

Collaborative Knowledge Building

Blending In-Class and Online Learning Formats

Margaret Riel and Paul Sparks

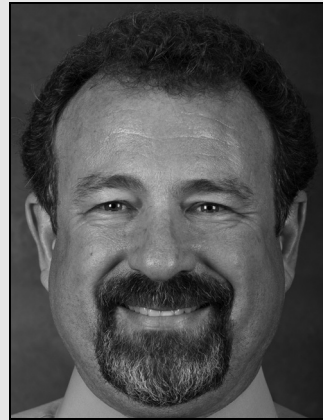
INTRODUCTION

Programs that promote collaborative knowledge building are smart to exploit all effective formats and methods. Blended learning—a mixture of in-class and online learning—provides an effective combination of interpersonal and intellectual supports for learning (Means, Toyama, Murphy, Bakia, & Jose, 2009). It also supports a wide range of learning methods. At one end of the continuum,

courses are conducted primarily in-class and extended using online discussions. In this format the in-class learning drives the online learning. At the other end, online programs use in-class time to build the community, enabling more authentic student sharing. Blended programs appear best able to capitalize on the social infrastructure of learning, incorporating conceptual and practical learning outcomes, making good use of the social capital of the



Margaret Riel, Visiting Faculty and Cochair of the Online Master of Arts in Learning Technologies, Pepperdine University Graduate School of Education and Psychology, 6100 Center Drive, Los Angeles, CA 90045. Telephone: (310) 568-5600. E-mail: margaret.riel@pepperdine.edu



Paul Sparks, Associate Professor and Cochair of the Online Master of Arts in Learning Technologies, Pepperdine University Graduate School of Education and Psychology, 6100 Center Drive, Los Angeles, CA 90045. Telephone: (310) 568-5600. E-mail: paul.sparks@pepperdine.edu

students, and maximizing the online learning space. While discussions of online or blended learning tends to focus on technology, the orchestration of the learning community (Garrison & Vaughan, 2008; Palloff & Pratt, 2005; Polin, 2003) is most critical for collaborative knowledge building (Berietter, 2002; Bereiter & Scadamalia, 1993).

LECTURING, KNOWLEDGE BUILDING AND ONLINE LEARNING

Lectures are demonstrations of how one person, the professor, builds knowledge from disparate sources. The professor uses his or her theoretical orientation, research experience, personal stories, and connection with the field to demonstrate how he or she builds knowledge. Research, books, articles, and other sources are blended together by the professor into compelling stories of the histories of ideas. It is a process that leaves the students to watch and learn in a passive receptive way. Thoughtful students understand that they need to do more than listen to the content; some see the lecture as a “model” of the process of integrating information from different sources to create new knowledge. They understand the message is in the method. However, most students have only an implicit understanding of this model of learning. For them, the learning is a one-directional transfer—professors impart their work to their receptive students. The focus is on the content, the story and not the process of storytelling. Many professors first approach teaching online as a way to move lectures online. Recent meta-analyses suggest that even with this limitation, blended learning shows a small to medium effect size advantage over in-class learning (Means et al., 2009). This may, in part, be due to the fact that students in blended programs were found to spend more time on their studies. However if blended learning leads to a greater invest-

ment in learning, that, in itself is an important finding.

While there is value in listening to experts, building collaborative knowledge requires action and innovation. To learn how to build knowledge from evidence, experience, and theory, students need to develop the authority of their own ideas (Berietter, 2002; Bruffee, 1999). The online environment is very different from the classroom. Researchers suggest the online environment is better suited for a form of learning called collaborative knowledge building (Berietter, 2002; Polin, 2003). Discussion forums are not limited by time or by the need for one person to speak at time. Students can more efficiently be placed in the role of integrating information from different sources, dealing with contrary evidence, and making sense of the different perspectives. The role of the professor can shift from modeling the sense-making process (lecturing) to providing feedback on the process of knowledge building. With more experience in the online context, professors learn to use resources and activities that challenge students to make sense of ideas collectively. They do this by asking probing questions that stimulate insightful ideas, rather than providing them. While no one student is likely to create knowledge that rivals the professor, the students acting as a form of distributed cognition (Salomon, 1993), may be able to create a narrative that has intellectual merit.

Engaging students in active knowledge building can happen in-class in smaller “discussion” courses. However, classroom discussions are often controlled by the verbally strong students and time becomes limiting. Another challenge to in-class knowledge building is original idea development while listening to others. In-class time constraints can lead to competition to voice one’s ideas, limiting thoughtful attention to what others are saying. Furthermore, the dialogue is limited to what is presently known. Finally, metacognitive,

reflective awareness competes with the heavy cognitive demands of the verbal channel.

