

New Model, New Strategies: Instructional design for building online wisdom communities

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We discuss the development of an instructional design model, WisCom (Wisdom Communities), based on socio-constructivist and sociocultural learning philosophies and distance education principles for the development of online wisdom communities, and the application and evaluation of the model in an online graduate course in the USA. The WisCom model aims to facilitate transformational learning by fostering the development of a wisdom community, knowledge innovation, and mentoring and learner support in an online learning environment, based on a “Cycle of Inquiry” module design, and a “Spiral of Inquiry” program design. Extending beyond current instructional design practice, WisCom provides both a new model for teaching that builds upon the inherent capacity of networked communication to support the growth and intellectual development of communities of practice, and a new model of learning where learners engage in the process of scholarly inquiry that supports individual and collective learning. Evaluation and research data support the WisCom model’s ability to design a learning community engaged in the collaborative construction of knowledge.

Introduction

Online education, a form of distance education based on Internet technologies, has emerged as a major global trend. The online environment’s ability to network minds, foster reflective thinking, and create the conditions for individuals and groups working at a distance to develop communities of practice is undoubtedly its unique strength. As Thorpe (2002) points out the “current emphasis is often on how

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independent study may be used to support and sustain group interaction, where in 1979–1989 the roles were reversed; interaction was used to support and foster independence” (pp. 147–148). This has important implications for how instruction is designed. Designers must move beyond the strategies employed by “early adopters” and create educational contexts that support interaction and collaboration through networked communication. Interaction is essential for participation in communities that generate knowledge and is rapidly becoming a quotidian expectation for learners in online learning communities. The challenge then is to develop new learning designs that sustain collaborative learning and help learners develop collaborative learning strategies applicable across evolving content domains and disciplines.

This article discusses the development of a new instructional design model, WisCom, based on socio-constructivist and sociocultural learning approaches and distance education principles for the design of online wisdom communities, and the application and evaluation of the model in an online graduate course in a university in the USA. The WisCom model aims to facilitate transformational learning by fostering three dimensions: the development of a wisdom community, knowledge innovation, and mentoring and learner support in an online learning environment, based on a *Cycle of Inquiry* module design, and a *Spiral of Inquiry* program design. The strength of the WisCom model lies in the creation of a unique learning environment that distributes expertise and knowledge construction across individuals and exteriorizes the process of scholarly inquiry resulting in new methods of learning for participants.

The Conceptual Framework and Dimensions of the WisCom Design Model

Drawing from socio-constructivist and sociocultural philosophies of learning (Vygotsky, 1978; Wertsch, 1991), the WisCom model is grounded on the theories of distributed cognition (Hutchins, 1991; Pea, 1993; Salomon, 1993), and social construction of knowledge through negotiation of meaning in communities of practice (Lave, 1991; Lave & Wenger, 1991), which focus on the social, situational, cultural, and distributed nature of learning. Distributed cognition asserts that cognition, knowledge, and expertise are not merely a property of individual minds but are distributed across individuals, environments, external symbolic representations, tools, and artifacts (Pea, 1993). Salomon (1993) argues that “if cognitions are *distributed*, then by necessity they are also *situated*” (p. 114) as shown by Brown, Collins, and Duguid (1989), whose work has emphasized the need to embed knowledge construction in authentic contexts and distribute the capability required to do an activity across groups of peers, or a learner–mentor system. Affiliated research on socially shared cognition has focused on socially scaffolded, tool-aided, and artifact-supported cognition (Resnick, Levine, & Teasley, 1991). Legitimate peripheral participation concerns the process by which newcomers become part of a community of practice, and the transformative possibilities of being and becoming cultural–historical participants in the world (Lave & Wenger, 1991).

Anchored on this theoretical foundation, we developed WisCom, to design learning environments for ill-structured knowledge domains (Jonassen, 1997), where there are no right or wrong answers, where domain knowledge is evolving and where multiple perspectives and contextual knowledge is critical to understanding a question or solving a problem. WisCom was designed after testing and evaluating the first iteration of this model, FOCAL (Final Outcome Centered Around the Learner) (Gunawardena et al., 2004). The WisCom model provides the design framework for developing a wisdom community supported by knowledge innovation, mentoring, and learner support that allows for perspective transformations (Mezirow, 1991) as the end goal, which occurs at both the individual and community levels. The next section discusses each dimension of WisCom.

