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## Creating effective communities of inquiry in online courses

Aylin Tekiner Tolu \*

*Yeditepe University, English Language Teaching, İnönü Mah. Kayışdağı Cad. 26 Ağustos Yerleşimi, 34755 Ataşehir, İstanbul*

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### Abstract

Based on a collaborative and socio-constructivist approach to online education, the Community of Inquiry (CoI) model emphasizes creating an effective learning environment where students feel a connection with other learners and the instructor and engage in well-designed collaborative learning activities. The CoI framework has been borne out to be an effective framework for online teaching as well as conducting research on online education. This paper not only introduces the CoI framework, but also discusses the implications of creating effective communities of inquiry.

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### 1. Introduction

Although the concept of community has a long social-theoretical history, its application to education can be considered to be recent. Based on their interdisciplinary community research, Barab and Duffy (2000) identified four features that they believe are requisite of a community: a common cultural and historical heritage, including shared goals, negotiated meanings, and practices; an interdependent system, in that individuals are becoming a part of something larger than themselves; and a reproduction cycle, through which newcomers can become old timers and through which the community can maintain itself. (p. 36)

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\* Corresponding author. Tel.: +90-216-578-0000/1997  
E-mail address: [atekiner@gmail.com](mailto:atekiner@gmail.com)

Three years later, four characteristics were added to this list by Barab, MaKinster, and Scheckler(2003): a common practice and/or mutual enterprise; opportunities for interactions and participation; meaningful relationships; and respect for diverse perspectives and minority views.

According to Wenger (1998) learning results from practice. People constantly take part in many social practices as a member of different communities such as family, school, sports team, church and similar. They interact with other human beings and with the world. These social practices are a way of learning. Therefore, learning is not a separate process, but it is a collective transformative practice of communities. In his words, “Learning is the engine of practice, and practice is the history of that learning” (Wenger, 1998, p. 96).

Wenger’s (1998) social theory of learning characterizes social participation as a process of learning and knowing by integrating four components of social participation: meaning, practice, community and identity. Lipman (2003) also emphasizes that education requires communities of inquiry. For him, communities of inquiry possess these features: inclusiveness, participation, shared cognition, face-to-face relationships (not necessary but advantageous), the quest for meaning, feelings of social solidarity, deliberation (considering alternatives), impartiality, modeling, thinking for oneself, challenging as a procedure, reasonableness (capacity to make rational judgment), reading, questioning, and discussion.

Although in the past, communities were place-based and local, by the means of computer technologies and the Internet and the effects of societal and scientific advances, it is no longer bounded by geography (Palloff & Pratt, 1999). People from all over the world come together with shared purposes and interest to form communities for social or professional reasons. Terms such as virtual community, online community, e-community and electronic community have been used to refer these communities. Early 2000s witnessed the explosion of Web 2.0 technologies. For virtual communities networking sites such as Flickr, Facebook, and Del.icio.us have become popular for social, academic and corporate purposes. In addition, with the paradigmatic shift in online education from teacher-centered and passive learning to student-centered and active learning, the application of community of learning to online educational settings gained more importance. Studies have emphasized the importance of community as a key factor in successful online and blended learning (Haythornthwaite & Kazmer, 2004; Rovai, 2002). Sense of community is found to be significantly associated with perceived learning (Shea, 2006; Shea, Li, & Pickett, 2006).

According to Palloff and Pratt (1999) creating an online learning community needs to be the ultimate aim in online education. They mention six key points necessary for creating an online learning community: honesty, responsiveness, relevance, respect, openness, and empowerment. Some other researchers who studied community building emphasized interaction, collaborative group learning, peer support, social collegial and use of technology (Tu 2004; Tu & Corry 2003).

One of the influential online learning community frameworks, Community of Inquiry (CoI) was introduced by Garrison, Anderson, and Archer in 2000. As it is the focus of this paper, it will be discussed in detail next.

## **2. Community Of Inquiry**

The CoI framework was built on socio-constructivism and reflective thinking and practical inquiry. It combines community, the social dimension, with inquiry to create online or blended learning environments. The social dimension can be observed in any type of community, yet in an academic setting, CoI requires critical thinking and collective construction of meaning (Garrison & Vaughan, 2008).

For deep and meaningful online learning, this model incorporates three overlapping and interacting elements--social presence, cognitive presence, and teaching presence. As can be seen in Fig. 1, learning takes place through the interaction of these elements.

