

COLLABORATIVE LEARNING IN AN ONLINE TEACHER EDUCATION COURSE: LESSONS LEARNED

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Abstract

Online learning is a common learning option for millions of students in the USA and around the world. Although online courses predominantly include independent work, collaboration can play a very valuable role in online learning. Online collaboration promotes problem-solving and critical thinking skills, facilitates the development of a professional learning community, and supports student learning via interactions and co-construction of knowledge with others. This paper presents design element guidelines, benefits and challenges associated with collaborative learning tasks in online teacher education courses. It focuses on the role of collaborative learning for developing 21st century skills with pre-service and in-service teachers.

Introduction

In this paper, the author will describe how collaborative learning was designed and implemented in a graduate level online teacher education course at a large metropolitan university in central Florida, USA. Collaboration plays an important role in creating an online learning community. The author will present information on a rationale for online collaborative learning, describe the types of collaborative learning tasks developed for this course, and share lessons learned from a comprehensive high stakes online teacher education course. The author will share information on instructional design elements, benefits and challenges associated with collaborative learning, and implications for further development and evaluation of collaborative learning in teacher preparation programs.

Background

Creating a shared understanding is simply a different task than sharing information. It's the difference between being deeply involved in a conversation and lecturing to a group. (Schrage, 1989 (quoted in Garrison & Anderson, 2003, p.22)

The paradox of 21st century learning is that it requires learners to be critical and independent thinkers as well as interdependent collaborative learners and problem solvers. The benefits of e-learning include meeting the needs of individual learners, providing differentiated learning options, and promoting independent reflection and learning; at the same time, e-learning capabilities include the ability

to bring together and connect people in private and public spaces and ways for recreational, aesthetic, and learning purposes.

Collaboration involves working with one or more people, together, toward achieving a common goal (Dillenbourg & Schneider, 1995). Collaborative learning is an approach to learning that includes groups of students working together to either complete a task, problem solve, or create a new product. This type of learning is based on the following premises: (a) learning is a social act (Gerlach, 1994); (b) learning is an active process; (c) learners benefit from others' knowledge and viewpoints; (d) dialogue and active involvement promote learning; and, (e) learning takes place when learners critically reflect on their knowledge (Smith & MacGregor, 1992). A clear component of collaboration is the ongoing interactions and communications that take place as learners work together toward a common task. Learners depend on one another, negotiate meaning and roles, and come to a common agreement on learning processes and products.

According to Schrage (1995) "Collaboration is the process of shared creation: Two or more individuals with complementary skills interacting to create a shared understanding that none had previously possessed or could have come to on their own" (p. 33). Following Schrage's reasoning, what role might collaboration play in online learning, and especially in teacher education courses where the development of collaboration skills is fundamental to the educator's professional life? Collaborative learning can take the form of discussion among the entire online community or class or between smaller groups. Characteristics of online collaboration include knowledge development, group dialogue and learning, computer-mediated communication, and the presentation of knowledge and learning in online learning environments (Haythornthwaite, 2006).

Collaboration is no longer expensive or difficult; there are many free and user-friendly technology tools people can use to collaborate with others. Can we design online courses that allow for true collaborative learning? What does collaborative learning "look like" in an online environment? What would students collaborate on and with whom? How will collaboration be monitored and assessed? How do Web 2.0 technologies facilitate collaboration in online courses? What is the impact of the collaboration on student learning and course instruction?

Collaborative learning implies active co-construction of knowledge and development of critical thinking and communication skills gained from peer-to-peer and peer-instructor interactions (Bruffee, 1993; Dede, 1990; Swan, 2005). Collaborative learning is based on constructivism theory that recognizes knowledge as a socially constructed process. Collaboration promotes social construction of meaning in a professional community of inquiry (Garrison, 2005).

Online courses allow for the development of a collaborative learning environment that is characterized by interactivity for learners and course instructors. However, course design is a determining factor for the presence, quality of interactivity in online courses (Swan, 2001). In addition, the course instructor's pedagogical framework, knowledge of online teaching and learning, andragogy (Knowles, 1984), and technology affect the development and implementation of collaborative learning. Interacting effectively with others in an online setting is not a natural by-product of experience or age. It is necessary to train instructors and students on how to successfully interact and learn with others in an online environment.

