



Impact of Additional Early Feedback on Doctoral Capstone Proposal Approval

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Background and Framework

Approximately 175,000 doctoral degrees were conferred by postsecondary institutions in the United States during the academic year 2012-2013, with 10,500 in the field of education alone (National Center for Education Statistics, 2018). Many students who begin doctoral degree programs and fail to graduate. While results vary by field, approximately 40 – 50% of students who begin doctoral programs do not graduate (Cassuto, 2013; Council of Graduate Schools and Educational Testing Service, 2010; DiPietro, 2012; Ehrenberg, Zuckerman, Groen, & Brucker, 2009; Marshall, Klocko, & Davidson, 2017; Spaulding & Rockinson-Szapkiw, 2012). Additionally, many students are in the doctoral program between eight and ten years, or even longer (Council of Graduate Schools and Educational Testing Service, 2010; Golde, 2005; National Center for Science and Engineering Statistics, 2015; Sowell, Zhang, Redd, & King, 2008). In online universities, estimates are approximately 10% higher for students who do not finish (Diaz, 2002; Storrings, 2005).

The hallmark of doctoral education is the student research dissertation. Many consider the transition to an independent researcher as one of the most critical components of doctoral programs (Luse, Mennecke, & Townsend, 2012). However, the transition from doing assigned coursework to conducting independent research is difficult for many students (Lovitts, 2008). Doctoral students are usually completing the course work but then struggle or fail to write the capstone.

As the completion rates of doctoral students have consistently been low over several decades, universities have attempted to investigate the reasons and factors that lead to either success or failure. Spronken-Smith, Claire, and Quigg (2018) at a university in New Zealand, for example, investigated the factors that lead to persistence because the low graduation rate in doctoral education is not a problem unique to the United States. Researchers investigated determinants of graduation rates in the United States. Besides factors that were expected, such as recruiting only highly qualified full-time scholarship students with intensive research training, other factors emerged, such as close relationships with the committee, a vibrant research culture at the university, and high-quality supervision (Bollia, Agasistib, & Johnes, 2015; Hwang, Smith, Byers, Dickerson, McAlister-Shields, Onwuegbuzie, & Benge, 2015; Pitchforth, Beames, Thomas, Falk, Farri, Gasson, Thamrin, & Mengersen, 2012; Smith, Maroney, Nelson, A. L. Abel, & H. S. Abel, 2006).

Other researchers (Bagaka, Badillo, Bransteter, & Ris Pinto, 2015; Council of Graduate Schools, 2007; Lovitts, 2008) have determined that faculty mentorship, program support, and early feedback/guidance improve completion rates. The Council of Graduate Schools (2008) added that regular and uniform progress checks and review systems, along with early advising and guidance, are having the most substantial effect. Providing effective feedback in a systematic and uniform early review stage to enhance student learning (Hattie & Timperley, 2007) may improve the rates of doctoral capstone completion, and therefore, program completion. The implementation of such a process in the online setting is a remaining gap in the current literature on the topic. This study attempts to fill that gap.

Most universities have introduced rubrics, guidelines, checklists, and other tools to provide scaffolding for students during the doctoral capstone process. The faculty in the School of Applied

Leadership at City University of Seattle hired a Doctoral Student Administrator, whose role it was to support students in navigating these supporting materials and capstone tasks (Rankin, 2018). At the University of Nevada in Las Vegas, Winkelmes (2014) created the Transparency in Teaching and Learning in Higher Education Project, which gives faculty a framework of helping students better understand the specific learning activities and the concrete steps to be followed. Davis (2000) proposed a systematic approach where the dissertation is separated into distinct steps like problem statement, literature review, methodology, and the other components of the capstone document.

The professional doctoral program under study has several discrete steps built into the completion and review processes for the dissertation. There is the prospectus (research plan) stage, the proposal stage, and the final study stage. The proposal and final study stages require evaluation rubric approvals by committee members and the committee's research reviewer. The program's leadership team decided to implement a feedback step in the program that was initiated in December 2014. This early step was meant to provide structured feedback and additional guidance to enhance student learning during the development of the research plan, or prospectus. The feedback would often focus on the common issues of misalignment of the research design components and the feasibility of the approach. This process was known as the prospectus-stage review by the RPD. Before implementation of the RPD review, students had their prospectus documents reviewed by their chair and a second committee member. After implementation, completed prospectus documents were rubric-evaluated by both the committee members and by a designee from the divisional research office. Designees must be vetted as strong researchers and methodologists. The effect of the RPD review had not yet been measured.

