

COLLABORATIVE LEARNING IN THE ONLINE ENVIRONMENT

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ABSTRACT

Collaborative learning attracts interest because it addresses several major pre occupations related to improving student learning. First, the predominant conclusion from a half-century of research is that teachers cannot simply transfer their knowledge to students. Students must build their own minds through a process of assimilating information into their own understandings. Meaningful and lasting learning occurs through personal, active engagement. The advantages of collaborative learning for actively engaging students are clear when compared with more traditional methods-such as lecture and large group discussions-in which only a few students typically can, or do, participate. Second Collaborative learning offers students opportunities to learn valuable interpersonal and teamwork skills and dispositions by participating in task-oriented learning groups; thus, even beyond enhancing the learning of content or subject matter, collaborative groups develop important skills that prepare students for their careers. Third, our increasingly diverse society requires engaged citizens who can appreciate and benefit from different perspectives. At the same time, most local, national, and global challenges require long-term, collective responses. Learning to listen carefully, think critically, participate constructively, and collaborate productively to solve common problems are vital components of an education for modern-day citizenship. Finally, colleges and universities want to provide greater opportunities for a wider variety of students to develop as lifelong learners. Collaborative learning engages students of all backgrounds personally and actively, calling individuals to contribute knowledge and perspectives to the education of all developed from their unique lives as well as academic and vocational experiences.

KEYWORDS: Collaborative, Productively, Scaffolded Activities, Rationale, Mechanisms, Dynamic, Quantitative.

INTRODUCTION

DIFFERENCE BETWEEN COOPERATIVE AND COLLABORATIVE LEARNING

Although to most educators-and indeed to the lexicographers who compile dictionaries-the

terms collaborative and cooperative have similar meanings, there is considerable debate and discussion as to whether they mean the same thing when applied to group learning.

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Some authors use the words interchangeably to mean students working interdependently on a common learning task. To others, cooperative learning is simply a subcategory of collaborative learning (Cuseo, 1992). Likewise, Pascarella and Terenzini (2005, p. 103) stress that the two terms are not synonymous, but they “regard cooperative learning as a distinct and highly structured version of collaborative learning.” Still others hold that the most sensible approach is to view collaborative and cooperative learning as positioned on a continuum from most structured (cooperative) to least structured (collaborative) (Millis & Cottell, 1998). Certain authors, however, insist on a sharp distinction between the two. In an article for *Change* magazine, subtitled “Cooperative Learning versus Collaborative Learning,” Bruffee (1995) contends, “Describing cooperative and collaborative learning as complementary understates some important differences between the two. Some of what collaborative learning pedagogy recommends that teachers do tends in fact to undercut some of what cooperative learning might hope to accomplish, and vice versa” (p. 16). The essence of Bruffee’s position is that, whereas the goal of cooperative learning is to work together in harmony and mutual support to find the solution, the goal of collaborative learning is to develop autonomous, articulate, thinking people, even if at times such a goal encourages dissent and competition that seems to undercut the ideals of cooperative learning.

CONCEPT OF ONLINE COLLABORATIVE LEARNING

Online collaborative learning comprises the same indispensable features as onsite collaborative learning, but they typically unfold differently. The first feature of onsite collaborative learning, intentional design, is arguably even more essential in online courses. Online instructors have the extra component of technology within that design, which requires

an additional layer of planning. Indeed, researchers have found that online instructors believe that online design requires more planning and structure than onsite to be effective (Major, 2010).

The second feature of collaborative learning is the co-laboring of individuals: all students must contribute to the group processes and products. Accomplishing equitable workload distribution is challenging in onsite classes but even more so online, where students must collaborate without physical communication cues such as eye contact and body language to help them make sense of each other and their shared tasks. Additionally, communication is often asynchronous online, and thus planning time for co-laboring can be more challenging for these students. Moreover, they typically do not have as much experience working in collaborative groups online as they do onsite, and therefore how to go about co-laboring may not be as readily apparent to them (Major, 2014).

