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Considering each stage of the process makes it a little more accessible and a little less daunting.

Graduate students are the best of the best. Like Olympic athletes, they are in pursuit of the highest levels of achievement. They are intelligent, motivated, driven, educationally accomplished, and skilled. They also are usually excessively busy—working full-time in their education setting as teachers, principals, or superintendents while balancing bustling home and professional lives alongside the demands of graduate-level education work.

This juggling act is not to be taken lightly. In graduate education, retention and completion pose significant challenges. As many as 50 percent of doctoral and a quarter of master’s (varies by field of study) students fail to complete their programs (Denecke and Frasier 2005; Golde 2005; Council of Graduate Schools 2008). Tokuno (2008, 30) noted, “Where conflict between ongoing social roles and the need to be a student arise, obstacles may occur.” Given the work and life demands education professionals routinely navigate, it is not surprising that completion rates are as low as they are, but that they are so high! To assist educators in managing their pursuit of excellence along with their professional and personal lives, this article outlines “how-to” guidelines for higher education teachers/faculty advisors (hereafter referred to as teachers) and graduate students preparing to engage in thesis or dissertation work.

Admittedly, this article merely skims the surface on the topics of theoretical grounding and literature review (Boote and Belle 2005; Kennedy 2007). In “Scholars before Researchers: On the Centrality of the Dissertation Literature Review in Research Preparation,” Boote and Belle (2005) emphasized the foundational role and purpose of the literature review. Kennedy (2007, 146) similarly presented useful insights specific to “problems associated with defining a literature range . . . inclusion and exclusion . . . and how differences in study quality are addressed.” Students should not underestimate the importance of “a thorough, sophisticated review of the literature . . . and the importance of the literature review in research preparation” (Boote and Belle 2005, 3). That said, this article’s “how-to” guide is designed to help students overcome the overwhelming sense of burden in their overly committed professional lives, which too often gets in the way of even getting started.

Getting Started
Graduate programs seek to support the development of education professionals as scholars, researchers, and practitioners through coursework, examination, and culminating thesis/dissertation. The thesis/dissertation is a formal, scholarly document—a symbol of quality graduate study and research. Like marriage, the thesis/dissertation is a commitment, with a foundation for success built upon liking, if not loving, one’s chosen area of inquiry, as well as a stubborn willingness to persist over time.

Selecting a Topic
Ideally, students have been considering and reviewing literature related to their prospective area of inquiry throughout their program of
study—systematically exploring aspects of their potential topic through course assignments and projects. Teachers can and do play a key role here, counseling students to consider potential topics in terms of (a) sustaining their interest; (b) their range of competence to conduct and complete the research; (c) manageability—neither too wide nor too narrow; (d) contribution to the field—fill a gap in the literature, or substantiate or refute prior research; (e) obtainable data; and (f) providing an opportunity to demonstrate independent mastery of subject-matter content.

**Breaking It Down**

Starting the thesis/dissertation process can be daunting. The totality and enormity of research inquiry frequently seems to overwhelm students. One way to help them cope is to map out the incremental elements that comprise the process, making evident that it can be engaged and completed in pieces or stages. Minutes or hours here and there, over time, can and do result in a quality finished product.

With this in mind, begin by breaking down the thesis/dissertation into its component parts; that is, preliminary pages, chapters, references, and appendices. From there, outline where “we’ll” begin. Notice the emphasis on we; the student and teacher are in this together. Ali and Kohun (2006, 27) described the sense of isolation graduate students often experience at this critical stage, which makes the teacher-student connection especially important to the success of the thesis/dissertation process:

*This stage is characterized by the students working alone with their advisor in the absence of extensive daily social interaction and communication with their peers or with other faculty... In most cases, there is no specific agenda to follow and there are no marks by which the students measure their progress. The issue is further complicated because each student works alone on his/her research project. This prevents the students from obtaining vital support that could be gained from communicating with other students.*

**One Piece at a Time**

Typically, thesis/dissertation work is organized and presented in sections, with the main document text residing in a series of chapters (i.e., Chapter I: Introduction; Chapter II: Literature Review; Chapter III: Methodology; Chapter IV: Results; Chapter V: Discussion/Conclusion). Each chapter is subdivided into various content sections. An overview of chapters and subsection content follows.

**Chapter I: Introduction**

A strategy that may be particularly useful to education graduate students is to outline a process that begins at the beginning, meaning with Chapter I. Chapter I includes an introduction (wherein literature is used to briefly frame the inquiry), a statement of the study purpose, followed by research questions or goals, associated operational definitions, assumptions, limitations, delimitations, and the significance of the study. The sequence of teacher-assigned student tasks might look something like this:

1. Create a document outlining the chapter subsection headings, set up with appropriate document margins, pagination, etc. This beginning activity demonstrates that in a very short time period (minutes), a concrete document starting point can be created.

