment. It is proposed that a formative and descriptive evaluation has potential to resolve current concerns

that integrates PET and SET to evaluate online teaching and provide feedback to help instructors improve their online teaching skills and their online instructional design skills.

Teaching evaluations are a strategy used by teachers to assist them in improving their teaching skills and, by it, improve students' learning. Students use a survey to evaluate the instruction they receive; and, although these questionnaires remain the primary source of teaching evaluations, there is evidence that peer assessments are becoming more important (Marsh, 1987). Gould (1991) concluded that both PET and SET demonstrate strengths and weaknesses, but the relationships between PET and SET are inconsistent enough to render them insignificant (Burns, 1998; Hutchings, 1996). This phenomenon generates a challenge for consolidating PET and SET. However, applying formative and descriptive methods of evaluation may address this challenge (Keig & Waggoner, 1995). Teaching is a personal art and an individual's skills (Osborne, 1998) may be difficult to evaluate if one is not familiar with the educational beliefs and teaching philosophy of the teacher being evaluated. Simply, evaluating the course materials and observing teaching may not be enough to understand the value of the instruction. Centra (1987, 1993) and Keig and Waggoner (1994) suggested use of qualitative methods to conduct teaching evaluations. Keig and Waggoner (1994) suggested that formative peer evaluation of teaching be used alongside, but apart from, summative evaluations by students. They recommend that (a) separate formative and summative tracks exist for faculty evaluation; (b) formative evaluations include nonjudgmental assessments of teaching by colleagues and administrators; (c) faculty assume leadership in developing formative evaluation programs; (d) faculty must be trained to have the skills necessary to conduct formative evaluations; (e) formative evaluations include various techniques; (f) institutional rewards recognize faculty members who participate; and (g) research be conducted on formative peer evaluation in several areas, including documentation and reporting of evaluation experiences.

It is important to understand the reasons necessitating the use of formative and descriptive evaluations. Osborne (1998) suggested five basic assumptions while conducting the integration of teaching evaluations:

1. There is no single model of teaching and learning; diversity is desired.
2. Qualitative information provides richer, more useful, feedback for improving teaching practices.
3. Peer and student evaluations of teaching can be integrated, a collaboration. By working together, the peer and the student evaluators can develop a collective meaning about the teacher's effectiveness.
4. The classroom should be a learning community that is open and capable of change.

5. In deciding about long-term retention, it is essential that we use qualitative assessment to gain a deeper understanding of the faculty member's instructional practice and its influence on students.

FUTURE ISSUES

There are a few issues to be pondered regarding the future of the online collaborative learning community (OCLC). The literature presently available has not clearly addressed these issues although some studies have touch on them (Cooper & Robinson, 1998).

1. How online collaborative learning impacts women and minority learners
2. How groups should be formed, how large they should be, and how long they should stay together
3. What effective strategies can be used to build an "online" collaborative learning "community"
4. How the freeloader/dominator issue should be addressed and how to grade when using small groups
5. What the best methods are to assess an online collaborative learning community

REFLECTIONS

In this chapter, theories and research related to collaborative learning, online learning, and community learning are presented. Technology-based online collaborative learning communities appear more complicated than face-to-face environments. It is likely that one may feel overwhelmed while implementing the concept of online collaborative learning community into classroom teaching. The purpose of this chapter is to provide background on the theoretical framework; therefore, solid rationales can be applied to develop a better understanding of the OCLC. If readers would like to explore more of the theories concerning this subject, the literature cited in this chapter is a good starting point.

Three theoretical constructs, interactivity, social context, and technology, are the foundation for the online collaborative learning community and they must be integrated into the practice. They do not conflict with one another; however, it is often appropriate to emphasize an individual construct that is suited for a given individual circumstance. For example, if one is having difficulties sustaining the knowledge generated in collaborative learning, technology constructs may need to be emphasized to capture the knowledge generated and to sustain it for future utilization. Or, when learners have difficulties working together in harmony, social contact constructs should be examined to improve the situation.