The third and final feature of collaborative learning is meaningful learning, which requires students to assume some authority and control over their learning. Measuring this goal and knowing that it has been met can be particularly challenging to achieve in an online environment where much of the learning is emergent. That is, learning happens on its own, without direction and without control. Because this creates additional obstacles in measuring its efficacy (Williams, Karousou, & Mackness, 2011), online instructors must find new ways to document the attainment of planned goals and be flexible, recognize, and account for both planned and emergent learning.

THEORETICAL RATIONALE FOR ONLINE COLLABORATIVE LEARNING

As with collaborative learning in onsite courses, we can draw consistent principles from across various theories of learning to provide a strong

rationale for collaboration in the online environment. Online Students Learn by Integrating New Information into Their Existing Understandings Students come to any activity with prior knowledge and prior experiences, and when they learn they add to their existing knowledge bases. During an online collaborative process, learners rely on each other as they do in onsite classes, but online classes potentially add technological tools that hold their collective knowledge. Thus, in online classes students not only build knowledge stores internally but also have opportunities to build knowledge externally.

Online Students Learn from Observing and Imitating Others When online, individuals develop new knowledge and skills such as learning how to evaluate online sources for credibility or how to communicate effectively online with their peers. Students may find guidance on how to do activities such as these by observing and imitating others who are online. Indeed, lurking is a common practice in online communities in which newcomers spend time observing others before joining in discussions and activities. (See Lave and Wenger's 1991 discussion of legitimate peripheral participation.)

ONLINE STUDENTS LEARN THROUGH INTENTIONALLY SCAFFOLDED ACTIVITIES WHEN SUPPORTED BY OTHERS

Learners in an online environment, particularly novices, can benefit from scaffolding, in which learners are provided with support until they are able to complete an activity on their own. Instructors who have participated in interviews about their experiences teaching online have found scaffolding to be especially important in online environments (Major, 2010 2015). Collaborative learning is one way to provide such scaffolding. For example, online reciprocal peer tutoring activities provide mechanisms for students with high academic achievement to

partner with those with lower achievement to provide them with additional support.

ONLINE STUDENTS LEARN THROUGH POOLING KNOWLEDGE AND CREATING NEW KNOWLEDGE

Online environments are rich with opportunities for students to pool knowledge and produce new knowledge. Groups of students may, for example, pool information through the online implementation of Collaborative Learning Technique 28 Collaborative Writing (WIKI), which allows them to contribute individually in a central location to a collaborative writing assignment. The product created through this activity may be shared to contribute to the entire class's knowledge base, and it can also be retained in subsequent semesters so that new students add to the existing store of knowledge rather than starting from the beginning.

ONLINE STUDENTS LEARN WHEN THEY SEEK UNDERSTANDING

The Internet is an extensive, global information network consisting of interlinked information and resources that provide learners with many opportunities for seeking understanding. Furthermore, Thomas and Brown (2011) argue that learning involves a process called situated learning, in which students seek to learn course, disciplinary, and institutional norms to situate themselves within a group. Because it is a vast network, online learning is often associated with situated learning. Online Students Learn in a Situated, Social Process in Which Knowledge Is Co-Constructed People work together in communities, sharing interests, ideas, information, and experiences. It is through this process of interaction that people learn. Furthermore, knowledge is built and held by the group. Lave and Wenger's (1991) and Wenger's (1998) notions of communities of practice have been particularly

influential in discussions of online learning, as advocates of this perspective see the potential for online learners to form such communities.

HUMAN ONLINE STUDENTS LEARN THROUGH A DISTRIBUTED PROCESS OF AGENTS INTERACTING DYNAMICALLY WITH ARTIFACTS

Learning is a process in which people interact with each other and with technological agents and tools in communities of common interest, social networks, and group tasks (Siemens, 2005). Online courses provide the context for learners to be active agents in a sociocultural and sociotechnological environment that creates learning distributed among humans and technological tools (Major, 2014).

In summary, online collaborative learning, like onsite learning, enjoys strong theoretical grounding from the varied perspectives on individual learning. Moreover, it also can be well situated within many of the new social theories of learning.