Asynchronous discussion forums provide a context for collaborative knowledge building (Collison, Elbaum, Haavind, & Tinker, 2000; Conrad & Donaldson, 2004; Garrison & Vaughan, 2000; Polin, 2008). In collaborative knowledge building, there is the opportunity for many perspectives to emerge with less centralized control. There is time to collect and consider the role of both supportive and contrary evidence. Ideas can be revisited, revised, and explored from multiple perspectives. Online discussion forums remove the tension of balancing listening with thinking and allows for more equitable access for those who are more reflective in nature. Collaborative knowledge building provides the foundation of learning that is reflective and generative (Bereiter, 2002; Bransford, Brown, & Cocking, 1999; Dewey, 1916). The switch away from lectures to knowledge building activities takes advantage of the expertise of the students. In graduate programs with mid-career students, collaborative knowledge building leverages resources that students bring to the learning context.

Of course, both online and in-class discussion can be superficial, and so best strategies for creating a more reflective context for collaborative knowledge building remain a challenge (Collison et al., 2000; Polin, 2008). Professors engaged in this process understand that collaborative knowledge building involves taking risks and relies on a high degree of trust and respect (Bryk & Schneider, 2002). Sharing one's thinking almost always involves some degree of interpersonal risk. Despite affordances of online environments for reflection, in-class settings have proven to be more effective for building and maintaining the relationships that underlie success in this process.

BLENDING INTERPERSONAL AND INTELLECTUAL SUPPORT FOR COLLABORATIVE KNOWLEDGE BUILDING

Many research comparisons on blended learning are directed toward understanding how teaching and learning initially change when it migrates online (Parkhurst, Moskal, Downey, Lucena, Bigley, & Elberb, 2008; Power, 2008). These comparison studies miss the shift from lecturing to supporting collaborative knowledge building, a transformation that happens after multiple years of developing expertise in online teaching. Despite this limitation, a recent meta-analysis of online programs, mostly graduate-level, found positive outcomes for blended online learning compared to in-class learning, noting that the blended conditions often included additional learning time and instructional elements not received by students in the fixed time periods of classroom instruction (Means et al., 2009). However, these findings are largely based on controlled studies where an in-class course was moved online by professors with little or no experience teaching online. While these comparison studies are important initially to validate blended learning, the field is close to accepting that quality teaching can take place in range of settings. More research is needed to explore the pedagogical shifts that take place both online and in-class within mature programs of blended learning.

At the Pepperdine University Graduate School of Education and Psychology (GSEP), whole programs are designed around a blended context with students meeting in-class and online. The faculty members in these programs have decades of experience teaching online which have helped them to evolve teaching strategies and practices that support collaborative knowledge building. They promote an environment in which students are actively engaged and able to direct their

learning. Rather than capturing lectures as learning objects, professors design activities, ask questions, and challenge responses in ways that encourage students to use theory and data to understand relationships and develop their own knowledge. Extensive faculty online expertise shapes the way that in-class time is used to support and extend collaborative knowledge building.

Three in-class stages have evolved to support collaborative knowledge building. An introductory “learning camp” (three to four days) prepares students socially and emotionally for highly collaborative learning. Critical in these first encounters is building the interpersonal norms of trust, respect and collaboration. Regular in-class sessions (one or two per semester) satisfy the need for social reconnection and introduction to a larger community of experts. A culminating final in-class session serves as a showcase of individual and group work. Examples of in-class learning at each of these different stages in the learning will be presented.

PREPARING STUDENTS FOR COLLABORATIVE KNOWLEDGE BUILDING

Students come to the university with expectations that they will be learning from their professors and working independently by reading and writing papers. Students are unprepared to engage in a process of collaborative sense-making from evidence. Collaborative knowledge building asks students to take risks and share emergent ideas, requiring some preparation. The introductory in-class experience helps students develop the interpersonal skills, shared norms, and metacognitive dispositions that will support their learning. These activities go beyond what others have described as ice breakers and are designed to prepare students for a different approach to online interaction—one

through which they will be more actively involved.

An initial objective for the in-class activities is the sharing of individual identities and encouraging the development of a group identity. When introductions are structured as activities, they help to provide some reflective space to consider one’s own sense of identity within the larger context of the community. These activities (drawing and sharing professional portraits, filming and editing video introductions of a team, or experimenting with and debating the value of different personality classification tools) engage students in a form of risk-taking in sharing a reflective or metacognitive sense of self. The social experience of doing these activities in small groups helps students begin the process of making memories that will later support making meaning.

A second important objective for the initial in-class activities is to help the community develop group norms, specifically those of trust, respect, interdependence, openness, and risk-taking. Students receive complex, multiday challenges that would be very difficult for any one person to accomplish, but can be solved by groups of people working together. These activities include challenges with robotics, film-making, food preparation, and problem solving. Individual and group reflective activities help the students attend to both what is happening and how their perceptions, emotions, and ideas relate to what others are experiencing. The metacognitive levels of these reflections help students begin to evolve a sense of community norms.

These learning quests and activities are not focused on learning about technology, but rather engage students in learning with technical tools. By watching how students learn to use new tools, as well as who emerges as the leaders and who is easily frustrated, the professors can take the pulse of the learning community. They can see how the students react to what

appear to be impossible challenges. The success of the group with tasks that at first appear extremely difficult provides a metaphor for the potential of collaborative knowledge building. Through distributed learning and teaching during activities, the students acquire comfort and skill with the tools that they will need to use throughout the program. For example, in one activity, the students use social networking tools, access to the digital library, and community web space to create a reading room of resources around a course topic.