We know from research that student engagement in online learning via active participation interactions with peers and instructor positively affect student learning and satisfaction of the entire online experience (Chen, Gonyea, & Kuh, 2008). Students benefit from group work by listening to others, defending their assertions, making connections, and practicing critical thinking skills. Online learning is not just access to online content; it also involves learning as part of a virtual professional learning community. Quality online settings allow for rich and ongoing student interactions with peers and instructor. Palloff and Pratt (2005) suggest that online courses that are rich with student interactivity facilitate the development of critical thinking skills, better learning, socialized intelligence, and reflection. In addition, they also consider collaboration and community building in an online course to be interdependent. In a collaborative learning environment, knowledge is shared or transmitted among learners as they work towards common learning goals, a shared understanding of the subject at hand, or a solution to a problem. Learners are not passive bystanders but are active in their process of knowledge acquisition as they participate in discussions, search for information, and exchange opinions with their peers. Knowledge is co-created and shared among peers, not owned by one particular learner after obtaining it from the course materials or instructor (Wiske, Franz & Breit, 2005). The learning process creates a bond between and among learners as their knowledge construction depends on each other's contribution to the discussion. Hence, collaborative learning processes assist students to develop higher order thinking skills and to achieve richer knowledge generation through shared goals, shared exploration, and a shared process of meaning making (Archer, Garrison, & Anderson, 1999; Garrison & Archer, 2000; Palloff & Pratt, 2005).

Collaborative learning and learner engagement in the learning process go hand in hand. Learners involved in collaborative learning experiences are active and involved in co-constructing their knowledge through interactions with others (i.e., peers, instructor, other experts), expert guidance, and problem solving. Some of the benefits of collaborative learning include: facilitation of critical thinking skills through sharing, negotiating, defending, and extending ideas; increased student participation in learning; increased relevance of tasks; promotion of a safe learning community and social support network; revision of, and reflection on, learning; monitoring of each other's learning; and, more ownership of learning.

On the other hand, despite the documented benefits of collaborative learning many online instructors and students avoid it due to the time and commitment it requires. Many online learners view collaborative learning as an obstacle and they often complain about collaborative course activities and assignments. Some students complain about having to teach others how to collaborate online while others do not wish to negotiate on varied schedules and deal with or students who do not carry their own weight in the course; they see collaborative learning tasks as unproductive and sometimes even unfair when a grade they received did not accurately represent the amount of work and time they put into the collaboration.

Collaborative learning promotes connectivism in online courses; connectivism is achieved through dialogue and interactions with others (Siemens, 2005).

According to the coconnectivism perspective, learning 21st century is not a natural outcome of people just using technology and learning independently of others; instead, it is an outcome of several interactions such as (a) people interacting with the Internet and learning management systems; (b) people participating in communities of practice; (c) people participating in all kinds of networks and groups; (d) people sharing and co-developing their knowledge with others; and, (e) people applying knowledge to new contexts. 21st century learning skills require global (not just local) communications, collaborations, and collective problem solving.

Online Collaboration in a Situated Online Teacher Education Course

This fully online course is offered each semester to pre-service teachers in initial certification programs (P-12) and in-service elementary and secondary grade educators pursuing graduate studies at a large metropolitan university in central Florida. The instructor focused on creating course assignments that would meet the needs of a diverse student population and their respective programmatic needs. Criteria for designing course assignments and experiences included: relevance, rigor, community building, flexibility, and reflection. On average, 30 pre-service and in-service teachers enroll in the course on a semester basis; 80% of the students are pre-service teachers and 20% are in-service teachers and other future educators (i.e., students in school psychology, counselor education, and communicative disorders, exceptional education, and educational programs). Its content focuses on reading development, research, and instruction, for pre-service or in-service teachers in grades P-12 and other educators who will be working in elementary and secondary school settings.

The learning management system for the course (LMS) is Blackboard, the official LMS for the university. The course includes many multi-media elements and the author utilized Adobe Connect for synchronous course meetings and discussions. The author also used a wide array of other Web 2.0 presentation tools (e.g., Prezi, Slideshare, Glogster, Wordle), video tools (e.g., Animoto, XtraNormal), and community tools (e.g., Google Docs, Wikispaces). Students in the course used

additional tools (e.g., social networking tools, exchanged phone numbers, used AIM/ichat, Skype, e-mail, etc.).

Collaborative learning took place in the following ways in this course:

- Course discussions boards—coffee shop, weekly online discussion posts to readings (asynchronous communication and interactions), and replies to each other's postings, literacy logs (i.e., students' responses to effective reading strategies), questions, and ideas.
- Online chats using course chat feature (chats were used by instructor and students; students used the chat feature to work in their groups, set-up book group meetings, review course assignment expectations, etc.).
- Synchronous communication/interactions via Adobe Connect (e.g., instructor presentations, discussions with students on course assignments, discussions on course issues as they arose). Skype was also used as needed by instructor and students.

