Transforming the doctorate from residential to online: A Distributed PhD Learning Technologies

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Abstract

This article discusses a systemic change that expanded the doctorate in Learning Technologies at the University of North Texas to include a distributed option, delivered primarily online. It provides an overview of the development process from concept to initial implementation. The article examines the specific differences that make the online version different from its residential counterpart. We share both the challenges that emerged as well as suggestions for improvement that have come from our experience.

Keywords: doctorate, online learning, program development

The University of North Texas' (UNT) Distributed PhD in Learning Technologies has been operational since the summer of 2012. Students in the distributed offering are located around the state of Texas and across the U.S., rather than concentrated locally at the university. The proposal and planning process for extending the existing PhD to include a distributed online component began three years prior to the first online cohort begin admitted. The program is the fifth online/distributed PhD approved by the Texas Higher Education Coordinating Board (THECB) and was the first outside the healthcare field. This article provides an overview of the program's design, development, and constraints for expansion. Any systemic change and implementation requires a great deal of work, and this is no exception. This article illuminates not only the process by which we engaged in a transformation from providing one degree offering to a second, but it also reveals the challenges and solutions we developed. Through this article, we hope to share insight that may help other individuals in higher education to plan and implement similar doctoral programs that capitalize on the advantages of hybrid or online delivery.

From an educational computing past to a learning technologies future

The University of North Texas (UNT) has a long history of academic excellence in the areas of Computer Education, Educational Technology, and Teaching and Learning with Technology since the late 1970's. Our faculty were involved in creating or shaping the National Educational Computing Conference (NECC), the National Council for Computers in Education now known as the International Society for
Technology in Education (ISTE), and the Texas Computer Education Association (TCEA).

The PhD in Learning Technologies (LT) was designed to prepare researchers and educators to work in a variety of areas: instructional and educational technologies, cognitive science, information technology, instructional systems technology, instructional systems design, and learning sciences. As corporations and educational institutions increasingly move teaching and learning to online spaces, the demand for experts in the areas of training and online instruction continues to grow. Graduates of the Learning Technologies program help corporate and educational partners meet the requirements of digital age instruction through their expertise, not only in research, but also in the large-scale implementation of technology systems to support learning, assess the effectiveness of instructional technology, and design effective, research-supported instructional systems.

Learning Technologies PhD:
The residential offering

The residential program consists of a customizable course of study that can include a minor. Students visit the university campus to take courses. Most residential courses are delivered in a blended format, because the majority of residential students work full time. Blended courses at UNT are defined as those delivered 50% or more face-to-face with the remainder of the instruction provided online.

The LT PhD curriculum is made up of five areas including Core courses, Research method courses, Topics courses, Tools courses, and Dissertation. The course of study is either 60 or 69 semester hours in length, depending on the student's background and prior coursework. Students enter with existing technology skills as indicated by coursework (e.g., instructional design, multimedia, telecommunications courses) can count nine hours toward the university tools requirement to show that students have adequate technical skills to be successful in the course. In 2008, the department and its degree programs merged with the School of Library and Information Science to create the College of Information, part of the iSchools initiative (iSchools, 2013; Kolstø, 2008).

Need for a the distributed online doctorate

The primary reason for expanding the residential program was the need to increase the number of students actively enrolled in coursework. In 2008, the doctoral program had fewer than 30 active students with less than fifteen in coursework. This resulted in course scheduling that did not meet the needs of students to be able to graduate on time. With 90.5% of students enrolled in 2008 located within 60 miles of Denton, Texas and admissions growth slowed discussion began on how to grow the PhD program though expansion. The faculty had several goals for expansion: being able to teach doctoral courses throughout the year, having more students available to participate in research projects, and supporting an active and rigorous doctoral program on campus. Each of these goals supported the university's goal to expand graduate research opportunities (UNT Four Bold Goals, 2012). It is important to understand the challenges and limitations faced by faculty designers as they began extending the residential offering. The challenges stemmed primarily from a need to fit within UNT and State of Texas policies and guidelines, while concurrently fulfilling the academic requirements and needs of both students and faculty.