2. Review key pieces of related literature and draft a purpose statement. Students may be able to articulate verbally what they think they want to do before they can succinctly write it as a purpose statement. Once the purpose is nailed down, students draft 2-4 research questions or goals derived from it. These, like the purpose statement, are bounced back and forth between teacher and student for feedback, discussion, and clarification. While this process can take time, it is foundational to scaffolding the research inquiry. The entire study is framed based on its purpose.

3. Using the purpose statement and research questions, words/terms are highlighted that need to be operationally defined. Although there are instances where terms are appropriately defined “for the purpose of this study,” as much as possible students should cite definitional reference sources.

4. The introduction text, with appropriate literature citations, is drafted next. The framework for this text is guided using a funnel model, with broad areas of literature identified, brought together and funneled to a focal point—the purpose of the study.

5. Students next address the “so what” question and outline the inquiry’s relevance or significance
as it pertains to potential stakeholders. This step involves identifying to whom the findings might matter and why, ranging from students to teachers, principals, superintendents, districts, state departments of education, legislators, and the profession or empirical body of knowledge. If the student cannot articulate to whom, in what ways, and why the study matters, there isn’t much reason to pursue the inquiry.

6. Finally, students are directed to review the definitions of assumptions, limitations, and delimitations. It is useful to require students to actually state these definitions and their source citations. From this foundation, the student re-reads her/his purpose statement and research questions, and drafts the associated assumptions, limitations, and delimitations. This section typically remains in draft form at least until after Chapter III is drafted.

Chapter II: Literature Review

The literature review provides the theoretical framework and research-based grounding for the study (Boote and Beile 2005; Kennedy 2007). It can be anywhere from 40 to 100 pages or more in length, hence its daunting nature. Typically, the literature review continues to grow as the study progresses and, although an exhaustive literature review is probably not possible in today’s age of exponential information growth, it must be “substantive, thorough, sophisticated” and comprehensive in nature and scope (Boote and Beile 2005, 3).

It is useful for students to begin each chapter with the purpose statement. This allows chapters to stand alone in terms of informing the reader about the inquiry purpose. From there, the areas of literature that will be reviewed are identified. Writing 101 comes to mind: tell what you will tell them, tell them, and then tell what you told them.

In determining what major areas of literature are needed to support and ground the study, students may be asked to consider a 3–4 legged stool, with each area of literature providing context and support to the study purpose—the seat of the stool. Often when students struggle, it is because they are attempting to support their study with literature too narrowly defined—toppling their stool. Once identified and sufficiently outlined, a funnel approach to writing within each area works well (i.e., starting broad and then honing in to focus on the literature’s connection to the purpose of the study).

As with Chapter I, it can be immensely helpful for students to focus on the incremental completion of each literature section—building the literature review piece by piece, subsection by subsection. Concluding each major section with a summary that ties the literature back to the purpose and significance of the study makes clear to the reader why the literature just read is important and relevant.

Chapter III: Methodology

The methodology material varies in length and often evolves as the study progresses (e.g., findings from a pilot study may inform the finalization of the instrumentation). Again, the chapter begins by restating the purpose of the study and then lists the methodological contents; that is, sampling/participants, instrumentation, procedures, design, and expected analysis. Consistent with the strategy embodied throughout this article, teachers may find it useful to task students with completing Chapter III in sections. Typical Chapter III assignment prompts might look like this:

1. Participants/Sampling. Who are the participants? Describe them (include any relevant definitions that may help make clear whom you mean). How will they be recruited/selected, and how many will there be? It is important to determine whether the participants are respondents, subjects, etc.; and then to use the correct term consistently. It is also important to be explicit about the population the sample will be drawn from, the size of the sample, and the type of sampling strategy to be employed (inclusive of supporting reference citations).

At this point, having students go back to review and consider their stated limitations and delimitations can present a meaningful “ah ha” opportunity. When students reread the definitions of these terms, and then think about how their participants/sampling decisions inform limitations and delimitations, it serves to help them realize and internalize their role and responsibility as architects of the inquiry they propose to engage.

2. Instrumentation/Measurement. What instruments will be used? How will they be developed? Describe the development
process and cite applicable reference sources regarding the types of interviews, surveys, etc. Survey items/questions need to be related to the purpose of the study and the research goals/questions. Additionally, in this section students need to address issues of instrument reliability and validity. Existing instruments probably have this information already, and students need to cite it. If instrumentation is being developed for the study, information specific to the development process needs to be included. State something along the lines of “the instrument was developed based on”: (a) the literature review (in particular, in instances where the researcher may be adapting instrumentation used in other studies for use in her/his study, those instruments and their relationship to the study need to be described, as well as rationale provided regarding the manner of adaptation and planned use); (b) the researcher's knowledge and expertise; (c) expert review; and (d) pilot testing. When employed, pilot testing must be thoroughly described in terms of participants, instrumentation, and procedures.

