

A tale of two courses: Innovation in the Hybrid/Online Doctoral Program at Michigan State University

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The advent of new technologies, globalization, and rising costs have all led to calls for rethinking how higher education is conducted (Andersson, Quigley, & Wilhelmsson, 2009; Dill & van Vught, 2010; Salmon, 2005). Yet, the process of creating new modes of learning through new technologies is complex, and requires a better understanding of the considerations that go into the design of online or hybrid learning experiences (Kumar & Dawson, 2012). Throughout this piece, we use the terms *hybrid* and *blended* learning interchangeably. We refer to hybrid and blended learning experiences as those that involve a mixture of synchronous and asynchronous work, with a mix of students from on-campus and remote locations.

In this article, we address the complexities of designing such learning experiences, from both a course-level and programmatic view, by focusing on two recent courses in our hybrid doctoral program in Educational Psychology & Educational Technology (EPET) at Michigan State University. These doctoral seminars included two types of students – i.e., those present on-campus in the face-to-face setting (traditional doctoral students), and those attending virtually from remote locations

(hybrid doctoral students). Before describing these courses, however, it is first necessary to provide some background on the rise of online/hybrid doctoral learning in general and in our program at Michigan State in particular.

The Rise of Online / Hybrid Doctoral Learning

New technologies have transformed our notions of what we teach, how we teach, and even where teaching and learning take place (Bonk & Graham, 2012; Ghezzi, 2007; Greenhow, Robelia & Hughes, 2009; Lin, 2008). These issues have become increasingly apparent in the emerging environment of online/hybrid doctoral learning (Cain & Henriksen, 2013; Garrison & Vaughan, 2008; Kumar, 2013). While online learning has been a growing area since the inception of Internet and digital technologies (Cavanaugh & Dawson, 2010; Kumar, Johnson, & Hardemon, 2013), online/hybrid doctoral studies represent a newer learning innovation.

One of the obvious benefits of online/hybrid doctoral studies is the ability to accommodate individuals unable to attend traditional, bricks-and-mortar courses. For example, until recently

it has been challenging for doctoral programs to meet the scheduling, logistics, distance, and other issues of practitioners with full-time jobs (Damrosch, 1995; Lovitts, 2001). But recent technological improvements in video-conferencing, course management systems, and other online tools, have broken down the barriers of time and space and created new pathways for doctoral education. For practitioners in particular, online/hybrid doctoral education now offers the opportunity to improve their teaching and learning while also leveraging their practical knowledge. This allows students to develop rigorous and methodologically sound investigations into questions that can inform the field (Kumar & Dawson, 2012; Levine, 2007; Perry & Imig, 2005; Sullivan, 2005). Thus, online/hybrid doctoral education has the potential to address long-standing concerns about the disconnect between research and theory produced in the "ivory tower" (Bradley, 1999; Levine, 2005, 2007) and the real-world constraints of education in practice (Lovitts, 2001; Levine, 2005; Perry & Imig, 2008; Wesley, 1957).

A number of programs have begun experimenting with such fully online or hybrid models of doctoral education, with the explicit purpose of opening up doctoral learning opportunities to more degree-seeking individuals beyond just traditional full-time on-campus students. In this article we focus on two courses in Michigan State University's hybrid doctoral program. Readers interested in a more detailed description of the program, its development, and design are referred to Koehler and colleague's report (Koehler, Zellner, Roseth, Dickson, Dickson, & Bell, 2013).

Understanding the Context: The EPET Doctoral Program

Michigan State University's Educational Psychology and Educational Technology (EPET) doctoral program is a research degree program based in the Counseling, Educational Psychology, and Special Education department (CEPSE) in the College of Education at Michigan State University. The goal of the program is to foster and develop leaders and innovators of research in the field of educational technology. Successful candidates must complete 42 hours of coursework, standard doctoral milestones (e.g., practicum study, comprehensive exam) and 24 hours of dissertation research.

In the mid-2000s, CEPSE department faculty and administrators began discussing plans to craft an online/hybrid version of its nationally ranked doctoral program¹ for an underserved

community. This included working professionals with the qualifications for admission into the on-campus doctoral program, but who could not physically attend on-campus classes on a regular basis. Candidates matching this description included adjunct instructors, curriculum designers, program administrators, and working professionals in K12 and higher education.