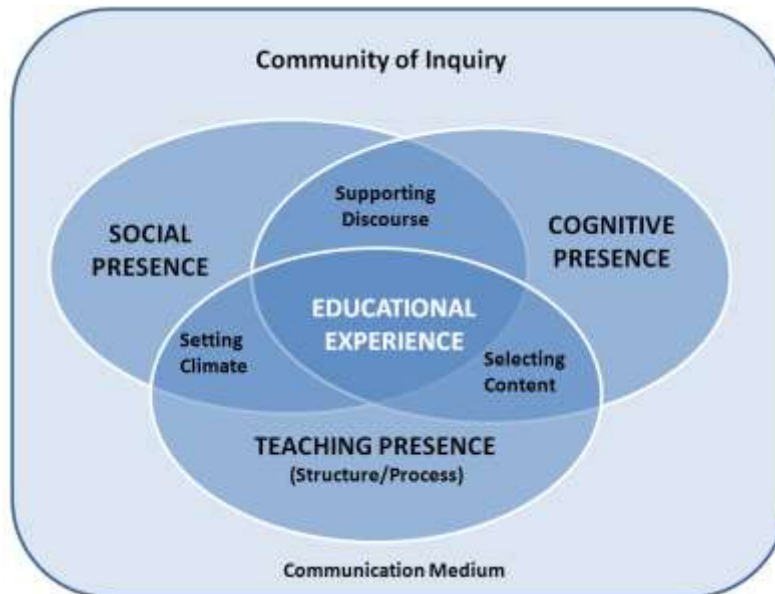


Fig. 1. CoI (Garrison, Anderson, & Archer, 2000, p. 88).

Research has proven the validity and effectiveness of the CoI framework in both asynchronous and synchronous learning environments (Garrison & Arbaugh, 2007; Arbaugh, 2008; Tekiner Tolu, 2010). The elements of CoI are found to be in correlation with each other as well as with student satisfaction (Shea, 2006; Shea, Li, & Pickett, 2006). Several factors may affect the development of community of inquiry such as students' epistemological stances, technology, and the nature of tasks. Time is also an important variable to understand how a community of inquiry develops and progresses (Akyol & Garrison 2008).

### 2.1. Social presence

Social presence refers to 'the ability of participants in a community of inquiry to project themselves socially and emotionally, as "real" people (i.e., their full personality), through the medium of communication being used' (Garrison, Anderson, & Archer, 2000, p. 95). Social presence involves three categories: open communication, group cohesion, and affective expression. Regarding open communication, the learning climate should enable all participants to feel secure and comfortable so that they can express themselves freely and take part in the learning activities. Interpersonal interaction is necessary to create a sense of trust between learners. Group cohesion is achieved when learners create a sense of group identity and successfully collaborate with each other to achieve group objectives. Affective expression is related to reflecting emotions. In an online classroom it may take longer for students to start feeling ready to express emotions and camaraderie. Sample indicators of this element may include self-disclosure, humor, and emoticons. Therefore, learners need to get to know each other, work collaboratively, interact frequently, feel responsible to contribute group achievement, provide constructive feedback and support when needed, and respect other members' ideas in order to establish a sense of social presence.

Studies show that social presence can be strongly felt in computer mediated communication (Richardson & Swan, 2003; Tu, 2004; Tekiner Tolu, 2010). Yet, when interacting online, learners and instructors need to use certain strategies and techniques to establish social presence (Rourke, Anderson, Garrison & Archer, 2001; Swan, 2004).

## *2.2. Cognitive presence*

Cognitive presence is founded in postmodernist paradigm and Dewey's reflective thinking. It is defined in terms of the learners' ability to reflect, reconstruct, and confirm meaning through participating in reflective discourse practices (Garrison & Arbaugh, 2007). Cognitive presence is the core of the CoI framework. It is explained through Practical Inquiry Model of learning which has four phases (Garrison et al., 2001):

1. Triggering event: Learners recognize the problem and have a sense of puzzlement by the given question or task.
2. Exploration: Learners use different sources and discuss with others to solve ambiguities. Divergence within online community or within single message, information exchange and suggestions can be observed at this phase.
3. Integration: Learners reflect on the task, link ideas, and try to come up with solutions. The indicators of this phase also include convergence among group members or within a single message.
4. Resolution: In this final phase, learners apply the knowledge created to new situations; they test solutions or defend solutions.

In an online course, students have more chance to contribute to the discourse practices. They have more equal opportunity to contribute compared to the limited class time in traditional classrooms. Moreover, on an asynchronous discussion forum, they have time to construct and edit their input before they share it with the learning community. However, among the three elements of the CoI framework, cognitive presence is considered to be the most difficult one to establish (Arbaugh, 2007). It requires strong social and teaching presence as prerequisite. In order to be able to engage in learning tasks, learners need to feel social presence, especially the group cohesion. The course design, methods, materials, and activities, in short all learning and teaching practices need in-depth effective planning to facilitate critical and meaningful learning, which bring us to the critical role of teaching presence (Garrison & Cleveland-Innes, 2005).

