

# The Dissertation Clinic: Supporting Doctoral Students' Research Methods Training in an Online EdD Program

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## ABSTRACT

"The professional doctorate in education prepares educators for the application of appropriate and specific practices, the generation of new knowledge, and for the stewardship of the profession" (CPED, 2009). The Johns Hopkins University EdD attracts diverse learners with varying experiences with statistics and research methods. These experiences coupled with becoming doctoral students often contributes to high levels of reported anxiety and low confidence related to these topics. Evidence also suggests that this anxiety may contribute to higher rates of attrition in online doctoral programs. Understanding the importance and value of acknowledging our students' needs, differences, and worries around methods and statistics and recognizing that intentionally working with students in these areas can mitigate this anxiety, the methods faculty in this EdD program set out to create a forum for students, faculty, and advisors to call on for matters related to methods, statistics, and data analysis. This essay offers a description of the Dissertation Clinic, implementation of the clinic and the services offered, as well as next steps and future considerations.

## KEYWORDS

*research methods, student anxiety, student attrition, dissertation clinic*

The Doctor of Education (EdD) program within the School of Education at Johns Hopkins University is an online program that aims to "prepare an exceptional corps of practitioner scholars, both nationally and internationally...www.education.jhu.edu. The online program began in August 2013 and currently enrolls over 200 students from across the globe. Over the past eight years, the program has graduated 137 students with over 30 on track to graduate in 2021. Tables 1 offers a snapshot of current enrollments and graduates. Students work in settings that include K-12, higher education, and for- and non-profit organizations. While over half of our current and graduated students work in K-12 educational settings, the program has experienced a steady increase in individuals from higher education and the for-profit world. Higher education students comprise over 35% of our current enrollments with for-profit sector representing just under 10% of students.

The program is comprised of five specializations including Mind, Brain, and Teaching, Entrepreneurial Leadership in Education, Urban Leadership, Instructional Design and Online Teaching and Learning, and Technology Integration K-16. During the three-year program, students must complete 90 hours (36 coming from their master's or post-master's program) that include core courses and

elective courses within their specialization. The core courses include three research methods courses, four foundations in education courses, and four required electives based on the student's specialization. The remaining credits come from elective courses.

As a member of the Carnegie Project of the Education Doctorate, the program prepares students as practitioner-scholars through coursework and the completion of an applied dissertation. The applied dissertation requires that students examine a Problem of Practice (POP) within their organization. Initially, students examine literature to understand potential drivers of the problem using a systems approach. Further, they explore and determine which factors are most salient within their context through an empirical study. Once complete, students explore literature on interventions that have addressed the salient factors found from their empirical study and develop an intervention using this understanding. Students then examine the intervention to determine the scope of implementation, fidelity, and the extent to which the intervention addressed contributing factors related to the intervention.

To prepare students, most of whom come into this program with little to no experience with research methods or statistics, for the two



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empirical investigations of the POP (i.e., needs assessment, and intervention study), students take three research methods courses. The first and third courses include dissertation components, supporting the completion of two chapters of the dissertation. The first course aims to support student learning for an empirical investigation of potential contributing factors of their POP. The third course aims to support student learning to examine the implementation and influence of the intervention on the factors related to the POP. While the second research methods course does not have a dissertation component, it is equally important as it prepares students to analyze data related to their dissertation research.

## LITERATURE REVIEW

“The professional doctorate in education prepares educators for the application of appropriate and specific practices, the generation of new knowledge, and for the stewardship of the profession” (Carnegie Project on the Education Doctorate, n.d., para. 4). This preparation includes the integration of practical and theoretical knowledge to address educational problems of practice. The past several decades have seen doctoral enrollments increase by 60% coupled with 40-60% attrition in residential programs and 10 to 20% higher rates for online doctoral programs (Rockinson-Szapkiw, Spaulding, & Spaulding, 2016). Doctoral programs are challenged to effectively educate the growing number and diversity of students. Students in practice-based doctoral programs enter with well-constructed professional identities and knowledge but when faced with new academic experiences, report feeling uneasy, less confident, and threats to their established professional identity (Mawson & Abbott, 2017).