1. Wisdom Community

The WisCom model is community-centered. Community-centered learning environments offer a new perspective on the importance of creating a supportive context within which learners can navigate the process of learning, collaborate, and become collectively wise. Unlike early models of independent study that stressed individual learning, the goal of WisCom is to create a wise community that shares a common mission, engages in reflection and dialogue, believes in mutual trust, respect, and commitment, cares for the common good, and empowers its members. The community provides the opportunity for participants to interact, receive feedback, and learn and grow together.

We adopted the metaphor of giftedness from Keresan Pueblo communities in New Mexico as a core value of our wisdom community, where giftedness (or the Western concept of intelligence) is defined as the individual's ability to contribute or "give back" to the well being of the entire community (Romero, 1994). Like the Keresan Pueblo communities, we believe that talented people have special skills or abilities, while gifted people possess these same skills or abilities and are also able to teach or share these talents with others. The individual is seen in relationship to the community. Bleyl (2000), after an extensive review of literature from diverse cultural perspectives, concluded that wisdom appears to be an integration of cognition, affect, and reflectivity. Reflective learning is a significant aspect of perspective transformations, and the instructional goal of the WisCom model. As Wenger (1998) observed: "learning transforms who we are and what we can do" (p. 215).

Given that Vygotsky (1978) was concerned with how mental functions can occur at the socially distributed and individual plane of functioning, we need to be concerned about how the entire flow and structure of communicative and collaborative processes, as well as individual mental processes, might undergo transformation within a computer-mediated learning environment that provides opportunities for reflective cognitive processing and extended dialogue not usually possible through face-to-face interaction (Wertsch, 2002). To develop an online wisdom community, learning activities must be designed to foster interactional competence, social negotiation of meaning, and construction of new knowledge.

We believe that developing community requires time investment upfront so that the community can maintain and nurture itself. Additionally, if a sense of community is not conceptualized internally, it will have more difficulty in reaching deeper levels of understanding (Chapman, Ramondt, & Smiley, 2005). Therefore, WisCom puts a premium on interaction, both among learners and between learners and instructors (Moore, 1989), and collaboration which enables a community of practice to create, discover, and apply the wisdom and wisdom potential that exists within its membership. Social presence techniques are one way to ensure that online community members connect with each other and feel a level of comfort to share ideas (Gunawardena, 2004). Garrison, Anderson, and Archer (2003) propose three overlapping elements—social presence, cognitive presence, and teaching presence—as conditions for developing an online community of inquiry. Assessment and feedback play a crucial role in nurturing a community. In a wisdom community, assessment must reward collaboration and products developed within the community, rather than individual achievement.

The WisCom model provides the designer with additional requirements to ensure community development by including mentoring and learner support as an important dimension of the model with implications for both the teacher and learners in this new educational context.

2. Mentoring and Learner Support

The WisCom model utilizes mentoring as a mechanism for people supporting people as knowledge is created, and thereby contributing to building a community of wisdom. Mentoring aids in supporting new members and in the inclusion of diverse members into the community (Lave & Wenger, 1991) and diversity contributes new perspectives and wisdom to the community. The WisCom model calls for the recognition of the wise ones in the community who would serve as mentors. Matching a novice or inexperienced learner with a more experienced counterpart facilitates the zone of proximal development (Vygotsky, 1978), which refers to achieving a learner's optimal developmental potential, with assistance from an expert. Mentors support the development of a learner and guide the learner through legitimate peripheral participation (Lave & Wenger, 1991) to become an effective member of a community of practice.

Protégés need to be paired with mentors that share common interests and take the responsibility of mentoring seriously. Mentors will improve their learning in turn through the creation of these extended roles. Oftentimes, learning occurs through teaching or answering an unexpected question that a protégé might ask. Mentors can help their protégés with advice about balancing school and family responsibilities, difficult concepts in content areas, how to navigate the administrative functions of the institution, and difficulties that the protégés may have with the technical aspects of the course delivery systems. Mentoring can be designed as a distributed function among instructors, peers, teaching assistants, and other community members such as students who have taken the course in prior semesters.