Systemic issues with a new form of delivery

Prior to translating the existing PhD into an online format, the faculty involved began an analysis of the existing shortcomings of the residential offering that we sought to address as we created the distributed version. Through this process, they identified a number of challenges: a.) maintaining a reasonable faculty load to ensure support for existing and future students, b.) dealing with the possibility of resistance from faculty due to increased work to design and develop online-only courses based on existing curricula, c.) increasing costs incurred by the online nature of the program, d.) overcoming difficulties recruiting with existing financial resources, and e.) minimizing student disruption or loss in the residential campus offering. Despite these challenges, we identified a number of positive resources to help overcome these difficulties. These came in the form of supportive administrators, strong infrastructure for online programs on campus, innovative faculty members in the department, and support for online programs at the state level. The challenge became how to more than double the PhD enrollment with several caveats. We had to do the following: 1) avoid greatly increasing faculty load, 2) recruit sufficiently to maintain 60-80 active students after start-up, 3) maintain a rigorous PhD experience in both offerings, 4) financially support the program within the existing UNT policies.
and funding models, and 5.) protect the residential offering. Each of these challenges will be discussed below.

Faculty load issues. With 50 active students, the average faculty load is approximately seven advisees per faculty member. These students are either in coursework and/or dissertation, and therefore only the few in dissertation should require substantial supervision. As such, faculty load should increase by no more than three to four students in dissertation phase for a total of about ten. Should the number increase beyond this benchmark, an argument for additional program faculty will be presented to administrators.

Recruiting students. Prior to creating the distributed PhD offering, the faculty had begun to increase its recruiting effort for the residential doctorate as well as the Masters degree program. The latter had dipped dramatically since 2003 because of waning recruitment efforts, changing student demographics, and state incentives that drove enrollment. As such, several faculty members traveled to more than ten conferences and other events each year promoting the programs and recruiting students. Their efforts did increase student enrollment.

Maintaining rigor. The major concern of all faculty members was that the outcomes of both the residential and online offerings of the PhD were equally demanding, regardless of the means by which content was delivered. As such, an analysis was conducted of successful online degree programs that the faculty felt were similar to Learning Technologies and produced students with characteristics similar to those of successful residential students (employment, academic publication, and other benchmarks). These became models for the design of our own program, keeping in mind our limitations.

Financial support. The university's system for determining how much funding goes to each department at the university is a mix of internal policy and arcane state funding mechanisms. In order for any program to be created, it would need to be largely self-sustaining and compliant with the existing university rules governing funding. Lead faculty on the project spent a substantial amount of time learning the rules from senior university administrations that would judge the financial success and sustainability of the program.

Protecting the residential program. One large concern of the program faculty was the potential of losing our existing PhD that is successfully delivered on campus and of critical importance to the goals of the program and faculty. Based on past experience, both offerings would provide the same outcomes, but would need to be unique in how they were designed and delivered because of their unique environments. Rules governing the program offerings were established to prevent students from easily shifting back and forth between offerings. For example, if a student seeks to switch from the online to the residential program, they must formally apply, be accepted, and agree that they will not attempt to switch back to the distributed cohort offering. The program carefully explains the differences between the offerings so that students can choose which they think best meet their needs. We will elucidate some of the major differences between the distributed and residential offerings later in the article.

Components of the Distributed Program

This section will describe the specific components of the distributed offering a.) differentiated delivery of offerings, b.) associate faculty, c.) cohorts, d.) annual summer meeting, and e.) courses that make it different from the residential offering. This should allow the reader to better understand the differences and provide information that the user can transfer to his or her own context (Lincoln & Guba, 1985; Williams, 2007).

Differentiation between offerings

The distributed online offering was designed primarily to meet one goal: allow more students who could not come to campus at UNT to participate in the degree program, while meeting the requirements outlined by the faculty for a high quality online program. Much of the design comes from the faculty. The limitations are the result of university policies and state regulations.

A key component has been maintaining unique offerings under the same degree program, such that the both offerings utilize common elements: admissions, academics, policies, outcomes, etc. The primary differences between students and structures in the residential and distributed offerings are shown in Table 1 on the following page.