Collaborative learning course tasks (in addition to regular weekly discussions on course topics and other assignments) included the following:

A professional book group. In addition to the online course content, the course instructor (author) selected four teacher professional books for students to choose from to study and reflect upon during the course (in addition to the regular course content). Author chose the books based on student characteristics (i.e., program area of study) and on current reading research and instruction issues for grades P-12. Students chose the role each one would play within their small group (i.e., discussion leader, note-taker, cheerleader, time-manager), negotiated on their schedules, set-up the three major book chats for their group (and subsequent bi-weekly meetings), and submitted a report (at the end of each chat) on the discussion of the book to the instructor (including reflections, questions, and ideas from the readings and dialogue thus far). Group size was intentionally small to maximize student-student interactions (4 students per group). The instructor spent much time at the beginning of the course with introductions, feedback, meetings, and community-building activities. The instructor also presented students with an FAQ (Frequently Asked Questions) document on collaboration, shared collaboration protocols and rubrics and the assignment, and modeled conflict resolution scenarios and skills.

Three online chats (synchronous or asynchronous) set and offered by each group. According to the course schedule, each group was expected to conduct three formal, public online meetings/chats on their book and invite other students from class to attend as their schedules allowed. Chat one was to take place during week four, chat two during week six, and chat three during week eight of the semester. Students used their own ways of communicating and making group decisions; they met several times to negotiate on schedules, deadlines, and discuss their book—some groups used Wikispaces, other Good Docs, Skype, and yet

others, even met face-to-face for coffee at various locations and at the university library.

A group-generated book project. As a final group project, each group was expected to develop and share with the class a group presentation on the book they studied, discussed, and reflected upon throughout the course. Groups got together numerous times for the production of their final project. The instructor provided students with a rubric for this task and with examples and tools they could use; each group decided on the choice of presentation tool and content of presentation. Various groups used Publisher to create flyers on their book, others developed a newsletter, and others used Prezi, Glogster, Wordle, and digital storytelling. Groups shared project development responsibilities and were accountable for meeting deadlines, sharing ideas, and developing a final project each group member agreed upon.

Lessons Learned

Planning for collaborative learning in online courses is no small feat. It requires a different perspective on pedagogy and student learning, strategic uses of technology and tools, ongoing monitoring of student progress, and much time and commitment. In the following section the author will share lessons learned from designing and implementing collaborative learning in an online course teacher education course for the past five years.

Examine your philosophy about how teaching and learning take place in an online setting and how knowledge is constructed.

- What is your philosophy about online teaching and learning?
- In your view, how is knowledge constructed? A constructivist theoretical framework values social interactions and the co-construction of knowledge. Online learning is not independent learning or learning in isolation. Students can benefit from interactions with course instructor and also from working on course tasks and activities with peers.
- Are you willing to invest the type of planning, time, modeling, and monitoring necessary for collaborative learning in online courses?
- Are you willing to provide students with the time, tools, and support they will need to effectively collaborate on course tasks with others?
- Does your course learning management system allow for synchronous and asynchronous communications?
- Will you be offering and introducing students to additional tools, forums, or means to collaborate publicly and/or privately?
- How will you be grouping students for collaborative work?
- Will students form their own groups?
- Will groups be homogeneous (e.g., same gender, same subject interest) or heterogeneous?
- Will you be offering guidelines for group formation?
- What are your course expectations for frequency and quality of collaboration?

- How will you address students who do not prefer collaborative learning activities in online courses?
- Build a community of inquiry, trust, and support where collaboration can thrive.

Decide on the role collaboration will play in your online course.

- Value online collaborative learning and make it visible in your syllabus, course, and instruction.
- Help students in online courses “see” the value of collaboration and explain why it plays a role in your course and how it will support their learning.
- Identify course objectives for student learning that will be met through collaboration.
- Identify collaborative activities and tasks students will be involved in at which point of the course, for how long, and desired outcomes and products.
- Design collaborative learning tasks in a flexible manner and allow for modifications and revisions based on student feedback and your own personal assessment of student learning.

Identify the spaces where collaboration among peers, and between students and instructor, will take place.