It was decided that the new program would be substantively similar to the existing doctoral program and differ only in its mode of delivery. Thus, the EPET doctoral program was designed to have two separate strands: a *traditional* strand for on-campus students, and a *hybrid* strand for students at a distance. Students in both strands complete similar coursework and similar doctoral benchmarks, but differ in the way they participate in doctoral education. Courses for the hybrid program began in the summer of 2010 with an initial cohort of 11 students; a second cohort of 12 students began in the summer of 2012. At the time of writing this article, we are reviewing 81 applicants for a third cohort to be admitted in the summer of 2014.

To accommodate the schedules of working adults, our original plan was for hybrid students to complete three blended courses each summer and one fully online course during the fall and spring semesters. Thus, like traditional on-campus students, the hybrid students would complete six courses each year but differ in the way the courses were spread out over the year. Like the traditional on-campus students, hybrid students would have the opportunity to participate in research and teaching assistantships, depending on availability. They would also have the choice to spend one semester on-campus to take part in any available courses and assistantships.

We quickly realized that the hybrid nature of the EPET hybrid doctoral program offered both benefits and challenges. Access to a nationally ranked doctoral program from anywhere in the world was a definite benefit to students who were already pursuing full-time careers. In fact, hybrid students reported this access as one of the most attractive organizational features of the program. At the same time, however, hybrid students also reported occasionally feeling separated and remote from the daily milieu of a full-time on-campus graduate student experience.

Recognizing the disconnect between the way the hybrid students were feeling and our original goal of offering one doctoral program delivered in two different ways, we now offer many of our traditional on-campus doctoral courses (such as the ones described in this article) to both on-campus *and* hybrid students. In practice,

this has meant that many on-campus courses have been redesigned to make them accessible to both on-campus and hybrid students. Redesigning these blended multi-modal courses (with some students physically present and some remotely present, in a mix of synchronous and asynchronous learning) was a significant challenge to the instructors and, as detailed in the next section, the Design Studio was created to support their efforts.

The Design Studio: A Resource for Technology and Pedagogy in Hybrid/Online Doctoral Learning

At Michigan State, the College of Education's Design Studio was created to provide an intellectual and technical resource to faculty who are teaching in hybrid/online contexts. As faculty begin to think about teaching in these contexts, and re-think their existing content and pedagogy, they bring a range of questions such as: "What technology supports the kinds of interactions that we want?", "What types of interactions are available in this medium?" and "What strategies can we use to deliver our content?"

The Design Studio, located in the College of Education, is an in-house research and development resource. It is managed by a faculty director, and offers research assistantships to EPET graduate students, who then work with faculty members to design, facilitate, and refine technology-related educational projects. As a research-oriented resource, the Design Studio's mission goes beyond that of a traditional technology support unit. Design Studio services and expertise are available to all College of Education faculty members. However, the Design Studio is a resource connected to the EPET program, in that its members are faculty and graduate assistants with research interests in the area of educational technology and design.

Having an entity like the Design Studio has been invaluable for helping our program build models for online and hybrid learning. These models visually describe different course setups, structures, and interactions. Design Studio members collaborate with faculty on the course planning process, helping them explore, select, and integrate technologies appropriate to their pedagogical aims and content. Members of the Design Studio may also be present in the course, as was the case in the Proseminar, supporting the complex choreography of technology-mediated student-student and student-instructor interactions.

MSU faculty members work in partnership with Design Studio colleagues to reflect on how course implementations align (or do not align) with the initial course vision, as they consider elements that may need re-thinking.

We now describe two courses reflecting two different design models for hybrid/online doctoral teaching: 1) Proseminar on Educational Psychology and Educational Technology, and 2) Knowledge, Media, Design.

Example 1: Pro-seminar on Educational Psychology and Educational Technology

The Proseminar in Educational Psychology and Educational Technology is a required course for new students in the EPET doctoral program. The course is designed to introduce students to the educational psychology and educational technology disciplines and to support them in the process of becoming researchers and scholars. Students explore the relationship between educational psychology and technology, between learning and digital media, and build their knowledge of the field's historical context, interdisciplinary conversations, and current topics.

This Proseminar had previously only been taught in face-to-face/traditional mediums, but this instantiation included seven on-campus students and 15 hybrid students. The class met synchronously every third week (with hybrid students joining virtually via videoconferencing) and used a course website (designed with WordPress) for disseminating class information and asynchronous discussion forums. During synchronous class sessions, the larger proportion of hybrid students meant that there were actually more hybrid students "in the room" than on-campus students.