McLoughlin (2002) extends the role of mentoring to scaffolding to provide examples of how learners can be supported in the process of constructivist inquiry in an online environment. She provides a framework for designing learner support for an online environment which includes task support, social support, and peer support, and maintains that “effective support would need to include the encouragement of reflective thinking, provision of social support for dialogue, interaction and extension of ideas with feedback from peers and mentors on emerging issues” (McLoughlin, 2002, p. 152). Other types of learner support address the needs of the learner in relation to content, institutional context, and technology (Dillon & Blanchard, 1991) and support systems must relate to different cultures, learners, economic systems, and programs of study (Tait & Mills, 2003). The WisCom model calls for mentor training in learner support strategies that include these considerations to ensure effective learning guidance as the community engages in knowledge innovation.

3. Knowledge Innovation

Efforts to enhance knowledge, or information paired with understanding (Applehans, Globe, & Laugero, 1999), are collectively termed *knowledge innovation*. In the WisCom model, knowledge innovation is the purposeful creation, sharing, and preservation of meaningful, socially constructed ideas. Knowledge is the adhesive that holds a wisdom community together, and its management propels the community toward its goals. Knowledge is seen as both distributed among people and artifacts during the process of creation, and a commodity when it is preserved. The practical benefits of knowledge innovation include the ability to get the right information to the right people, ensure that knowledge is not lost (even when community membership changes), and enable communities to more readily build on past successes and learn from challenges.

Knowledge innovation is cyclic, but unfolds in phases. The WisCom model stipulates four stages: *create*, *record*, *access*, and *enable*. Knowledge innovation begins with the *creation* of knowledge. Members of wisdom communities create knowledge through interaction; knowledge not only exists within the individual minds of a community’s members, but also in the communication that unfolds between community members.

Once knowledge is created, its utility to a community is fleeting unless it is stored. *Recording* knowledge is the process by which community members’ ideas are permanently stored, such as by automatically archiving computer discussions, which can be organized, both manually and electronically.

Knowledge *access* occurs when community members retrieve knowledge generated and subsequently recorded by their colleagues. The main task for the instructor in this phase is to improve the organization of recorded knowledge so that members can easily retrieve what they are researching. The interconnected, decentralized nature of the Internet is well suited for this function. In general, technical means of recording knowledge by coding and indexing will lead to technical means of access, and non-technical recording will lead to non-technical access. When accessing

knowledge through communication with other group members, it is particularly important to know what questions to ask in order to invoke information.

The final and most critical component of knowledge innovation is the *enabling* of knowledge. Enabling knowledge means ensuring that learners know how to use knowledge, that is, relate the knowledge they have retrieved to their individual learning goals, as well as the larger goals of the community. One particularly powerful approach to enabling knowledge involves making connections between concepts evident. We have used concept mapping tools employing *Inspiration* and *Cmap* software as artifacts in a distributed learning system to enable community members to make connections between concepts, and store knowledge in an easily retrievable visual form. The role of concept maps in distributed cognition is twofold; it extends and supports intellectual capabilities while it is being used, and second, exposure to this artifact leaves a residue that can serve individuals well when they must perform tasks in the absence of the tool (Bell & Winn, 2000).

Transformational Learning

Wisdom is not a destination but a journey. One way to evaluate the process of becoming wise is to determine the level of transformational learning (Mezirow, 1991) that has taken place. The process of transformative learning is anchored in life experience and critical reflection; processes supported by the wisdom community. In this model transformational learning occurs through knowledge innovation, mentoring, support, dialogue, and reflection within the community.

A definitional outcome of perspective transformation includes a more inclusive, discriminating, and integrative perspective; and finally, the ability to make choices or otherwise act on these new understandings (Mezirow, 1991). Simply stated, when learners are led to reflect on and question something previously taken for granted and thereby change their views or perspectives, transformative learning has taken place. This is the definition of transformational learning we have adopted for WisCom. In this context, learning is the process of making a new or revised interpretation, and engaging in reflective dialog. "The transformative practice of a learning community offers an ideal context for developing new understandings because the community sustains change as part of an identity of participation" (Wenger, 1998, p. 215).

To evaluate transformational learning, we measure the trajectory or process, the difference between the starting point when the individual enters the community and the time when critical reflection emerges. Supportive learning conditions include self-assessment, responsibility for contributions, reflective dialogue and practice, and direct access to knowledge. Mentoring plays a critical role in facilitating transformational learning. The responsibility for transformational learning rests with the learner.