- “You cannot create shared understanding without shared space.” (Schrage, 1989, p. 94)
- Establish social and technical (infrastructural) means for synchronous and asynchronous communications (e.g., chat hours, chat rooms, or other Web 2.0 tools students can use for collaboration inside and outside the course).
- Not every type of collaboration needs to be recorded or assessed.
- Promote public and private online interactions among peers and between students and instructor.

Create assignments and course experiences that will promote collaboration.

Balance the types of assignments, tasks, and experiences in your course.

- Ensure that students in your course are having communications with a real audience using text and imagery and are expanding their knowledge.
- Develop assignments that do not require just memorization of facts but involve students to discussing diverse opinions, perspectives, experiences, and thinking processes.
- Create thought-provoking questions, tasks, discussions, projects, and assignments.
- Include assignments that would require some level of student-student interaction in small groups and with the entire class where students would present, compare and contrast information and learning.
- Are there experiences in your course that would require students to seek others’ perspectives, negotiate on their understanding of the subject

- matter, problem-solve together, and even produce a group product?
- Think about the value you would place on various course assignments and demonstrate to students that you value critical student engagement, thinking, synthesis, and reflection of core course and learning objectives and knowledge.

Model and support the development of collaborative skills.

- Develop collaborative learning protocols and establish clear expectations about student and instructor roles.
- Develop rubrics for collaborative tasks, model, discuss, and provide feedback on desired behaviors and products.
- Provide examples for desired quality of collaborative learning tasks.
- Provide strategic and scaffolded feedback on collaborative learning tasks and activities.
- Establish grading values and criteria (% of grade or points) for types of collaborative activities, products, and absence of collaboration--Not everything that is collaborative behavior needs to be evaluated.
- Help develop students' collaborative and conflict resolution skills.
- Model conflict resolution skills and provide support.
- Monitor collaboration by obtaining regular feedback from students, providing ongoing feedback to students, examining records of group work in discussion boards or other means of collaboration (e.g., Wikis, Blogs, Synchronous and Asynchronous chat rooms, or bulletin boards).
- Promote student self-monitoring of learning through progress reports, feedback, discussion forums, virtual student-instructor conferences, etc.

Facilitate online collaborative activities.

- Create an online professional learning community, a community of inquiry, problem solving, and reflection.
- Scaffold online collaboration. Ease students in online collaboration, provide introductory orientations, allow for students to socialize and get to know each other inside and outside the course.
- Promote active learning and interactions by first modeling frequent, appropriate, and meaningful interactions with students.
- Model group norms, set and discuss expectations for student and instructor roles, collaboration, and appropriate interactions.
- Model expected and appropriate communication behaviors.

Evaluate, and reflect on, the benefits of collaborative learning for student outcomes and use formative and summative evaluation to make necessary adjustments and plan for the future.

- Collect ongoing data on student progress.
- Identify benefits and challenges associated with collaborative learning.
- Invite student feedback at all times.
- Incorporate student feedback in immediate and long-term course

- adjustments.
- Use formative and summative evaluation to design courses with students' needs in mind.
 - Continue to learn new ways to promote collaborative learning in online courses.
 - Discuss the benefits and challenges associated with collaborative learning in online courses with other faculty who teach online courses—dialogue with, and learn from colleagues and others.

Conclusion

Collaborative learning in online courses takes time, advanced planning, attention, community building, trust, reflection, and careful monitoring. Collaborative learning is complex for many reasons (e.g., course design features, lack of social skills by some learners, monitoring and assessment of student learning). Online course instructors should allow time and support to build students' collaboration skills and provide support especially to new online learners. Students will benefit from clear expectations, technology tools (and tutorials), and instructor feedback and support on learning tasks, conflict resolution, and course outcomes.

The future of online learning will be determined by learner needs, technology, and new learning paradigms (Bonk, 2004). Collaborative and critical thinking skills are a must for 21st century learning; 21st learning calls for intentional, ongoing, and critical collaboration and shared knowledge. There is a need for online learning settings that facilitate development of 21st century learning skills (Bonk, Wisher, & Lee, 2003). Incorporation of collaborative learning in online teacher education courses might also promote more teacher use of technology in elementary through secondary classrooms. Teacher educators must play a key role in designing and implementing collaborative learning in online courses based on student, programmatic, and professional needs. There is a need for research that will examine the impact of collaborative learning in online teacher education courses on teacher preparation and education. “A critical, collaborative learning community has been the *sine qua non* of higher education. Re-valuing the traditional ideal of a community of learners is at the heart of the e-learning transformation.” (Garrison & Anderson, 2003, p. 22)

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