One source of this strain comes from the high levels of anxiety around statistics and methods reported by graduate students (Onwuegbuzie, 2004). “Anxiety is a tense unsettling anticipation of a threatening but formless event; a feeling of uneasy suspense” (Rachman, 1998, p. 3). Williams (2013), Schacht and Stewart (1990), and Onwuegbuzie and Wilson (2003) suggested that graduate students report high levels of anxiety around statistics and student achievement, performance and self-perception are affected by the reported level of anxiety. Further, DeVaney (2010) found a significant difference in the self-reported anxiety of graduate students in education taking an online statistics course compared to their counterparts taking the same course in person. This anxiety contributes to students’ perceived levels of creativity and intellectual and academic abilities (Williams, 2013), and can manifest in psychological and physical ways such as depression, worry, frustration, worry, muscle tension, and headaches (Onwuegbuzie et al., 2003). Factors contributing to statistics anxiety include minimal training in math, late introduction to statistics and quantitative analysis, fear of failure, and perfectionism (Pan & Tang, 2004). Onwuegbuzie and Wilson (2000) offered three categories of anxiety: situational which refers to experiences with math and research; dispositional or confidence with math and statistics, and personal (i.e., demographics). Further, anxiety around statistics and methods for graduate students is negatively related to performance in statistics and methods courses (Zanakis & Valenza, 1997), self-efficacy (Blalock, 1987), and program completion (Onwuegbuzie, 1997).

While some research evidence suggests that the students’ own uncertainty about and worry contribute to the anxiety around

statistics and methods (Williams, 2013), instructors can do a lot to mitigate the anxiety that students feel. Instructors who encourage students, acknowledge and talk about the reported anxiety, cultivate cooperative learning, and focus on the process of learning rather than the outcomes can contribute to lower levels of reported anxiety (Wilson & Onwuegbuzie, 2001). Wilson and Onwuegbuzie, in a study with 70 doctoral students, found that working individually created more stress than group work, and instructor encouragement and peer support in- and outside of the course helped reduce student anxiety. Pan and Tang (2004) also suggest that integrating humor, real-world application, and instructor’s attending to student anxiety including an orientation letter prior to the start of the course to defuse some of the feelings, flexible and extended office hours, and a mid-semester survey to check-in with students (and incorporate feedback), all contribute to lower levels of anxiety. Pan and Tang’s study provided evidence that eliminating mechanisms that would result in worries over failure and providing effective scaffolding like application-oriented problems, essay writing to help students learn to explain the procedures and results to a layperson, and critiquing journal articles shifted students’ focus away from fears over outcomes towards the process of learning and being successful.

The Johns Hopkins University EdD attracts diverse learners with varying experiences with statistics and research methods. This varied experience coupled with becoming doctoral students often contributes to high levels of reported anxiety and low confidence related to research knowledge and skills. Understanding the importance and value of acknowledging our students’ needs, differences, and worries around methods and statistics and recognizing that intentionally working with students in these areas can mitigate this anxiety, the methods faculty in the EdD program set out to create a forum for students, faculty, and advisors to call on for matters related to methods, statistics, and data analysis. The following offers a description of the Dissertation Clinic, implementation of the clinic and the services offered, as well as next steps and future considerations.

## DISSERTATION CLINIC

The Dissertation Clinic was developed based on various student needs including foundational methods and statistics concepts, as identified by the three lead methods faculty of the EdD program. Methods instructors were inundated with supporting individual student research projects for the dissertation studies. Further, students’ advisers had difficulty supporting students’ methods chapters for the applied dissertation. Given these challenges, we recognized a need for an explicit map of the research methods goals, skills, and competencies for student learning and resources outside of coursework to guide students’ learning of methods concepts. As such, three lead methods faculty within the program developed a model to address these needs.

The process for the design of the Dissertation Clinic was iterative. Initially, we used office hours, a shared methods resource site within a Learning Management System, and a few online synchronous presentations and video tutorials to support students and advisers. Further, during the first year of the clinic, we began developing a list of research methods goals, skills, and competencies to align with the methods course sequence. However, over time, the clinic grew to include workshops, introductory statistics concepts tutorials, and the development of six research methods orientation modules, for continued support.



## IMPLEMENTATION OF THE DISSERTATION CLINIC

Early on, the dissertation clinic included help desk-like support where students could call or email with questions or requests for help on specific areas of their methods and data work but over time, the methods faculty, with feedback from faculty, advisors, and students, developed and integrated structures and services beyond the help desk to accommodate the needs of our EdD students and faculty. This section offers a brief introduction to some of those elements.

