Short Communication

Dissertations and other culminating projects: Using LMS course design and assessment for retention, progression, and graduation

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Abstract

Dissertations and other culminating graduate projects are often unstructured and confusing for graduate students who simply want to complete their degree. We have designed a structured dissertation course space using the university's learning management system (LMS) to keep candidates on task and on track to make progress and complete the dissertation. This structured environment, coupled with clearly established milestones and rubrics for successful completion, allows doctoral students to make steady and meaningful progress throughout the dissertation, ultimately leading to defense and graduation.

Keywords: LMS; Course Design; Assessment; Dissertations

1 Introduction

Unlike a traditional course with a specific content area, directed reading material, and directed assignments, a capstone project, thesis, or dissertation often begins as a broad journey of research and inquiry before the student/candidate hones in on the final topic and develops a clear and sustainable vision for completion. Evaluation and assessment of students and candidates engaged in culminating graduate projects have been sporadic and difficult to measure. Student learning outcomes are often poorly articulated, or not specified at all.

While graduate level studies are often characterized by a lack of structure in general, this becomes more pronounced during the thesis and dissertation stages (and other culminating projects). For many students, conducting a culminating project becomes a seemingly endless passing of increasingly unstructured time and effort. Coupled with delayed and/or contradictory feedback from faculty and committee members, this scenario breeds strained relationships, frustration, and candidate self-doubt. Research reveals that institutional practice and process amongst institutions with research degrees vary considerably (Denicolo, 2003). Although reviews of the literature have demonstrated that there is interest and concern about the process, there is little published empirical research on the topic to guide universities and programs (Denicolo, 2003).

In this manuscript, we will share the development of a Learning Management System (LMS) course design model and application of rubrics to the various stages and milestones of the dissertation process. Through structured course spaces in the learning management system (LMS) and objective and measurable learning outcomes throughout the process, we have developed a method that we propose will increase/enhance retention, progression, and graduation rates of doctoral candidates. In addition, we have developed and implemented rubrics for ongoing evaluation of these graduate level culminating projects (theses, dissertations, and perhaps undergraduate research / honors projects).

2 Background

At the beginning of the dissertation/culminating experience, the candidate has to make the shift form student to independent scholar, and this is often a quite difficulty transition. The self-discipline required for the ongoing research efforts is often thwarted and limited by the candidate's self-doubt and isolation from fellow students and, in some ways, from faculty. Graduate research success requires specific responsibilities of all involved parties. Students must commit to scholarly habits that promote success, while the department and faculty are responsible for planning and implementing structures that allow the candidate to gain and maintain the skills and mastery needed to successfully complete a high quality research project (Liechty, Liao, & Schull, 2009). According to Lovitts (2007), the most

important aspect of the assessment and evaluation of the thesis and dissertation process is providing graduate students with clear and measureable performance standards, not merely to establish a grading scale for the research project.

In many graduate research situations, faculty and students/candidates do not always share the same expectations of successful and high-quality graduate level research. Denicolo (2003) discovered that there were disturbing results when expected criteria from faculty supervisors (chairs and committee members) were compared to anticipated, and experienced, criteria by the candidates (students). In a study conducted by Mullins and Kiley (2002), while most research project examiners completed required reports in the format requested by the institution, many considered themselves as the arbiters of an acceptable research project. One examiner stated that "No first rate researcher is without a belief that they understand the standards in that field and can recognize excellence. …So if you ask me to examine, you are going to get [my] standard" (Mullins & Kiley, 2002, p. 380).

This type of arbitrary judgment and assessment is difficult, if not impossible, to justify in an era when clear and measureable student learning outcomes and assessments are expected throughout the higher education process. As regionally accrediting bodies and state funding agencies push for more evidence and demonstration of ongoing progression and increased completion/graduation rates, universities must find a way to focus on ways to assist graduate students to make continuous progress, not merely be enrolled on an ongoing basis. Establishing student learning outcomes and rubrics for assessing achievement may be a way to assist this process at the graduate student level, even during culminating projects such as theses and dissertations.