Application of the WisCom Model for Learning Design

Figure 1 displays the conceptual relationship between the dimensions of the WisCom model and application to the design of a learning module. Taken together, this

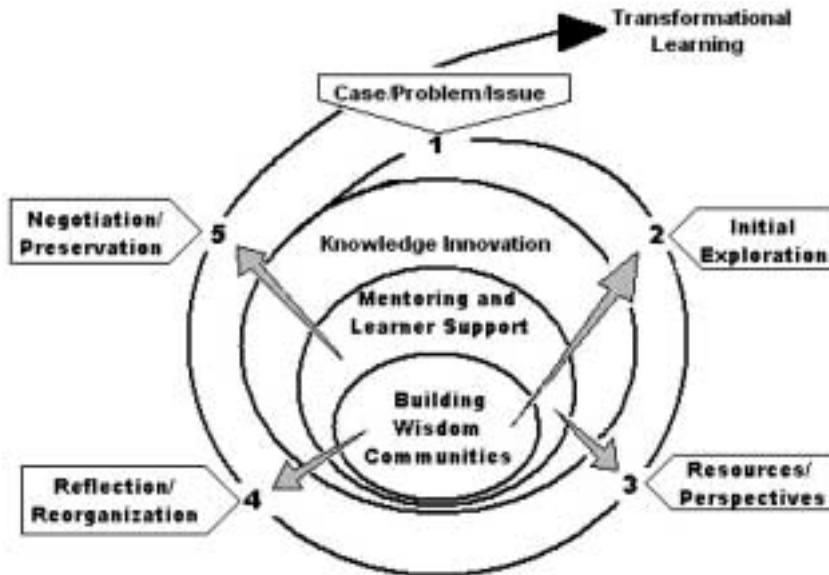


Figure 1. WisCom *Cycle of Inquiry* module design

provides the designer a framework for creating a cycle of inquiry that will result in the creation, utilization, and preservation of meaningful, socially constructed knowledge.

The three dimensions of the WisCom model are at the very core of the learning module design. The design for the process of learning consists of five steps: a learning challenge (i.e., a case, problem, or an issue), initial exploration, resources, reflection, and preservation. These steps reflect the process, or phases, of a collaborative learning event, the intent of which is to solve a problem, discover something, or to work together to achieve a common learning goal. After viewing the *case study, problem, or issue*, the group navigates through a process whereby individual cognitions are shared (*initial exploration*), multiple perspectives are challenged, accommodated, and negotiated with peer learners and experts (*resources, perspectives*), and time is allotted for individual reflective restructuring in thinking (*reflection, reorganization*). This internalization occurs before the group works again in unison to produce shared artifacts to document the knowledge commodities that result from the collaborative learning experience (*negotiation, preservation*). For the instructor, purposive design for each of the steps along the learning process continuum includes the understanding that each of the three model dimensions exerts an impact on the collaborative process.

However, as the diagram shows, each dimension impacts the steps in a slightly different proportion. To illustrate: all knowledge innovation phases occur in each cycle of the inquiry step; however, as a community moves through the cycle, the locus of knowledge innovation moves from *heavy in creation* to *heavy in enabling*. That is, moving through the cycle of inquiry pushes communities from emphases on creation (Steps 1 and 2) to periods focusing on recording and access (Steps 3 and 4),

and finally to an emphasis on enabling (Step 5). Through this process the emphasis moves from knowledge as distributed cognition created through the interaction between people and artifacts to knowledge as a co-created commodity with a capacity for preservation and archiving. The following section explores the differential dimension implications as they relate to design tasks. Because the phases of knowledge innovation pervade all steps, this dimension underlies the entire figure. On the other hand, as the arrows indicate, building the wisdom community is especially critical in Steps 2 and 4, whereas mentoring and learner support are preeminent design considerations in Steps 3 and 5.