## *2.3. Teaching Presence*

Teaching presence can be considered as the key element that facilitates the establishment and growth of social and cognitive presences. Studies identified that teaching presence strongly correlates with student satisfaction, perceived learning, and sense of community (Akyol & Garrison, 2008; Arbaugh, 2008; Shea & Bidjerano, 2009). Teaching presence is made of three categories: design and organization, facilitating discourse, and direct instruction. Design and organization begins before the course starts when the instructor plans the process, materials, methods, evaluation, structure, and interaction aspects of the online course. Facilitating discourse concerns motivating learners, encouraging participation, modelling discussion, drawing in participants, guiding learners to reach higher thinking levels, and assessing the efficacy of the learning process. The third category--direct instruction refers to instructors' scholarly leadership and sharing their subject matter knowledge. Even at student-centered learning settings, direct instruction is critical and asked for by learners (Tekiner Tolu, 2010). Some of the indicators of direct instruction discussed by Anderson, et al., (2001) are as follows: presenting content, summarizing the

discussion, confirming understanding through assessment, providing timely feedback, clarifying misconceptions, providing content from various sources and experiences, and helping learners with technical problems. Direct instruction is found to be in a positive correlation with student satisfaction and perceived learning (Shea, Pickett, & Pelz, 2003).

### 3. Implications

The CoI model provides online educators with a practical framework to design and teach successful online or blended courses. Drawing from the CoI framework and literature, this section will discuss some techniques and strategies that can help online educators to establish and develop CoI in their courses.

To begin with, as the teaching presence identifies, instructors need to plan their courses in-detail before the semester starts. Online courses often take longer time and more labor compared to face-to-face courses. Instructors should take this into account and plan their schedule accordingly. Because learners often rely on written texts to understand the content and instructions, texts need to be clear and provide step by step instructions. In the beginning of the semester, for course orientation, a live meeting or if possible a face-to-face meeting would benefit learners tremendously (Stodel, MacDonald & Thompson 2006; Tekiner Tolu, 2010). Such meeting not only can orient students into the course, but also it will promote establishing social presence. Again early in the semester, teachers should create a welcoming and stress-free learning environment.

Activities for getting to know each other such as forums or personal webpages, including the instructor's own introduction with photographs, welcome messages, sharing humor and personal experiences can add a lot to creating a sense of social presence. Students reported that attending at live meetings, listening to their instructor and classmates and seeing them through the webcam made them feel others as real people and contributed to their sense of social presence (Schullo, 2005; Tekiner Tolu, 2010). Over the semester social presence needs to be sustained through teacher availability, collaborative activities, group formation, frequent interactions-- both synchronous (chat or live class meetings) and asynchronous (email, blog, wiki, discussion forum), prompt feedback, verbal encouragement, special day messages such as New Year greetings. These activities will also promote cognitive presence. Online collaborative learning is not easy and many students may lack necessary skills and knowledge. Therefore, instructors should provide learners with guidelines and regulations for group formation, group gatherings, role assignment, tools to use, certain deadlines to submit reflections, and self and group evaluation forms.

Office hours need to be planned to make the teacher available to students. Although email or forums work well to respond student questions, they do not provide synchronous interaction. Instructors can either schedule regular live meetings or frequently be online using an instant messenger. Immediacy is another important factor that influences all three elements of CoI. Responding learners' concerns in time, participating on discussion forums timely and providing immediate feedback on student assignments would prevent student frustration and facilitate student satisfaction and learning.

Web 2.0 technologies provide instructors with various types of free tools to use for online teaching. Selecting the most proper technology to meet course objectives and modeling students how to use them should be one of the concerns of the instructor as well. To name a few, CourseSites by Blackboard Learn let individual instructors to create up to 5 free online learning platforms which include live classroom, document sharing, blog, wiki, forum, grading and assessment tools. For podcasting or online listening and speaking activities, Voice Thread, Voki, Chirbit, SoundCloud, Pod-o-matic, and Voxopop can be utilized.

Regarding cognitive presence, tasks and even the questions must be carefully designed and worded to promote critical and reflective thinking. Problem-solving, task-based or content-based approach to language teaching, for example, can facilitate brainstorming activities and lead to collaborative and

meaningful learning. Other critical factors to consider may include enhancing learner autonomy, making use of various learning sources such as books, multimedia materials, and websites, using portfolio assessment, providing timely and constructive feedback, and encouraging student input.