### Office Hours

To support students and advisers, the methods faculty have office hours where students receive just-in-time help. Depending on the nature of the question, the faculty make decisions about how to direct students based on the expertise of the Dissertation Clinic faculty. For example, two faculty members conduct primarily quantitative research, while the other conducts research across all three research paradigms. Over the course of three years, we have held  $n = 149$  appointments with students and advisers. In addition, we have logged 129.15 meeting hours from June 2016-June 2019. The types of support and their frequency are described in Table 1. Support during office hours include helping students with quantitative data analysis, formulating and refining research questions, identifying appropriate research designs, and data interpretation, to name a few.

### Resource Site

The faculty for the Dissertation Clinic created a Blackboard site to house a variety of methods resources to support students and

faculty. The site includes 45 references for books and articles on quantitative, qualitative, and mixed methods research. These resources include content such as data analysis and collection, validity and reliability, trustworthiness, and writing up findings. The site also contains faculty developed short video tutorials and synch sessions on topics such as inputting data into SPSS, descriptive statistics, performing a t-test, and inductive and deductive coding.

### Introductory Statistics Topic Tutorials

The statistics tutorials were designed to focus on introductory statistics concepts that serve as a self-paced "course" for students who need a stronger foundation in statistics. As such, a sequence of topics was developed to build students' statistics vocabulary, introduce them to key terms, and provide an opportunity for them to apply basic analysis approaches through guided exercises.

### Research Methods Orientation Modules

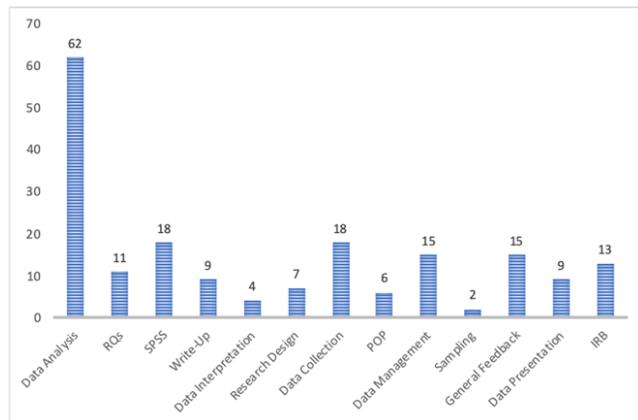
In order to support students prior to entering the program full time, the Dissertation Clinic faculty developed six modules to support students' methods knowledge. Students must complete six orientation research methods modules the summer before entering the program. These modules include videos, readings, quizzes, and discussions. The modules were designed to introduce each incoming cohort to methods terminology that can be applied to their dissertation research. The module topics include 1) The Language of Research, 2) Theoretical and Conceptual Frameworks, 3) Researcher Responsibility, 4) Measurement, 5) Formulating Research Questions, and 6) Basic Statistics.

*Table 1. Frequency of Call Type by Academic Year f (%)*

Type of Call	AY 2016-2107 (23.9 hours)	Type of Call (36.08 hours)	AY 2016-2107 (69.17 hours)
Problem of Practice	4 (11.8%)	2 (3.6%)	0 (0%)
Research Questions	0 (0%)	4 (7.3%)	7 (7.0%)
Research Design	0 (0%)	2 (3.6%)	5 (5.0%)
Sampling	1 (2.9%)	1(1.8%)	0 (0.0%)
Data Collection	2 (5.9%)	7 (12.7%)	9 (9.0%)
Data Management	4 (11.8%)	1 (1.8%)	10 (10.0%)
SPSS	3 (8.8%)	4 (7.3%)	11 (11.0%)
Data Analysis	14 (41.2%)	19 (34.5%)	29 (29.0%)
Data Interpretation	0 (0%)	4 (7.3%)	0 (0%)
Data Presentation	2 (5.9%)	4 (7.3%)	3 (3.0%)
Write-Up	0 (0%)	2 (3.6%)	7 (7.0%)
General Feedback	3 (8.8%)	5 (9.1%)	7 (7.0%)
IRB	1 (2.9%)	0 (0%)	12 (12.0%)
Total	34	55	100



Figure 1. Frequency of dissertation clinic support topics during office hours



### Workshops

The Dissertation Clinic workshops began in February 2018 with students taking their first research methods course and continued with subsequent courses and the newer cohort. Faculty held 8-10 workshop sessions, with up to 6 students. Since its inception, the dissertation clinic has provided n = 36 workshop sessions that has supported n = 141 students in the EdD program.