Step 1. The cycle of inquiry, adapted from Bransford, Vye, Bateman, Brophy, and Roselli (2004) for our collaborative learning context, is generally organized around a learning *challenge* (i.e., a case study, problem, or issue). The challenge encompasses three important design tasks:

- (a) Devising an open-ended, authentic performance task (e.g., case-based or a problem-based scenario for short-term courses, or project-based challenge for longer duration learning events). Topics selected should genuinely allow learners to profit by hearing each other's opinions and experiences. Formats selected should promote discussion bringing in multiple perspectives.
- (b) Assuring the performance task is appropriate to the learners' current capacity within the content domain and supports collaborative learning. This may include a pre-appraisal of participant skill level in content knowledge and collaborative learning expertise.
- (c) Designing a communication model that promotes creative, yet orderly, discussion and input; and supports social presence and ongoing formative assessment. The communication model is a deliberate and intentional strategy that provokes and sustains collaborative discourse as a key process in conceptual change (Hiltz & Goldman, 2005). Subscribing to this view presents a challenge to learners accustomed to communicating to the instructor in a more prescribed and independent fashion and requires a shift in thinking about the learner's responsibility to a community of practice.

Step 2. During *initial exploration*, participants exteriorize current meaning schemes and begin to generate initial ideas to address the challenge. The importance of this stage in creating a wisdom community culture cannot be overemphasized. The level of shared community identity and individuals' perception of member empowerment created here impact the transformational learning process throughout the cycle of inquiry. Designers must foster: shared identity which can be developed by using social presence techniques (Gunawardena, 2004); shared goals and mission; opportunities for critical reflection, dialogue, emergence, change, and transformation; a safe environment for exchange of diverse views and multiple perspectives; nurturing smaller subgroups; mutual trust, intimacy, respect, and commitment; spaces for social interaction; and care for the common good of the members.

Moderators/learning facilitators (be they instructors or students) play a critical role in building a wisdom community by humanizing the online learning environ-

ment, helping to achieve group goals, and promoting learning (Gunawardena, 1998). Much of the success of an online discussion depends on how the moderators play their roles in planning and conducting the dialog. In order to facilitate social construction of knowledge, moderators should encourage participants to generate ideas, link them, and summarize the discussion. Summaries can be either a summative synthesis that lists and links ideas generated, or a query-posing synthesis that poses questions to help participants discover relationships between ideas.

Design tasks in WisCom include:

- (a) Communicating clear “context expectations” that promote social equality and commitment to a common learning goal. Providing “ground rules,” response obligations (or recommendations), clear role expectations, and communication protocols that support a democratic and respectful social environment will aid the learner in formulating initial ideas and create confidence in subsequent attempts to communicate that idea to others.
- (b) Establishing a system for selecting “recorders” to organize initial participant input and an indexing system that will differentiate this input from later phases of the learning process.
- (c) Establishing a feedback cycle that includes frequent clarifications, encourages participation, “weaves” and summarizes thoughts and comments, expresses emerging consensus, and rewards collaboration.
- (d) Designing an evaluation method to assess “pre-knowledge” as baseline to gauge “value-added” learning gains over time.

Step 3. Participants consult *resources* relevant to the challenge(s) including external research and the ability to learn from content experts and mentors. Meaning schemes expand as mentors introduce important points and perspectives that were not considered by the participants in their initial exploration. New ideas are tested against previously held assumptions and beliefs. A mentor does not need to know everything, but know how to access relevant and appropriate resources, and is willing to be a friend and an advisor.

There are many ways in which mentoring relationships can be established. Mentors can be selected from within the community or invited from outside the community. Peer mentoring is effective if novice and expert learners can be matched carefully. In our application of the WisCom model, students who had taken the course previously served as volunteer mentors.

Design tasks include:

- (a) selecting mentors with appropriate levels of content expertise;
- (b) training mentors in learner guidance strategies and encouraging mentors to initiate and maintain dialogue both publicly in discussion areas as well as privately via email;
- (c) assuring accessibility and timely availability of appropriate external resources including posting articles, links, and suggested Web resources;
- (d) monitoring implementation of the communication model and feedback cycle; and

- (e) providing a method to archive and record ideas, resources, and perspectives found to be most useful to the participants. Searchable, indexed databases are useful tools to manage this information and can be accessed in the future as the cycle of inquiry expands.