EVIDENCE FOR ONLINE COLLABORATIVE LEARNING

Scholars have now conducted hundreds of studies on whether online instruction is as effective as onsite instruction. Some studies have found that online learning is less effective, others that it is more effective, and still others that it is the same. Clearly there is variation among the ways online courses are designed and taught, and just as there are less effective onsite courses, there are also less effective online courses. Meta-analyses, which compile the results from several published studies, can perhaps provide a clearer answer. Taken together, these studies suggest that online courses are as effective as or slightly more effective than onsite courses (see, e.g., Bernard et al., 2009; Means et al., 2009)

HOW IMPROVE THE QUALITY OF LEARNING IN ONLINE COURSES?

There is solid and growing evidence that collaborative learning does. In Chickering and Ehrmann's (1996) adaptation for the online environment of Chickering and Gamson's seven principles of good practice, their second principle suggests that collaborative learning is essential for good practice, and this principle has been broadly construed as also applying to online distance learning. Does empirical evidence support this position? The short answer is: yes, it does. Many quantitative studies point to the fact that interaction and meaningful work among peers is an important component of an effective online learning environment and that it has the potential to influence student learning in online courses. Additional qualitative studies that address student experience in online courses also highlight several important ways collaborative learning can help online learning.

A SUMMARY OF SOME OF THESE FINDINGS FOLLOWS

COLLABORATIVE LEARNING CAN IMPROVE STUDENT LEARNING IN ONLINE

Courses In a 2009 meta-analysis of more than two hundred studies, Means et al. (2009) found that effect sizes of learning gains were larger for studies in which the online instruction was collaborative or instructor directed than in those where online learners worked independently. Similarly, in their meta-analysis of 74 studies, Bernard et al. (2009) found that student-to-student interactions and student-to-content interactions were more effective than student-to-instructor interactions at producing positive learning outcomes. In short, instructional methods are more important than technological affordance, and working and talking with other students through either

discussions or collaborative work improves student learning outcomes in online courses (Bernard et al., 2004; Çavuş, Uzonboylu, & Ibrahim, 2007).

Collaborative Learning Can Help to Eliminate Feelings of Isolation Students May Feel in an Online Course Several qualitative studies have indicated that some students can feel isolated in online courses (see, e.g., Lyall & McNamara, 2000; Zembylas, Theodorou, & Pavlakis, 2008).

These feelings of isolation can stem from the fact that students are working independently, separated from each other by both time and space. Feelings of isolation have the potential to lead to poor attitudes and course performance. Collaborative learning requires students to work with each other, which can help reduce these feelings. Indeed, one student interviewed in Melrose and Bergeron's (2007) study, suggested the following remedy to the isolation problem: "Maybe the instructor could pull people together in the groups. Newer students don't have the background, help us share some little personal thing and then we can build on it to get to know each other" (p. 7). Online collaborative learning can help students feel as though they are valued members of a learning community.

COLLABORATIVE LEARNING CAN HELP STUDENTS FORGE RELATIONSHIPS WITH THEIR PEERS

Online students appear to value interacting and forming relationships with peers. Several studies have found that getting to know other students in an online environment can improve their overall experiences (see Blackmon & Major, 2012; Motteram & Forrester, 2005).

Moreover, students in some studies have suggested that their relationships with students in online courses were stronger than those in onsite courses (Zembylas et al., 2008). These relationships form the basis of positive student

experiences, and online collaborative learning provides a solid foundation on which such relationships may be founded. Collaborative Learning Improves Outcomes in Online Courses One well-known model of collaboration in online learning is Anderson et al.'s (2001) model of community of inquiry. The authors describe such a community as a group of individuals who engage in a purposeful discourse and reflection collaboratively. The goal of a community of inquiry is to construct personal meaning and confirm mutual understanding. The model is made of three interdependent and overlapping elements: teacher, cognitive, and social presence. Teacher presence involves the design, facilitation, and direction of course processes (Anderson et al., 2001). Cognitive presence involves learner ability to construct and confirm meaning through sustained reflection and discourse (Garrison, Anderson, & Archer, 2001). Social presence is "the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities" (Garrison, 2009). All three of these elements are essential for a community of inquiry, and clearly collaborative learning supports the achievement of social presence in an online course. To conclude, just as is the case with onsite classes, there is ample evidence that collaborative learning is effective in promoting learning in online classes. In Part Two of this text, we turn to a more practical discussion of how online collaborative learning may be done, and in Part Three we provide specific online collaborative learning techniques that instructors may use in online courses.