By creating these clearly articulated standards and processes, graduate students can learn to measure their own performance levels, guided by rubrics, and not be in the dark about what constitutes a sound, high quality graduate level research project. Some schools have worked to develop student learning outcomes and quality frameworks for graduate level research projects (de-Miguel, 2010; Dodig-Crnkovic, Lüders, Höst, & Feldt, 2010; Feldt, Host, & Luders, 2009). At Blekinge Institute of Technology, thesis programs have implemented a framework that is based on four rubrics that cover the main parts of the thesis project: proposal rubric, thesis rubric, project rubric, and presentation rubric. At each of the aforementioned levels, the criterion on the rubric comprise a number of quality levels to help clarify what is considered quality work, and what does not meet the criteria for success (Dodig-Crnkovic et al., 2010). The authors also explained that the criteria are used in both normative and summative methods in order to guide the performance of the graduate student throughout the research process. In addition to the criteria for success and accomplishment during the thesis process, this framework also clarifies the expectations and requirements for all roles involved, both students and faculty.

While supervisors and faculty reviewers may balk at the level of detail and effort required for establishing clear standards and measurements for grad-

uate research performance, feedback from students and metrics on subsequent publications have been promising (Dodig-Crnkovic et al., 2010). According to research at Blekinge Institute of Technology, over 90% of the students queried responded that the rubrics were highly or very highly useful, and the number of completed theses that have been published as research articles or acted as springboards for research collaborations with industry has steeply increased. In addition, the use of the rubric process for assessment of the various stages of the research process has shown a decrease in variation of grading over time among the reviewers and faculty.

3   Structured Dissertation Course Spaces

At the University of Tennessee at Chattanooga, the Learning and Leadership doctoral program is designed for working adults who take classes on a part-time basis without having to give up their careers and personal lives. During the primary core and elective coursework, participants work with other members of an established cohort to complete activities, scholarship, and deliverables designed to align with their own professional practices through application of theories learned to the day-to-day work environment. At the end of the coursework process, many of these participants have difficulty transitioning to the scholar stage of the program due to a number of reasons: a) the loss of structure of coursework, b) the loss of the daily connection with other cohort members, and c) the expectations at work that now coursework is over, the candidate should not need as much time for his/her doctoral work.

In light of the above, we have implemented a similar process that includes rubrics for the primary milestones of the dissertation, as well as a rubric for ongoing Successful Progress (or No Progress) assessment for each semester the candidate is enrolled in dissertation hours. Student Learning Outcomes have been identified and articulated for the dissertation process and rubrics have been developed for the following stages: semester progress, prospectus, proposal, written manuscript, and oral defense. These rubrics vary in complexity from simple (semester progress) to detailed (manuscript and oral defense).

In an effort to establish clear and transparent communication processes, candidates post any questions they have along the dissertation journey to an Ask the Chair forum, where responses from the Chair are also provided. As an added structure for the process and a method for ensuring or assessing ongoing scholarship efforts, candidates are expected to post a biweekly update, keeping the chair and the committee members up-to-date on progress as they work through drafts and other components of the dissertation. In this manner, roadblocks or faculty initiated rabbit trails may be identified early in the process and corrections can be made to assist the candidate (and committee members) to remain on track and on task. Additionally, all drafts of the manuscript are submitted through the dissertation course space, including returned drafts with committee and chair feedback. This allows for a fully documented and cataloged record of all

communication that takes place as part of the dissertation process, eliminating any confusion about the status of a draft, as well as communications between chair and candidate, candidate and committee, and committee and chair. All records are captured and archived in the LMS course space, date and time stamped, and available for review as needed. These digital frameworks foster ongoing student-centered learning opportunities and activities that are designed to keep the doctoral candidate active and engaged in the dissertation process, while also ensuring an objective and consistent method for assessment of student learning outcomes on an ongoing basis.