The appropriate type of feedback is one of the most influential effects on student learning and achievement (Hattie & Timperley, 2007). Like Hattie and Timperley's (2007) model of feedback, the primary purpose of the early RPD review was to reduce discrepancies between students' performance on their research plan development and the program's goals for the research plan development. As such, the RPD review was founded in the program's *Prospectus Guide*. This Guide provides the purpose of the prospectus, an annotated outline of what needs to be included, a sample prospectus document, the nine quality indicators of the prospectus evaluation rubric, tips for writing a quality prospectus, and a research design alignment tool (design outline) for the sample prospectus. As noted in Hattie and Timperley's model of feedback to enhance student learning, RPD feedback reminds students of (a) the goals for each section of the prospectus, (b) the progress toward those goals, and (c) what needs to be undertaken to make better progress.

The RPD review as a new feedback step in the program's doctoral capstone process was implemented to provide earlier guidance to students and committees to assist with research capstone progress and completion. As the Council of Graduate Schools' Ph.D. Completion Project (2007) suggested, in the humanities where students work more individually on their doctoral studies, (compared to a research team in the sciences) and had little or no preparation for the research required once they finish the coursework, students may linger for years in a program before gaining a full understanding of what the doctoral study requires. By adding early, actionable feedback focused on reducing the gap between current prospectus development and prospectus development goals; it was anticipated that the time to capstone proposal approval and the number of research reviewer returns for the proposal would be reduced. The RPD review process has high

demands on resources; therefore, the influence of this early feedback on research capstone progress needed to be examined.

Purpose of the Study and Research Questions

The purpose of this quantitative, causal-comparative study was to examine the relationship between early-stage structured feedback and doctoral capstone milestone completion in a large online university. Specifically, we examined the addition of an early-stage structured feedback process, the RPD review of the prospectus (research plan), differences in the number of days to proposal approval, and the number of research reviewer returns.

The research questions were:

RQ1: What is the difference in the mean number of days from capstone committee initiation to proposal approval between the two independent groups (RPD review and no RPD review)?

RQ2: What is the difference in the mean number of research reviewer returns of the capstone proposal between the two independent groups (RPD review and no RPD review)?

Method

The subject of this study is an online university in the United States with more than 47,800 students. The university provides bachelor's, master's, and doctoral degrees in a broad range of disciplines. Currently, the university has more than 7,000 students actively pursuing their professional doctorate or Ph.D. In the Department of Education, approximately 1,972 students were enrolled in the doctoral program of study in 2015.

Participants and Data Collection

Archival data from the university's records system and the Center for Research Quality (CRQ) were collected, analyzed, and interpreted for this study. All names were removed from the data and records were matched by a numeric identifier only. Participants included students who received RPD prospectus review and feedback and those who received committee-only prospectus approval between the dates of January 1, 2013, and June 30, 2016. All records were coded for the factor group (0 for prospectus approval by committee only; 1 for prospectus review and approval by RPD). The remaining variables collected for each participant were matched to the appropriate student record using the student numeric identifier in the report. Once archived data were collected, we used SPSS to run the descriptive and inferential analyses to address the research questions. The data examined were limited to the data points collected, and no other student and committee characteristics were examined. The non-random assignment of students is a limitation that must be noted when considering the findings of the study.

Design and Data Analysis

The purpose of this study was to assess the effect of the RPD review by examining differences in two milestone measures between students who had their prospectus reviewed by the

RPD and students who did not. To address the research questions, a causal-comparative design was utilized for both research questions. Differences were examined between two independent groups of students.

For the first research question, descriptive statistics were computed for the two capstone student groups (RPD approval/no RPD review) to discern the mean number of days between committee initiation and proposal approval. Analysis of variance was used to test for significance of differences in the number of days from committee initiation to proposal approval between students who had their prospectus reviewed by the RPD and students who did not. The between-group factor was RPD review with two levels: no RPD review, and RPD review. The dependent variable was the number of days from committee initiation to proposal approval.

For the second research question, descriptive statistics were computed for the two capstone student groups (RPD approval/no RPD review) to discern the mean number of research reviewer returns at the proposal stage. Analysis of variance was also used to test for significant differences in the mean number of proposal returns between students who had their prospectus reviewed by the RPD, and students who did not go through the RPD review process. The between-group factor was RPD review with two levels: no RPD review and RPD review. The dependent variable was the number of research reviewer proposal returns.

Results

The group of students who had their prospectus document reviewed by the RPD had a lower mean number of days ($M = 499$) to proposal approval than the group of students who did not have their prospectus reviewed by the RPD ($M = 957$). Table 1 presents the descriptive statistics by group.

Table 1
Mean Number of Days to Proposal Approval

Group	N	M	SD	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
No RPD	85	957.22	574.694	62.334	833.26	1081.18
RPD	50	499.14	407.216	57.589	383.41	614.87
Total	135	787.56	563.004	48.456	691.73	883.40

A one-way analysis of variance was conducted, and the differences in the number of days to proposal approval between the groups were found to be statistically significant, $F(1, 133) = 24.495, p < .001$. As presented in Table 2, the strength of the relationship between factor group and days to proposal approval, as assessed by η^2 , was strong, with the factor group accounting for 16% of the variance of the dependent variable ($\eta^2 = .16$). These findings suggest that students who were provided the additional guidance and feedback from the RPD review could achieve proposal approval significantly faster than students who did not receive the RPD review feedback.