The Proseminar's assignments are designed to encourage critical thinking and clear communication. Thus, assignments encourage students to go beyond the consumption of ideas and take on the responsibility of thinking about and communicating their ideas about theory and research in both oral and written form. Supporting such communication was a major design challenge, of course, as the different types of students (i.e., on-campus and hybrid) and different temporal (i.e., synchronous, asynchronous) contexts highlight the interplay of technology, pedagogy, and content (Mishra & Koehler, 2006).

In the end, we aligned the Proseminar's assignments with the different affordances of the synchronous and asynchronous contexts. For example, over the semester students completed four research reports on empirical

research. In each report, students were asked to identify a study that interests them, write a brief (1-page) summary of the study and present a short (5-minute) oral summary of the research. Peers were also asked to provide feedback on each other's oral and written work. Using Google Hangouts, students delivered their oral report during synchronous class sessions and thus benefited from a live, dynamic audience and immediate peer feedback via Google Forms that were embedded in the course website. In contrast, students shared their written reports with peers during asynchronous weeks by posting links to Google Docs versions of their reports on the course website. This technology allowed peers to spend additional time evaluating the merits of their written report and to provide feedback using the comment feature in Google Docs.

Using Google Hangouts for students' oral reports imposed both opportunities and constraints that interacted with our teaching practices and designs for the assignment. For example, with Google Hangouts it is not possible to see both the speaker's visual aids and her non-verbal expressions as the speaker must choose whether to show video or share her screen. This limitation forced us to reflect on the assessment criteria for this assignment and consider whether some elements of it must be clarified or re-designed to reflect the actual affordances and constraints of the presentation space. It also inspired us to reflect on whether this particular technology was best suited for the task, as originally conceived.

For the instructors, the Google Hangout presentation spaces also challenged our ability to oversee and support six simultaneous 'hybrid' presentation spaces. In a traditional face-to-face classroom, an instructor can focus on the work of one small group while simultaneously monitoring the work of other small groups in the classroom. Using Google Hangouts, in contrast, an instructor can only join one small group at a time. Looking across the face-to-face classroom, we could see that our seven on-campus students were interacting with other students (some hybrid, some on-campus) but we were unable to hear or participate in these conversations because our headphones could only connect to one Hangout at a time. This limited our ability to scaffold the students' peer review process and provide more substantial real-time feedback on their oral presentations.

One more example helps to illustrate the way course assignments interacted with small-group pedagogy and different technologies. Twice during the semester, students also

worked asynchronously in small groups to synthesize asynchronous online discussions, highlighting new insights, different perspectives, and unanswered questions. Like the research reports, these discussion summaries included both a written and oral component, but this time small groups worked collaboratively and asynchronously to complete the written portion of the assignment. The asynchronous timeframe was chosen because drafting a written synthesis of several different discussion forums required significant amounts of time. To write their discussion summaries, students used EtherPads, a co-writing technology like GoogleDocs that can be embedded in the course website. EtherPads provide students with the dynamic, real-time co-writing affordances needed when multiple individuals drafted shared text in an asynchronous setting. During the synchronous weeks, each individual member of the small group presented oral summaries to different small groups (using Google Hangouts) made up of other class members. In this way, individual members of the summary groups were each responsible for presenting the work.

Clearly, the course website provided a central organizer for course activities, content delivery (e.g., course readings and notes), and student-student and student-instructor, technology-mediated communications. Students also communicated informally via social media, using a Facebook group to keep in touch between class meetings and the microblogging service, Twitter, to share resources in tweets hashtags with the university and program name (i.e., #MSUepet). Such informal sharing around a course can promote increased student-student communication over time, which can positively influence students' sense of belonging and class cohesion (Greenhow & Gleason, 2012).

Different technologies helped the instructors to tailor the Proseminar design to the practical constraints of the hybrid doctoral students while simultaneously allowing the hybrid and on-campus students to interact, develop positive relationships, and learn from each other's experiences. The course evaluations revealed that students appreciated the innovative hybrid format and the instructors' commitment to both asynchronous *and* synchronous learning opportunities, with scores on instructor involvement (1.29), student interest (1.61), student-instructor interaction (1.68), course demands (1.93), and course organization (1.76) all within the superior to above average range (i.e., between 1.0 and 2.0). Students' qualitative comments were also quite positive, noting for example "There were a lot of positive elements here - some asynchronicity to allow for reflection

and somewhat self-paced work, and some synchronicity to allow for live interaction and community building, and meaningful projects that helped us flourish as individuals. I would take this course again..." Student discussion and interaction both emerged as major themes from student comments, which was exactly what the instructors hoped for but were also most worried about given the challenge of connecting the hybrid and on-campus students across time and geography.