Beyond the delivery mechanism, the main differentiating factors is that the residential offering is designed to provide a customized face-to-face campus-based experience and the distributed offering is designed to provide a distance-based distributed delivery with flexibility of location and more direct on academic mentoring. Both offerings have advantages and limitations that are explained to students during the admissions process.
Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Residential Offering</th>
<th>Distributed Offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>Can visit and choose to come to UNT Denton campus.</td>
<td>Unable or elects not to come to the UNT Denton campus.</td>
</tr>
<tr>
<td>Faculty</td>
<td>Program Faculty serve as major professors during academic and dissertation work. Contact hours can be sporadic depending on the student and faculty schedules.</td>
<td>Associate Faculty (AF) co-chair with program faculty during academic and dissertation work. The AF takes on the primary role as major professor. AF are expected to maintain close ongoing contact with their students to make up for less face-to-face contact hours.</td>
</tr>
<tr>
<td>Degree Plan</td>
<td>Course of study can be customized, support for a minor is possible, and the student decides the pace.</td>
<td>Course of study is fixed, no minor supported, limited options for customization, pace of study set to three years for coursework and 12-18 months for dissertation. Students can graduate faster than those in the residential offering.</td>
</tr>
<tr>
<td>Course Delivery</td>
<td>Face-to-face and blended. Attending residential courses only at UNT.</td>
<td>Fall and Spring 100% online. Summer 90% online. Does not have to visit UNT for courses.</td>
</tr>
<tr>
<td>Residency Requirements</td>
<td>Course work only at UNT.</td>
<td>Fixed course work and mandatory attendance at annual meeting.</td>
</tr>
</tbody>
</table>

The distributed offering is designed to maintain the high completion rates that the residential offering maintains. Over 70% of students entering the residential offering complete coursework. Over 95% of students that complete their degree and graduate do so within an average of 4.71 years. As of 2010, over 90% of graduating students were employed within 18 months or less with the majority taking positions related to their degree (UNT Educational Computing Program, 2010). Almost 80% of students in the distributed offerings first two cohorts are maintaining their academic on-track progress with a student loss rate of between 10-15%. By using a yearly cohort model, most students having difficulties are not dropping out initially, but choosing to pause and then transition to a cohort one year behind.

**Associate Faculty**

A major concern was the limited number of faculty members to support the distributed offering. The solution was to build in support for both faculty and students through additional personnel who have advising and mentoring duties. As such, the concept of Associate Faculty (AF) was developed and included in the distributed offering. An AF member, as defined at UNT, is a non-tenured faculty member who may or may not be employed by our university (UNT, 2009). These terminal degree holders are granted graduate faculty status to work with doctoral students, in this case, to co-chair academic and dissertation committees for the online program students and act as the student’s major professor.

For this to work, AF meet several key requirements that included a.) have a terminal degree in instructional, educational, and/or learning technologies or a related field, b.) be sufficiently active in the field and qualify for faculty status under the program and UNT guidelines, and c.) desire to mentor and support doctoral students to become future colleagues in the field. They also had to commit to working with their selected students for the duration of their involvement in the program and attend an annual meeting each summer. They bring differing experience and expertise to the program that adds to the existing academic diversity found in the faculty. The primary purpose of the AF is to mentor and guide the student during academic work, through portfolio, and into the dissertation as their major professor. The program faculty provides oversight and guidance, assures that policies and procedures are being followed, and ensures that the standards of the program are maintained.

When successful, students should move from coursework into dissertation with as little turbulence as possible and graduate on time. During coursework, the AF makes regular contact with their students. Each AF is expected to be involved in their students’ projects and research derived from coursework. Each summer at the annual meeting, the AF, student, and program faculty meet to discuss and review the student's
annual progress. When the student graduates, the AF will participate in the hooding ceremony.

Designing cohorts

A decision was made in the initial planning process to start the distributed offering each summer and utilize student cohorts as the underlying mechanism for organizing students. The cohort model was a good choice, because it streamlined student paperwork (i.e. admissions, advising, evaluations, etc.) and fit the financial model supported by the university. The most important reason for selecting cohorts was the nature of online learning. Using cohorts serves three purposes: a.) allows the existing doctoral course rotation to be used for both distributed and residential students without further complicating the course schedule, b.) grants new students the most contact hours in their first summer semester through an orientation, blended courses, and additional support at the annual meeting, and c.) provides sustainable long-term discourse and interaction (Jones, 2001). Research indicates that students in cohorts perform better over a 4 ½ year program (Barab, Thomas, & Merrill, 2001; Merriam, Caffarella, & Baumgartner, 2012). Cohorts also reduce student isolation and provide networking and continuity that reduces anxiety as students matriculate through courses. In order to maintain the cohesiveness of the cohort, limited transfers are supported between offerings.