IMPLEMENTING COLLABORATIVE LEARNING

Central to considering how to implement collaborative learning are philosophical positions regarding the role of the college

teacher in the classroom, as views of these positions have a major influence on how teachers choose to implement collaborative learning. In general, the role of college teachers has shifted dramatically over the last two decades, stimulated in part by the assessment movement with its assumptions of institutional accountability for student learning and in part by major advances in our understanding of the learning process. As Part One indicates, research on learning demonstrates convincingly that learners must actively engage in the learning process; teachers cannot simply pour knowledge into students' heads and hope that they will assimilate it into the understandings that we call learning. Advances in knowledge about how students learn coupled with demands for institutional accountability for student learning make new demands on teachers. Today's teachers must know not only their subject matter but also how to get students actively involved in working with the concepts of the discipline to make the knowledge their own. Creating a stimulating learning environment where students challenge and motivate fellow students to get involved in learning is a substantial undertaking, requiring a depth of knowledge about the subject and about teaching, and it constitutes part of what we know as the scholarship of teaching (Boyer, 1990). With the growth and increasing popularity of collaborative learning, there are honest differences, forcefully expressed in the literature of collaborative learning, about the appropriate roles for instructors in creating this learning environment. Opinions run the gamut from convictions that instructors should play a minimal role in shaping and directing the work of student learning groups to beliefs that instructors have the responsibility to structure the learning tasks, monitor group progress, and intervene if students get off track. Kenneth Bruffee, for example, contends that students must be "clearly and unequivocally on their own to govern themselves and pursue the task

in the way that they see fit" (1995, p. 17). He takes his position on the grounds that shifting responsibility for learning from instructor to students "helps students become autonomous, articulate, and socially and intellectually mature, and it helps them learn the substance at issue not as conclusive 'facts' but as the constructed result of a disciplined social process of inquiry." Others encourage more traditional roles for instructors, contending that they have the responsibility to make assignments, monitor the group process to assure that all are participating and that the group is staying on task, intervene if students get off track, and evaluate group process and effectiveness (Johnson, Johnson, & Smith, 1998a). practical matter, most instructors probably fall somewhere in the middle or cruise along the continuum, depending on the discipline, course objectives, personal style and comfort of the instructor, student experience, and a host of other variables involved in any given classroom. Some instructors see themselves as coaches, observing, correcting, and working with students to improve their performance; some prefer the concept of facilitator, which implies arranging the learning environment to encourage self-directed learning; some use the term manager, emphasizing a sequential process of setting the conditions and managing the process to produce the desired outcomes; and some prefer the concept of co-learner, highlighting the social role of constructing knowledge. The terminology is more than semantics; it reflects a variety of self-perceptions of the new faculty role in the classroom. On one matter, however, there is virtually universal agreement. The new college teacher is more than Conclusion a dispenser of information. If there is any convergence in advice offered in the literature by experienced teachers of group learning, it is toward flexibility coupled with enough structure to assure those two stalwarts of the

collaborative learning movement-positive interdependence and individual accountability.

ROLE OF THE INSTRUCTOR IN COLLABORATIVE LEARNING INCLUDES THE FOLLOWING RESPONSIBILITIES

- Designing the task
- Orienting students to the goals and purposes of collaborative learning
- Making decisions about size, duration, and operation of the learning groups
- Assigning the task in ways that support efficient accomplishment
- Assuring active, constructive participation
- Assessing and evaluating learning

CONCLUSION

Collaborative learning seems to be an instructional practice that is very effective in today's higher education classroom. It is theoretically defensible, and it is now a well-researched and extensively field-tested pedagogy. As more and more faculty in higher education incorporate interactive group learning into their classrooms, the accumulation of both the wisdom of practice and the documentation of research will continue to grow. Nevertheless, there is already plenty of information to help classroom

teachers avoid the pitfalls and capitalize on the potential of collaborative learning. A major purpose of this article is to pull experience and research together to help teachers design creative, challenging, and effective group assignments in both onsite and online environments.

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