Example 2: Knowledge Media Design

Knowledge Media Design is a doctoral seminar focusing on design and its relationship to education – design as a way of thinking, working and learning about and with technology. The course covers topics such as: design knowledge; how this differs from other kinds of knowledge; creativity and the design process; design-based research; the role of technology in design; design-thinking theories; evolutionary theories of design; learning from and about design; and much more. Readings and discussion focus on a range of empirical and theoretical articles (both in synchronous class sessions and online). Students engage in a balance of creative tasks, practice-based/problem-solving projects, and traditional "academic" work.

The course had previously only been taught in face-to-face/traditional mediums, and in this instantiation had approximately equal numbers of online and on-campus students (10 from each strand). This allowed for new opportunities and interactions between students and faculty. The class met synchronously every other week, and used the course website for discussing weekly readings and themes asynchronously.

One of the key goals of the design course was to bring the class together in synchronous sessions. This was done using a "recurring" meeting session in GoToMeeting², a video conferencing application. This allowed the instructors to bring the online students into a virtual space where they could interact with the students who were present face-to-face. To provide students with a central hub for class information and asynchronous discussion between the synchronous class sessions, the instructors also used a dedicated course website (created through WordPress).

A key goal of the design course was for students to experience the design process, and in so doing, provide a shared opportunity to reflect on the way design informs thinking, working and learning about and with technology. Thus, students worked on several technology-related course projects throughout the semester. In

creating their course projects, students used a variety of technologies to communicate and develop projects, depending on what worked best for their needs. For creative project work (such as a photo essay about the meaning of designed objects, or a podcast interview with a professional designer), students used digital photography, image editors, audio editors, and a range of other creative production software. For other practice-based and traditional academic work (e.g., a design thinking and problem solving report, or reflection papers), common productivity software, Google Docs, cloud computing and many other options were used. By allowing students to choose the technologies that suited their needs for projects and communication, the instructors elicited varied representations of knowledge and exploration. In this way, technology was used as a tool to achieve learning and project goals, not simply for the sake of trying the newest technological innovations.

An aim of this course was to go beyond traditional notions of blended learning (which often involves a mix of traditional face-to-face learning and online learning). Instructors sought to bring all students, both the traditional students, and the online/hybrid doctoral students, into the same "learning space." This was done with the interweaving of synchronous and asynchronous approaches. Class sessions were structured to include not just whole group discussion, but also some small group work (in which we mixed the online and face-to-face students together into groups, so that everyone could interact regardless of their geographic location). Each session had to be carefully planned to ensure a balance of free-flowing synchronous discussions and opportunities for all of the students to interact.

Another key course goal was to cultivate a connection between all students in the course, wherever their location, in order to build a sense of class community around the topic of design. During the asynchronous weeks, the course website (created through WordPress) became integral to this purpose, serving as a place for class information and asynchronous communication around the readings and design themes (with a set of questions for each weekly discussion forum related to the current readings). The site connected students around class details, but more broadly around design interests in general, with a running blog on the home page to provide interesting links to articles or videos about design.

Ultimately, this course provided a successful example of a hybrid doctoral seminar because

the instructors and students both came away with a positive learning experience. All the averages of students' course evaluations for instructional involvement, student interest, course demands, course organization, and student interaction had values in the superior to above-average range (i.e., between 1.0 and 2.0), and the course also received First Place in the AT&T Instructional Technology Awards at MSU for Best Blended Course (more details at: <http://attawards.msu.edu/home/cep-917>).

Qualitative comments from students were also positive, noting things such as, "Working within constraints in the service of creativity, function, purpose, and design was a major theme of this course – and the activities designed by the instructors provided ample opportunity for participants to explore that theme through multiple technological perspectives, time frames, distance considerations, and creative capabilities." The students also responded to the purposeful use of technology for doctoral learning, as one pointed out in describing the course, "Technology was thoughtfully employed: it was never the bright shiny toy, never tacked on as an afterthought, but instead the consistent purposeful embedding of the perfect tool for the task at hand."