Step 4. During reflection and reorganization, learners engage in a process of critical self-reflection and structural reorganization that internalizes the learning process. Individuals revise old or develop new assumptions. Following a self-assessment and revision—that may include a subset of peers—learners may publicly share new perspectives. However, willingness to share is proportionate to the individuals’ perceived level of member empowerment within the wisdom community that occurred earlier. In addition to the importance of community building, knowledge innovation recording and access take a preeminent place as design considerations. Learning facilitators’ reflective design tasks include:

- (a) devising a method (or virtual space) that supports students’ intentional and archived self-reflections such as private learning journals and self-reports; and
- (b) establishing a method for smaller groups to engage in reflective “pre-public” dialogue.

Step 5. In negotiation and preservation, community members bring together the results of the performance task. Viable alternatives are considered, prioritized, and finalized in a series of negotiations among community members. Knowledge artifacts are created and preserved that support connections across the learning domain. Once again, mentors serve a critical role in legitimizing the knowledge commodity created during the learning event.

Here, the designer:

- (a) Designs a method to summarize knowledge creation. Concept mapping, matrices, and visual diagrams are useful preservation tools. Providing software applications and training participants to employ them during this phase are critical in ensuring that enabled knowledge is recorded as a foundation for further access and retrieval.
- (b) Provides an organizational scheme to archive both technical and non-technical knowledge indexed in a way that supports easy retrieval and future searches.
- (c) Implements a post-experience instrument for comparison of knowledge (Step 5) to baseline exploration (Step 2).

During the last two steps, changes in the learners’ cognitive processes, combined with the tools utilized to archive the knowledge commodity, provide perhaps the greatest contrast for WisCom as a new learning and teaching methodology. With the skilled design provided by the instructor, and as students advance through a Vygotskian zone of proximal development (Salomon, 1993), student performance is scaffolded and the community extends its understanding.

The iterative, dynamic nature of the process of transformative learning within the wisdom community as it occurs in one learning event is illustrated in Figure 1.

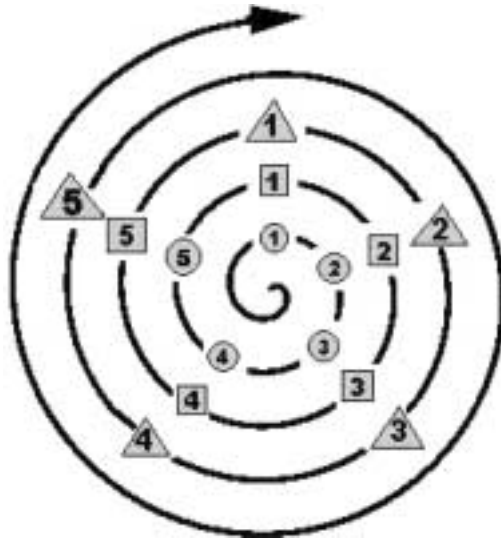


Figure 2. WisCom *Spiral of Inquiry* program design

However, as learners gain the skills necessary to navigate within a wisdom community the cycle of knowledge creation, access, enabling, and preservation widens. The negotiated and preserved artifacts serve as a springboard for further cycles of inquiry. As the challenges increase so do the learners' capacity to address greater levels of complexity. The result: an ever-widening spiral of inquiry throughout the educational program. Coincidental growth in capacity to successfully navigate within the content domain enables the community to address higher levels of challenge and achieve ever-increasing transformational learning gains. The iterative and expanding nature of the cycle of inquiry across an entire program is represented in Figure 2.

Evaluation and Research

Evaluation and research studies were conducted on the application of the WisCom model to the design of a graduate level online course on the subject of distance education, at a Southwestern university in the USA, in fall 2003. The course was designed using the WebCT™ course management system and put a premium on learning in an online community by assigning 30% of the grade to discussion and moderation activities, and 45% of the grade to small group collaborative learning activities which included a capstone case-based reasoning project. Participation in the community was assessed using a rubric developed by the instructors that addressed both positive and negative participation factors related to community and knowledge building. Fifteen students completed the course and participated in the online mid-term and final course evaluation surveys which were designed to determine if the WisCom model was able to create a sense of community, and facilitate knowledge innovation and transformational learning. While recognizing that the sample size is small, we report results using percentages.

Wisdom Community

The semester long course generated 1,543 messages with an approximate average of 150 messages per 2-week course topic discussion moderated in some instances by an instructor and in others, by students.