The workshop topics are aligned with the content of the methods courses to allow students to workshop their work prior to writing formal papers in their classes. A list of topics is presented in Table 2. During the workshops, students present their work and receive feedback from their peers and the workshop facilitator. For example, during the workshop on developing research questions for their needs-assessment, each student had 10-12 minutes to present their research topic, one or two research questions and receive feedback. These sessions were recorded and provided to students in that session as a resource. In another example, students participating in the qualitative analysis workshop were provided with a short narrative prior to our meeting which they analyzed independently prior to the workshop. During the workshop, students shared their codes, themes, and conclusions and received input from their peers and the workshop facilitator.

### THE RESEARCH METHODS TEAM

The research methods faculty in the EdD designed and implemented the structures and services previously outlined to address the needs of our students and faculty. Based on our own experiences as educators and a review of the literature, the dissertation clinic represented a way to both attend to student anxiety about methods and statistics and provide students with active learning opportunities (Onwuegbuzie & Wilson, 2001). The three methods faculty who run the dissertation clinic hold regular and as-needed office hours and hold workshops and summer orientation sessions to support and prepare as well as manage our students' expectations with respect to methods and statistics training and program competencies. In terms of instructional practices, we have also worked hard to build a series of research methods courses (including online research method for entering students) that include relevant, practice-oriented activities and discussions (Pan & Tang, 2004). For example, a year ago as we worked on a redevelopment of

our methods and analysis course, we decided to have students examine, analyze, and interpret data collected from our own students during our summer residency. Students, with the help of their group and instructor, analyze and write about data that has immediate and practical application to our own doctoral program. Moreover, the dissertation clinic, throughout the year, offers methods workshops geared towards where the students are in their studies. Working with their peers and the instructor contributes to increased confidence in their own ability and may also lead to lower anxiety around methods and statistics (Pan & Tang, 2004). Finally, we regularly administer informal surveys to our students and collect other feedback from the EdD community in order to continually examine our community needs and implement changes towards improvement (Christie, Inkelas, & Lemire, 2017). We are confident that while there is always more to do, we are making progress and providing appropriate and effective support. Efforts like this dissertation clinic only work well when leadership and faculty themselves willingly invest the time and effort necessary to create these kinds of communities. The research methods faculty, with the support of the EdD program and School of Education leadership, work well together, meet regularly, continually collect formative data and are open to collegial feedback. We also prepare an annual progress report for the program and school and continually review the work we do in the clinic to make sure we are changing with the diverse needs of our students and faculty.

### CONCLUSION

As evidenced in the literature, becoming a doctoral student represents a significant transitional moment that includes stress and self-doubt. Studying statistics, methods, and data analysis on this journey also contributes to this anxiety which may lead to higher rates of attrition. Moreover, researchers found that this high level of anxiety dampened student creativity and intellectual abilities (Williams, 2013). These feelings of stress are amplified for students taking an online statistics and methods courses compared to taking this course in-person (DeVaney, 2010). Doctoral programs structures, like this dissertation clinic, represent a way to attend to the needs and worries of our students. It is one opportunity to provide scaffolding and mitigate the stress of doctoral studies and courses like research methods.

CPED aims to prepare faculty and students to be stewards of the profession and part of this stewardship requires programs, faculty, and supports to reflect the diverse needs, interests, and goals of our students. This dissertation clinic is one step in this direction. It addresses students' needs for flexibility in office hours, ways to check-in with faculty about worries and skill development, and provides scaffolding and other resources to address their course work and research needs.

### FUTURE RESEARCH

As we continue to design and update our structures and services, we will continue to collect data so that we may report out to our EdD community regarding the improvement process, the rationale for changes, and issues that emerge and how we address these. With the clinic in place, we also hope now to turn our sights on research aimed at evaluating outcomes related to student success in the program but also their progress towards successfully completing program milestones including oral comprehensive exams and the dissertation proposal and final defense. Our EdD program is also



currently in the process of starting the development of a Writing Clinic based, in part, on some of the work we have done with our students around research methods. We hope that others will consider our model for supporting their students and share their experiences with the larger community so we may all learn from our trials and successes.

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