The attempt to build a sense of community between our online and hybrid students via the course structure was also appreciated in our students' comments, as another noted, "CEP 917 proverbially tore down the wall that previously separated online and face-to-face students. We were all part of one learning community: the hybrid learning community." Or as another student put it, "The course feels rich, and is exemplar of one in which most learning happens beyond the scope of the classroom."

Innovations: In Broad Scope and Local Context

In looking at the similarities and differences in these two different courses we see that, while they are both instances of hybrid doctoral learning from the same program, they used instructional approaches, technologies, and course structures unique to their own needs and designs. There were some common elements that were useful for bringing our face-to-face and hybrid doctoral students together to build community. Both courses involved a mixture of synchronous and asynchronous learning; both included real-time course meetings accomplished through video-conferencing; and both had dedicated course websites as a central organizer for course materials and discussion forums. Most importantly, both courses faced

the challenge of bridging between these two different doctoral programs: the online/hybrid and traditional/face-to-face programs, bringing together two unique groups of students divided by geographies, time zones, and contexts into the same learning space. The structures they used for this purpose varied, but this goal of community-building is an essential, shared goal across the MSU doctoral program overall. It is also an especially important issue for doctoral students separated by geography, in connecting them to a community of their doctoral peers. This broad goal, across hybrid and on-campus instantiations, has inspired and required us to experiment with different models and approaches toward achieving this goal.

The differences between courses occurred through many variations of implementation, based on how course content and goals affected pedagogy and technology. Class sessions were structured differently, based on different requirements for whole-class discussion and lecture. The Proseminar used a greater amount of small group discussion to facilitate its pedagogical goals while the design course used more whole-class discussion and lecture to cover the content. While both courses aimed at creating a sense of community among students, this too occurred in different ways. More social media was useful in the Proseminar to help students build the necessary peer relationships, social support and informal feedback supportive of a developing research community that extended beyond the course. However, the importance of "fostering a community around design issues" in the design course meant that the formal course website itself became the central hub of communication and design content.

The Proseminar course centered on the interactions between students as they discussed concepts and ideas related to the course readings. The instructors wanted small group discussions with different participants in each group for each time, giving students the opportunity to interact with a broader range of perspectives. Discussions were hosted on Google Hangouts using desktop Macs in the classroom. Google Hangouts allowed interactions between groups composed of both face-to-face and hybrid students. It also meant the instructors could "drop in" on each discussion to gauge the quality and direction of the discussion (see also Roseth, Akcaoglu, & Zellner, 2013).

The design course, on the other hand, focused on supporting large/whole-class discussions. The instructors and half the students were physically present in the main face-to-face

classroom. Videoconferencing software and large screen displays were used to create a shared portal for visual and audio interactions with the hybrid students. The goal was to create a space where everyone could take place in rich whole-class discussions of topics and concepts, regardless of where they were physically located. Observations indicated the technology allowed the hybrid students to “take a seat” in the circle of face-to-face discussions and presentation, as in a “regular” doctoral seminar.

While content may often steer decisions about the pedagogical approaches and types of technology best suited to the learning context, the three related factors of technology, pedagogy and content constantly interacted with each other in these courses, as the above examples illustrate. These interactions drive decisions about teaching and learning in any effective course – but particularly in a medium as new as the hybrid doctoral seminar.

Models of Interaction

After the first few different types of hybrid courses were taught in the EPET program, the College of Education’s Design Studio

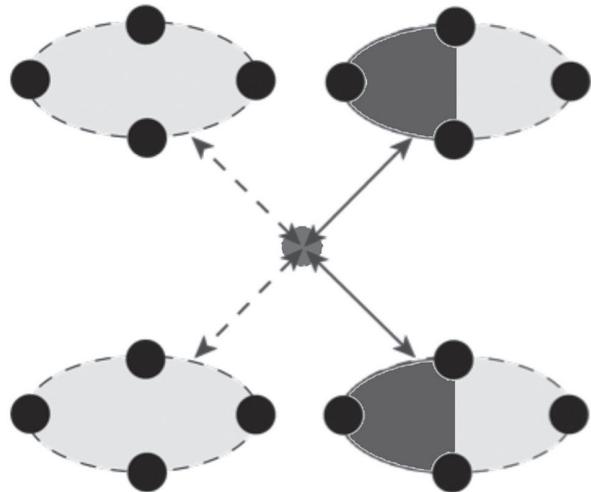
began developing models or representations – specifically for hybrid doctoral learning based on the setups and structures of these courses. These models arose from observing the different types of interactions that occurred in this new strand of doctoral learning. There are currently several descriptive models which faculty may use/alter to fit the structure of their course.