Annual summer meeting

Each summer student in the distributed offering meet for between five and seven days in a face-to-face setting. Summers were determined to be the best time for such a meeting, as most students find the summer is most conducive to their employment situation. The primary purpose of the summer meeting is to prepare incoming students for their current and future coursework, update existing students about their progress, encourage rapport among students and faculty, and to provide students with support and feedback on portfolio progress, presentations, and their research work that is best delivered face-to-face. We have scheduled the meeting to coincide with a national conference, so students can attend the conference sessions and exhibit hall, discuss their ideas, pose questions, and network with others.

New student intake. The first two days of each summer annual meeting are dedicated to the incoming new cohort of students. This time, prior to the arrival of the existing cohorts, is dedicated to orientating students, discussing goals, expectations, and milestones for their first year of course work, reviewing their degree plan, and other start-up issues best conducted in a face-to-face setting with the faculty and their incoming cohort. We have found that it is very important to provide this time in order to address any special concerns or issues the students might have.

Rapport. The summer meeting is also important because it sets and renews each year the rapport among students and between their faculty members. The relationships created each summer are vital to create and maintain each year before they find themselves at a distance communicating through digital tools. Rapport is necessary for creating sustainable online learning communities. Rapport can be created over extended amounts of time when using only asynchronous means (Jones, 2001), but is more rapidly and more firmly established with face-to-face or other synchronous means (Jones, Warren, & Roberston, 2009). The higher the fidelity of the interaction, the deeper the perception of rapport becomes between students and faculty. Increased rapport lends itself to more online interaction and more discourse because of student's increased trust in the person(s) with whom they are communicating (Jones, et al., 2009).

Portfolio, research, and presentations. The summer meeting provides a time for students to present and discuss their portfolio work and research. The program uses a portfolio in lieu of qualifying examination, with the purpose of situating the student in the field by engaging them in activities during coursework and as a part of their set research agenda (Dondlinger & Jones, 2008, 2010). Through the process of engaging in the summer meeting and building a portfolio, students receive feedback not only on the content, research methods, and findings of their work, but also on their strengths and challenges as they seek to become strong academics in the field. In 2013, the program began hosting a one day academic conference in conjunction with the summer meeting that is open to all with the purpose of providing students additional opportunities to exchange, discuss, and present research.

Coursework

The courses in the distributed program use the same content as those in the residential PhD offering. However, the program faculty altered instructional delivery methods to accommodate online students so that the appropriate learning management systems (i.e., Blackboard Learn, Schoology, Moodle) and online collaboration suite (Adobe Connect, etc.) are used. In the
residential section, typically the faculty member responsible for the course is the person teaching the course; however, in the distributed version, courses were designed so that other program and adjunct faculty can teach them with minimal support. This required several months where faculty members reimagined courses for online delivery, produced and developed the courses for themselves, and then developed a separate section for other faculty teaching the course. Each faculty member teaches his or her online course the first time it is used in the online program and then periodically updates content and evaluates the pedagogical methods and updates the technology tools.

Lessons learned

As with any large systemic change project, there are always major lessons and hurdles that cannot be seen until implementation. The following findings come from a document analysis of notes taken by the program faculty members, program coordinator, and associate faculty during independent and group meetings. In addition, a survey of students involved in the first two cohorts provided additional information related to improving the students’ experiences. Future research will focus more exclusively on those findings to help explain changes in policy and procedures followed during the first two years of the distributed offering. Due to the complexity of the shift from face-to-face to online delivery, many lessons have been uncovered. We conclude with the most significant lessons: staffing considerations, speed, need for regular meetings, AF issues, and expectations.

Staffing should start early

Anyone seeking to implement such a program, with a large influx of students will require at least one additional staff member as part of the team. Securing additional staff must occur in the early planning phase of the project. Delays at the university level implementing planned support have been difficult to overcome, and they have increased the workload for key faculty members. Because faculty had to provide additional support, some items scheduled during the first two years were not completed.

Do not move too fast

We had a window of opportunity for launching the program; meeting the deadlines imposed resulted in less time for pre-planning and implementation. This resulted in some instructional challenges for the first year cohort (26 students). Moving too fast may also have negatively impacted faculty buy-in. We recommend moving with deliberate focus, and reserving a year to implement the program with ten or fewer students who would pilot test the curriculum, instruction, financing mechanisms, or other issues before scaling up to a large cohort of students.