ENGAGING STUDENTS IN KNOWLEDGE BUILDING MIDSTREAM

The in-class sessions are intermittently used to reconnect the community and extend the trust that will make it possible for students to take additional risks and acquire the expertise they need. Trust building is iterative. Collaborative knowledge building requires flexibility for the group to reshape a course as they work through the ideas. Students are an important source of the content of the course. They bring valuable resources and, with the development of trust and respect, students can come to rely on the social capital of the community. The process of building knowledge often involves a process of reculturation of students (Bruffee, 1993). The following example is an illustration of this technique of using the in-class meetings.

Students in the GSEP Online Masters of Arts in Learning Technologies program are engaged in yearlong action research. Mid-year, they are collecting evidence to understand change in their workplace and need help with qualitative analysis for dialogue transcripts or open-ended survey questions. In a traditional course, the professor would prepare a lecture on research methods. In collaborative knowledge building, the assumption is that the action researchers are new researchers and they need to learn from the community, including

members in their group, their professor, and even the authors of their course texts. Students work together online in learning circles (Riel, 2009) to mobilize their resources, formulate a research question, and analyze the data.

The in-class session serves as a sharing of both the outcomes and process of doing the analysis. This work produces a rich discussion of research methods and a significant group-to-group discussion of the value and validity of different approaches. Each group employs varied and often innovative methods for working with the data, and in doing so uncovers different research problems. Collectively, they find a way to deal with most of the central problems that would make up the content of a lecture on qualitative research methods. The role of the professor is to share the ways in which the larger research community deals with similar issues. This process of discovering and building the practices of the profession encourages students to appreciate the role of community in knowledge building. They develop an understanding of how what they are doing—building shared knowledge—is what takes place across larger communities and across greater periods of time.

When students are asked to do something that they have not been taught to do, they are taking risks. Removing the risks of grades in this assignment promotes students' will to experiment with innovative thinking both at the cognitive and meta-cognitive level. The approaches to data analysis are rich and diverse, and always lead to great discussions about what is valid or reliable evidence to make claims. The content of the class meeting is always different, as what the students bring to the class is different. If there are strong researchers in one or more of the groups, those students emerge as the community experts and establish this identity. The depth of research knowledge within our community is made apparent. This embedded assessment of the group knowledge is

essential for making choices of how to modify the education course to meet the needs of each specific group of students.

CULMINATING EXHIBITIONS OF STUDENT WORK

Collaborative knowledge is celebrated at the end of coursework in a culminating event. One example from the doctoral Learning Technologies program at GSEP is a consultancy project in which students use what they have learned to help a school, organization, or business in some way, often through the use of technology, or a comprehensive project in which students present their application of theory in their workplace. In the Masters in Learning Technologies program, the event is a conference. In-class time is used to prepare students for presenting their knowledge building work to the larger educational community.

The work of action research is collaborative knowledge building with evidence and reflection. The Action Research Exhibition Conference engages students in building knowledge with the larger educational community. The conference is webcasted and involves the participation of prior cadres as reviewers of student work. The best examples of action research are then published online in the Center for Collaborative Action Research (cadres.pepperdine.edu/ccar). This makes their evidence-based analysis of their successes and failures in their workplace a resource for others who are interested in trying similar projects. When their work is shared beyond the course, it takes on a new value as it prepares future action researchers who can evolve a theory of action informed by the experiences of others.

This common experience of sharing research as peers leads to a strong sense of identity. In addition, students are committed to continue as researchers presenting at other conferences, further enhancing this new sense of identity. Wenger (1998)

suggests that, by changing our participation in the world, continuous framing and reframing of identity within a community, we transform our identity.

SUMMARY

Collaborative knowledge building benefits from intelligently blending in-class and online learning formats. The pedagogy of the professors and the designs for learning that are used in both the in-class and online context are key. The shift from lecturing to collaborative knowledge building changes the nature of the course of learning in fundamental ways. It addresses the split between what is learned from books and what is learned in experiences, a schism that has worried educators over the past century.

As societies become more complex in structure and resources, the need for formal teaching and learning increases. As formal teaching and training grows, there is a danger of creating an undesirable split between the experience gained in direct association and what is acquired in school. This danger was never greater than at the present time, on account of the rapid growth in the last few centuries of knowledge and technical modes of skill. (Dewey, 1916, p. 9)

For many administrators, the move to online is driven by the same economics that has over a thousand students registered for lecture courses at Harvard. While the Internet makes it possible to make lectures available to millions of students, it is more intelligently used to support learning communities socially forged via in-class environments to engage students in collaborative knowledge building. Blended formats should be reconceived as an emergent context for new forms of participation in intellectual discourse. Understanding how knowledge, technology, community, and identity intersect may

help perfect collaborative knowledge building in the future.

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