Additional factors have been shown to affect the ongoing progress of doctoral candidates. For example, in traditional dissertation models, the candidate has historically submitted drafts to the chair and, ultimately, to the full committee for review. In these situations, after waiting for an unclear and unspecified amount of time, the candidate may be faced with a number of different copies of the manuscript with feedback lacking substance, or worse, with feedback that is contradictory or in conflict between one or more committee members. By creating a system for sharing of a single copy of the manuscript in a round-robin manner from chair to committee members, and back to chair, we have created a system where the chair can review all of the committee member feedback and resolve any conflict or contradictory feedback before sharing with the candidate. The candidate can then work on revisions from a single copy of the manuscript.

4 Assessment

To aid in the communication and ongoing planning processes for the dissertation candidate, we have implemented semester Learning Outcomes (for each semester the candidate is enrolled):

Semester Progress Learning Outcomes

- The Candidate establishes an approved (by the chair) timeline for semester milestones to be accomplished
- The Candidate communicates with the Chair and the Committee on a bi-weekly basis
- The Candidate accomplishes timeline achievements

The following rubric is used to assess the candidate for the semester grading period, where a grade of Successful Progress or No Progress is indicated:

Table 1. Semester Progress Rubric

Criterion	Levels of Achievement	
	No Progress	**Successful Progress**
Establishment of Timeline	Does not establish an approved timeline of milestones for the semester accomplishments.	Establishes an approved timeline (or submits approved revised timeline) for semester milestones to be accomplished.
Communication with Chair and Committee	Posts less than 6 meaningful bi-weekly update reports.	Communicates with Chair and Committee by posting 6 or more meaningful bi-weekly update reports.
Accomplishment of Timeline Achievements	Does not accomplish the majority of the achievements listed on the timeline.	Accomplishes a majority of the milestones listed on the timeline, and/or revises timeline with alternate milestones.

5 Milestones

As candidates move through the dissertation process, we have established a series of clearly defined milestones to keep them on task and moving forward. These steps include the Prospectus, the Proposal, the Pre-Defense, and the Defense.

- The Prospectus is a written paper that includes the many of the basic sections of the first two chapters of a dissertation (Introduction and Literature Review). The purpose of this step is for the candidate to demonstrate that there is a study to be done. This includes the rationale and the importance of the study, as well as a brief outline of the population and sample and the candidate's access to the data.
- The Proposal is the official first three chapters of the dissertation, including the methodology to be used in order to complete the study. This document includes explanation of all the steps necessary to complete the research study. Candidates are told that this manuscript should be detailed enough that another researcher with their content knowledge would be able to complete the study with only the Proposal document and access to the data.
- The Pre-Defense is considered to be the dress rehearsal for the final defense. During this event, the candidate walks the committee through the entire study in presentation format. The goal for this event is to find any major concerns with the completed study and resolve them prior to the public, and final, defense. This milestone has been very helpful to us, and we have found many minor errors/concerns at this stage of the process. We have been able to allow the candidate to make the needed corrections, and not to be embarrassed with final major concerns at the public defense. We often remind the candidate that the purpose of this event is to ensure they are fully ready to defend the final dissertation so that we do not have a public "failure" situation.
- The Defense is the public presentation of the completed dissertation to the committee and to the invited public for the campus. Upon completion of this milestone, the only remaining task is approval of the final manuscript by the Graduate School.

We have developed rubrics for each of these milestones that clearly describe to the candidate what needs to be accomplished in order to make successful progress and move to the next step in the process. These definitive milestones combined with the

structured dissertation course spaces provide the candidate, the chair, and the committee members with the tools need to keep the dissertation process moving forward. This entire process assist the candidate to stay on track to completion and to success in completing the doctoral degree.

6   Summary

Through this process, we believe that our candidates are working through the dissertation process in a much more consistent and effective manner. Providing this type of consistent and structured workspace and guidelines for the dissertation process adds to the candidate experience and limits the opportunities for the candidate to become disengaged and subsequently drop out of the process and the program. We believe this will enhance progression and graduation rates over time.

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