Meet regularly

While the whole faculty agreed to the scope and requirements of the online degree, we should have met more often to reinforce the directions and reaffirm our shared goals throughout the implementation. If meetings are done in a haphazard, “catch-as-catch can” manner, faculty members rarely have sufficient time to meet and discuss the issues inherent in the design, development, and implementation of the program. Due to the lack of meetings, later issues and problems had to be overcome in a piecemeal fashion further jeopardizing faculty buy-in. Moving forward, we are scheduling more frequent meetings of the program faculty to address challenges and ensure the coherence and rigor of the doctoral curriculum.

Associate faculty interactions

The core UNT faculty needed to have more face-to-face contact with the Associate Faculty (AF) from the beginning to help set expectations for their role more clearly. The first full faculty meeting with the entire faculty happened at the first annual summer meeting, which was a year into implementation. As a result of less faculty contact, there have been conflicts: a lack of clear understanding as to the role of associate faculty as to the nature of their support for students, miscommunication, and a break in cohesion. We would recommend that any new faculty be brought in during the planning process. As a result, we are developing an AF handbook, integrating the AF into the overall faculty group more regularly, working with AF on training related to academic and dissertation expectations, and refining the role of an AF facilitator to help with communication and planning. The AF play a vital role in the success of the offering. It has always been our belief that the combination of academic and mentoring interaction on a regular basis will help keep students located at a distance focused on the end-task of finishing their coursework and dissertation research.

First year start-up and cohort

Three primary issues evolved during the first year with the first cohort that was a result of miscommunications on our part concerning expectations and details on the program. The primary issues began during the first orientation session in 2012 and continued through the first six hours
of doctoral studies. While we provided the typical orientation and delivered the first courses as planned, we found later that three items needed much more explanation and discussion through the first seven months of a new cohort. The issues were that 1.) some students had underestimated the time required, commitment to, and intensity of a distributed/online PhD, 2.) some students were confused and thus distracted concerning university tuition and course fee amounts and policies, and 3.) many of the students were not adequately prepared for the untied nature of the new course designs and the impact that could have on courses with regards to technical issues, pacing, and other instructional design issues. It should be noted, that the first cohort is taking every course for the first time in its online delivery format.

Looking back, these should have been easily seen, but due to other factors described above, they were not communicated correctly or with enough clarity and intensity. The result of these first year issues has been that some students in the first cohort have negative feelings and/or attitudes towards specific instructors, courses, and topics, and/or the overall nature of the program. As the program has matured, some of these attitudes and perceptions have been overcome; however, they did set a tone that made subsequent semesters more difficult for the first group than those following cohorts. These issues would have been easier to manage with a pilot cohort, since the nature of a pilot is to discover problems and issues. We hit every issue with students that had an expectation that the program that had been operating for several years. Subsequent cohorts have received better materials and communications based on what was learned the year before. As a result, fewer issues have resulted for these later cohorts.

Conclusion

This article provided a discussion of the more substantial elements of the design and implementation of the PhD in Learning Technologies. The approaches used for systemic change were important to the overall project and its current outcomes (Aslan & Reigeluth, 2013; Reigeluth & Garfinkle, 1994). There is still much work ahead to complete the implementation of the expansion, since the first cohort does not graduate until fall of 2016. Despite the challenges above mentioned, the design is providing the requirements and outcomes that were originally requested by faculty and administration when the project began. We will continue to evaluate what is happening and share the results of the program with faculty and administrators in order to improve the program. With additional student and AF feedback (i.e., additional evaluations, surveys, and student and faculty reflections), data about the project will help us further refine the program.

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Learning, Problem Solving, and Mindtools: Essays in Honor of David H. Jonassen

Editors: J. Michael Spector, Barbara B. Locke, Sharon E. Smaldino, and Mary C. Herring

All four co-editors of this volume are Past Presidents of the Association of Educational Communications and Technology (AECT; see http://www.aect.org), which has supported and facilitated this effort.

Learning Problem Solving, and Mindtools is inspired by the substantial body of learning research by David H. Jonassen in the areas of mindtools and problem solving. The focus of the volume is on educational technology, especially with regard to how new technologies have facilitated and supported problem solving and critical thinking. Each chapter focuses on a particular aspect of learning with technology and elaborates the implications for the design and implementation of learning environments and activities aimed at improving the conceptualization of problems, reasoning and higher-order thinking, and solving challenging problems.

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