In the final evaluation, a majority of students (73%) felt the course had maintained a sense of community, the online community had engaged in reflective dialogue (86%), new knowledge was constructed through group interaction (73%), and the case-based reasoning group activity gave them the opportunity to apply what they had learned about distance education (74%). Mentoring functions were distributed among instructors, graduate assistants, peers, and former students who volunteered to serve as advisors to each group. Evaluation indicated that while some of the former students, who acted as mentors, spent a great deal of time helping their protégés, others did not. Students recommended that mentor roles be carefully defined at the beginning of the semester, so that expectations for roles are made clear. Such clarifications are important for learners previously accustomed to more individual-based learning environments.

Concept Maps and Knowledge Innovation

Concept mapping was used as an artifact to support knowledge innovation and the collaborative construction of knowledge. The *Cmap Version 3* software developed by the University of West Florida was utilized. A research study (Ortegano-Layne, 2004) using qualitative and quantitative content analysis techniques determined how the concept maps generated by moderators to synthesize knowledge construction were related to the actual knowledge construction that occurred. Results showed that concept maps are an excellent strategy for summarizing and synthesizing knowledge construction, and an appropriate tool for knowledge preservation. When comparing the results of the content analysis of the discussion using Gunawardena, Lowe, and Anderson's (1997) interaction analysis model, and the propositions and concepts stated in the concept maps, it was found that the majority of concepts and propositions socially constructed in the discussion were clearly represented and summarized in the concept maps, although variation was found in relationships between concepts and propositions in the maps. For instance, Groups 1 and 3 generated concept maps without showing very deep relationships among them, suggesting that they might need more practice in the use of links and link-words in order to generate propositions that show deeper relationships among concepts. Group 2, on the other hand, clearly represented all concepts and propositions socially constructed in the discussion and even used the concept map to extend knowledge construction and create new meaning not evident in the discussion. This group showed how the use of concept maps changed the cognitive processes involved in knowledge construction and how the cognitive partnership between the tool and the moderators enabled the community to extend its understanding.

Students were asked to rate the value of concept maps, text-based moderator summaries, and moderator guidance in the process of knowledge construction. The highest value ratings were given to concept maps (50%), moderator guidance (43%), and moderator summaries (29%). The results indicate that concept maps as visual artifacts facilitated the process of knowledge construction as well as preservation.

Transformational Learning

In both the mid-term and final evaluation questionnaires, students were asked if they had changed their mind about an issue related to distance education as a result of online group discussions. At mid-term, students reported the following perspective transformations: “I now understand the need to account for cultural differences in DE.”

I changed my mind about the discussions themselves! I am now fully aware of the time and effort involved in both participating in, and moderating, online group activities. Now I will be extraordinarily careful about designing courses with collaborative learning online as a component. Before the course, I would have thrown it in without a thought as to the impact it would make on the course participants and instructor.

At the end of the course, a student observed: “It is true that knowledge can be constructed online.”

Evaluation and research data support the WisCom model’s ability to design a learning community in which knowledge innovation supports the collaborative construction of knowledge.

Conclusion

This article contributes to many fields of practice by presenting a new instructional design model WisCom, developed to build online communities of wisdom. Supported by socio-constructivist learning theories, the model combines the cognitive, affective, and social dimensions of learning to create a learning environment that fosters reflection, sharing, knowledge innovation, and transformational learning. Evaluation and research results based on one graduate level course support the ability of the design to facilitate social construction of knowledge and perspective transformation. More studies are needed to test the model in different online learning contexts with diverse learners. It is also important to examine if the model can be applied within other organizational contexts such as the CLIK (collaborative learning, information, and knowledge) application, where the WisCom model was used to design an online wisdom community for a group of high performance computer users at a national laboratory (Jennings, 2005). Learning and instruction occur for the most part within a domain or discipline. Yet, the nature of knowledge within a content domain is complex, disciplinary fields are evolving, and domain knowledge is continually being constructed. In addition, the proliferation of online learning as a major global trend requires an instructional approach that can cross disciplines and respond to these challenges. Creating

wisdom communities is such an approach. New strategies for teaching require and support new methods of learning. WisCom encourages learners to become reflective thinkers engaged in the active construction of knowledge and to acquire collaborative thinking skills that transcend a disciplinary context. Exteriorizing the process of learning and facilitating scholarly inquiry is a powerful tool in the online instructional arsenal of the future.

Notes on Contributors

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