Table 2
Analysis of Variance Results for Days to Proposal Approval by RPD Factor Group

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	6606090.442*	1	6606090.4	24.495	<0.001	.156
Intercept	66772056.309	1	66772056.3	247.591	<0.001	.651
RPDReview	6606090.442	1	6606090.4	24.495	<0.001	.156
Error	35868394.773	133	269687.2			
Total	126208967.000	135				
Corrected Total	42474485.215	134				

* $R^2 = .156$ (Adjusted $R^2 = .149$)

The analysis of the difference in the number of capstone proposal returns by the university research reviewer was conducted next. The group of students who had their prospectus reviewed by the RPD had a mean number of proposal returns of approximately one and one-half, on average ($M = 1.48$). Students who did not go through the RPD review had their proposals returned approximately twice, on average ($M = 2.03$). Table 3 presents the descriptive statistics by group.

Table 3
Mean Number of Research Reviewer Returns of the Proposal

Group	N	M	SD	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
No RPD	80	2.025	1.2726	.1423	1.742	2.308
RPD	71	1.479	.8596	.1020	1.275	1.682
Total	151	1.768	1.1281	.0918	1.587	1.950

A one-way analysis of variance was conducted, and the differences in the number of research reviewer returns of the proposal between the groups were found to be statistically significant, $F(1, 149) = 9.304$, $p = .003$. As presented in Table 4, the strength of the relationship between factor group and a number of research reviewer returns of the proposal, as assessed by η^2 , was moderate, with the factor group accounting for 6% of the variance of the dependent variable ($\eta^2 = .06$). These findings suggest that students who were provided the additional guidance and feedback from the RPD review experience fewer research reviewer returns at the proposal stage, on average, than students who did not receive the RPD review feedback.

Table 4

Analysis of Variance Results for Number of Research Reviewer Proposal Returns by RPD Factor Group

Source	Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial Eta Squared
Corrected Model	11.219 ^a	1	11.219	9.304	0.003	.059
Intercept	461.815	1	461.815	382.986	<0.001	.720
RPDReview	11.219	1	11.219	9.304	0.003	.059
Error	179.668	149	1.206			
Total	663.000	151				
Corrected Total	190.887	150				

* $R^2 = .059$ (Adjusted $R^2 = .052$)

Conclusion

The significant results of this initial study suggest that students who were provided the additional guidance and early feedback from the RPD review achieved proposal approval significantly faster than students who did not receive the RPD review feedback. Students also experienced a slight reduction in research reviewer returns at the proposal stage, on average, compared to students who did not receive the RPD review feedback. Findings appear to support the use of an early-stage additional feedback process to guide the direction, progress, and next steps for completing independent capstone research that aligns with the goals of the program.

This study contributes to a gap in practice related to the effect of a recently-implemented step in the capstone review process, intended to reduce discrepancies between students' performance on their research plan development and the university's goals for research plan development. By examining the effect of the RPD review on the time to capstone proposal approval, this research supports professional practice at the study site, providing data the university can use to make decisions related to the process, resource allocations related to the process, and possible expansion to other programs. The results also fill a research gap related to successful practices in supporting online doctoral students with completing their independent capstone research.

When students fail to complete their doctoral program, the result is losses for not only the student and university but the workforce in general if they lack the trained individuals with advanced degrees (Council of Graduate Schools, 2007). The results of this study support the practice of providing feedback in a systematic and uniform early-review stage to support capstone milestone completion, which may improve doctoral program completion rates. However, the feeling of being part of the university community seems to be an issue that needs to be explored (Anderson, 2004). Especially for online students, the physical distance from the mentor and the research environment are a challenge (Orellana, Darder, Perez, & Salinas, 2016). Ali and Kohun (2007).

Additionally, Jairam and Kahl (2012) explored the social isolation that many students face and suggested a four-step framework on how to overcome this isolation. Anecdotal evidence

implies that some of these suggestions are being piloted by different universities. Hutchings (2017), for example, described efforts to support doctoral students through group advising and peer support at Bournemouth University. Similarly, Miller, Duron, Bosk, Finno-Velasquez, and Abner (2016) explored the effect of peer learning networks for doctoral students in their social work doctoral programs, which is what Christiansen and Bell (2010) found for doctoral students in nursing. Craft, Augustine-Shaw, Fairbanks, and Adams-Wright (2016) focused less on the support by peers, and more on the support by their dissertation chair/advisor.

While the early findings of our study on the use of an additional early, structured feedback process in online doctoral programs were promising, the study should be replicated with larger samples of students, additional programs, and additional data points on student, committee, and program characteristics to strengthen the validity of the research. Additionally, it should include the effect on the social connection to the university community and the chair.

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