To conclude, because each online classroom setting is unique as each individual learner is, it is always the instructor's role to assess and meet the learners' needs and course objectives. However, although the suggested techniques and strategies above are not complete, they still will guide online instructors to set up and teach their courses to promote CoI creation.

## References

- Akyol, Z. & Garrison, D. R. (2008). The development of a community of inquiry over time in an online course: Understanding the progression and integration of social, cognitive and teaching presence. *Journal of Asynchronous Learning Networks*, 12(3-4), 3-22.
- Arbaugh, J. B. (2007). An empirical verification of the community of inquiry framework. *Journal of Asynchronous Learning Network*, 11(1), 73-85.
- Arbaugh, J. B. (2008). Does the community of inquiry framework predict outcomes in online MBA courses? *International Review of Research in Open and Distance Learning*, 9(2), 1-21.
- Barab, S. A., & Duffy, T. (2000). From practice fields to communities of practice. In D. Jonassen, & S. M. Land. (Eds.). *Theoretical Foundations of Learning Environments* (pp. 25-56). Mahwah, NJ: Lawrence Erlbaum Associates.
- Barab, S. A., MaKinster, J., & Scheckler, R. (2003). Designing system dualities: Characterizing a web-supported teacher professional development community. *Information Society*, 19(3), 237-256.
- Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet and Higher Education*, 11(2), 1-14.
- Garrison, D. R. & Arbaugh, J.B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education*, 10(3), 157-172.
- Garrison, D. R. & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online learning: interaction is not enough. *American Journal of Distance Education*, 19(3), pp. 133-148.
- Garrison, D. R. & Vaughan, N. D. (2008). *Blended Learning in Higher Education: Framework, principles and Guidelines*. San Fransisco, CA: Jossey-Bass.
- Haythornthwaite, C., Kazmer, M. M., Robins, R. & Shoemaker, S. (2006). Community development among distance learners: Temporal and technological dimensions. *Journal of Commuter-Mediated Communication*, 6(1).
- Lipman, M. (2003). *Thinking in Education* (2<sup>nd</sup> ed.). Cambridge, UK: Cambridge University Press.
- Palloff, R. M. & Pratt, K. (1999). *Building Learning Communities in Cyberspace: Effective Strategies for the Online Classroom*. San Francisco, CL: Jossey-Bass Publishers.



- Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Networks*, 7(1), 68-88.
- Rourke, L., Anderson, T., Garrison, D. R., & Archer, W. (2001). Methodological issues in the content analysis of computer conference transcripts. *International Journal of Artificial Intelligence in Education*, 12, 8-12.
- Rovai, A. P. (2002). A preliminary look at structural differences in sense of classroom community between higher education traditional and ALN courses. *The Journal of Asynchronous Learning Networks*, 6(1), 41-56.
- Schullo, S. (2005). An analysis of pedagogical strategies: Using synchronous Web-based course systems in the online classroom. Unpublished doctoral dissertation, University of South Florida, Florida.
- Shea, P. J., Pickett, A. M. & Pelz, W. E. (2003). A follow-up investigation of "teaching presence" in the SUNY Learning Network. *Journal of Asynchronous Learning Networks*, 7(2), 61-80.
- Shea, P. (2006). A study of students' sense of learning community in online learning environments. *Journal of Asynchronous Learning Networks* 10(1).
- Shea, P. & Bidjerano, T. (2009). Community of inquiry as a theoretical framework to foster "epistemic engagement" and "cognitive presence" in online education. *Computers & Education*, 52(3), 543-553.
- Shea, P., Li, C. S., & Pickett, A. (2006). A study of teaching presence and student sense of learning community in fully online and web-enhanced college courses. *The Internet and Higher Education*, 9(3), 175-190.
- Stodel, E. J., MacDonald, C. J., & Thompson, T. L. (2006). Learners' perspectives on what is missing from online learning: Interpretations through the community of inquiry framework. *International Review of Research in Open and Distance Learning*, 7(3), 1-24.
- Swan, K. (2004). Relationships between interactions and learning in online environments. Retrieved December 21, 2008, from <http://www.sloan-c.org/publications/books/interactions.pdf>
- Tekiner Tolu, A. (2010). *An Exploration of Synchronous Communication in an Online Preservice ESOL Course: Community of Inquiry Perspective*. Unpublished Dissertation, University of South Florida, Tampa, Florida.
- Tu, C. & Corry, M. (2003). Building active online interaction via a collaborative learning community. *Computers in the Schools*, 20(3), 51-59.
- Tu, C. (2004). *Twenty-One Designs to Building an Online Collaborative Learning Community*. Westport, CT: Library Unlimited.
- Wenger, E. (1998). *Communities of Practice: Learning, Meaning and Identity*. Cambridge, UK: Cambridge University Press.