3. Procedures. What will you do, when, how, and in what order. In this section, students: (a) briefly review the sampling strategy and instrument development (if appropriate); (b) describe how the study will be conducted (e.g., surveys, interviews, testing, observations), being sure to include detailed information about the setting, length of time, and associated information materials (e.g., informed consent form, survey instruments); and (c) describe how the data will be collected and stored. Ideally, the procedures should be so clear and sequential, much like following a recipe, that someone else could come along, read them, and do the study without having to ask the researcher for directions. Students invariably leave out important information and steps when drafting procedures. In an effort to make clear the depth and breadth of detail required, asking students to recall baking cookies can be helpful. Many students can recite, in order, the ingredients needed, specific amounts, cooking temperatures, and times for their favorite cookie recipe, and quickly provide the detail needed for someone else to follow their directions and end up with basically the same cookie. This analogy often precipitates an “ah ha” moment in terms of the methodological detail and clarity required.

4. Design/Analysis. What methodological approach will the study employ? Will you use qualitative, quantitative, or mixed methods, and correspondingly, what analyses are anticipated (Johnson and Onwuegbuzie 2004). For many students, despite considerable research and statistics course work, confidence in terms of knowing what analyses to do, when, and why is often lacking. Again, a sequential piece-work strategy is useful. For each research question, students may be tasked to consider: (a) the type and scale of data that will be collected, for example, quantitative (nominal, ordinal, interval, ratio) or qualitative (narrative); (b) what the dependent and independent variables will be, if appropriate; and (c) what analysis is appropriate for responses to each question. Much like using the right tool for the right job, it is critical that students understand and use the analysis that is appropriate for the questions asked and data generated.

Chapter IV: Results/Findings
Presentation of the findings varies based on the type of study. Sequence and structure are helpful student supports. In most instances, what works well is organizing this chapter beginning with response rate and demographic data, followed by findings corresponding to each research question. This chapter often includes tables and sometimes graphs and figures. The meaning or interpretation of the findings is not part of this chapter, and students often need to be reminded to stay focused on “just the facts.”

Chapter V: Discussion/Conclusion
As with other chapters, breaking this chapter into its component parts—discussion, conclusions, recommendations/implications for action, and areas of further inquiry—can make it seem less daunting. Staying true to the mantra of incremental sequence and structure, assigned tasks for this chapter include: (a) creating an outline for the Chapter V discussion subsection using the same subsections presented in Chapter IV—response rate and demographics fol-
allowed by specific findings for each research question; (b) rereading Chapter II and then relating and discussing the findings to the literature; (c) reviewing Chapter I regarding the significance of the study, and then addressing or responding to the significance, telling in what ways and to whom their findings matter and why; and (d) following the discussion with chapter subsections labeled Conclusions, Recommendations and Implications for Action, and Areas of Further Inquiry.

References, Appendices, and Preliminary Pages

Reference lists must be complete and accurate, a seemingly simple goal that is often difficult to achieve. Creating the reference list as citations are used is a helpful strategy, because it is difficult and time-consuming to go back later and track down source citation information. Adherence to all aspects of style format (e.g., APA) is also critical. Only those references actually cited in the text can be included in the reference list. This point may seem obvious, but unless specifically directed to do so, students often “forget” to engage a two-directional process of verifying references (i.e., searching to be sure every citation found in the document body appears in the reference list—and vice versa).

Examples of material placed in appendices are cover letters, statements of informed consent, and instruments: Appendices should appear and be lettered in the order they are referred to in the document. The preliminary pages typically include the Photocopy and Use Authorization Page, Title Page, Copyright Page, Committee Approval Page, Human Subjects Committee Approval Page, Dedication, Acknowledgments, Table of Contents, List of Figures, List of Tables, and the Abstract. For the most part, preparing these pages is relatively routine. During periods of constricted time and creative energy, students can prepare these elements as a way of maintaining writing progress and momentum.

Concluding Thoughts

While much could be said about selecting or recruiting thesis/dissertation committee members in terms of their roles and responsibilities, interpersonal dynamics, and other factors, suffice it to say that potential members need to know what they are getting into and what is expected of them. An e-mail invitation, sent jointly from the student and teacher, inclusive of the study purpose and the student’s anticipated timeline, is a quick and effective way to initiate committee formation.

Thesis/dissertation proposal and defense presentations/examinations can be grueling interrogation events, or they can be collegial exhibitions and celebrations of educational research-based achievement and excellence. The guidelines outlined in this article are designed to facilitate and precipitate the latter. During the presentation, students should expect questions. Typically, proposal questions focus on issues of methodology, and it is critical that students are clear about what they propose doing and why. In contrast, defense questions often focus on findings/results and discussion, as well as attempts to help the student stretch in terms of emergent recommendations and implications for further inquiry.

At this point, despite diligent preparation, most students experience elevated levels of anxiety, if not terror, in anticipation of their presentations and examinations. The teacher’s role here is critical, simple, clear, and direct—that is, to remind students that this is their study and that no one knows more about it than they do. Most often, as the presentation and defense evolve from an examination to an interesting, challenging, thought-provoking dialogue, the line between teacher and student blurs, a threshold is crossed, and colleagues emerge.

References