The two courses described above were used in developing two of these models. For instance, the “Pro-seminar in Educational Technology” followed a *Small Group Model*, while the “Knowledge Media Design” course utilized a *Shared Portal Model*. Each of these is described in the visual models below (Figure 1).

These are just two of the emergent models for online/hybrid doctoral learning, and more information can be found in an upcoming publication (Bell, Sawaya, & Cain, 2014). We note these in brief to demonstrate the way that the actual exemplars and practices of the two courses helped to spawn a broader view of how hybrid doctoral learning can be instantiated differently within the same program. The development of these models also shows how practice can inform theory, and in turn, that theory can then inform new learning practices.

Small Group Hybrid

Small Group Hybrid



Shared Portal

Shared Portal

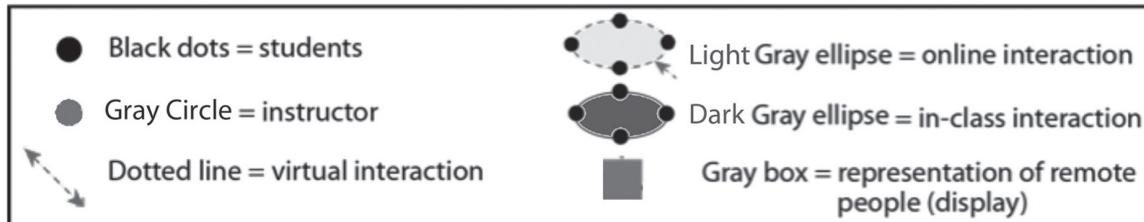
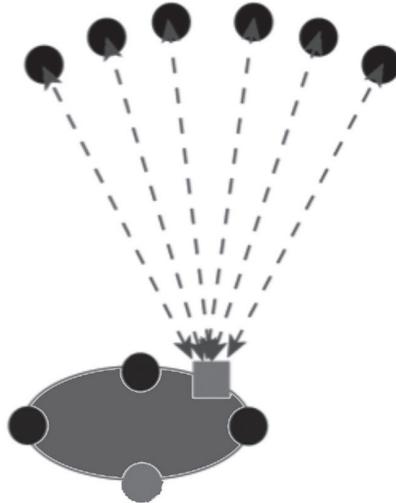


Figure 1. Visual display of student-instructor interaction: Small Group Hybrid (pro-seminar) and the Shared Portal (design seminar).

Conclusions

As we look back across these two courses, and think about them in the context of MSU's hybrid PhD program in EPET, it may be useful to return to the concept of innovation. These two courses represent different course instantiations within the same program. As we look at the way that innovation often occurs in practice (and how it occurred here), it seems clear that these smaller examples of courses within the larger program are not merely pieces of the whole. They have their own identity driven by their own content and pedagogy, and by the model of hybrid doctoral learning that they utilize.

In the process of creating a hybrid doctoral program, we have not fundamentally changed our conception of what a doctoral program is about, or what it means to engage in doctoral level learning – but the conception is richer and more open-ended. An innovation such as a move from traditional to online/hybrid can be realized in many different ways in different contexts, “as social relations and structures vary across settings... As an innovation comes in real settings, it acquires new and unexpected shapes...it is re-created to conform with the goals and norms of the people who use it” (Bruce, 1993, p. 19-20).

As the two cases we provide in this paper illustrate, the two courses existed within the same overarching programmatic goals, which include community-building and deep engagement with theory, research and practice. Yet they were instantiated in very different ways. These unique structures thereby led to the creation of two different models of hybrid doctoral seminar learning, used by our program at a broader level.

The unique and situated nature of the two courses, driven by pedagogical and content goals and needs, inspired the different ways in which the technology was used. The fact that these two courses differ greatly, as shown in their different visual display of student-instructor interaction (Figure 1), pushed (and continues to push) the administrators and faculty to rethink the central core ideas that underlie the design of a hybrid doctoral program. Clearly understanding the on-going process of innovation requires balancing between the core foundational elements (such intellectual rigor, principles of research, engagement with theory, and community-building) that define the doctoral program at a broader level, without ignoring or underplaying the value of localization and context in each instructor's classroom.

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(Endnotes)

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