DOCTORAL CAPSTONE RESEARCH RESOURCE

This resource is intended to assist doctoral students at the prospectus and proposal stages with developing research design components, identifying a doctoral-level research problem, writing a problem statement, and ensuring research design alignment.
Developing the Research Design Components

Identify the discipline-specific Research Problem by reviewing recent literature related to the topic of interest.

Establish the Purpose of the Study, which progresses from and addresses the research problem.

Develop the Research Question(s), which helps to focus the study.

Further review seminal works and current, peer-reviewed, primary sources to identify the Framework, develop hypotheses, inform design choices, etc.

Determine the Methodology and Research Design, data source and instrumentation, and data analysis technique(s), that best address the research question(s).
Identifying a Doctoral-Level Research Problem

LITMUS TEST | Required Hallmarks for a Doctoral-Level Research Problem

Discover topic/problem ideas by reviewing research findings and current practice. In Walden’s scholar-practitioner model, a research problem shows promise of contributing meaningfully to the field only if the answer to each question below is “yes.”

**Justified?**

*Rubric Standard: Justified*

Supported by relevant statistics, evidence, etc.; a discipline-specific puzzle that needs solving.

**Grounded?**

*Rubric Standard: Grounded*

Built on previous research; a problem framed in a theoretical or conceptual framework.

**Original?**

*Rubric Standards: Original, Meaningful*

Making an original contribution; reflecting a meaningful gap in research literature (PhD) or practice (professional doctorates).

**Amenable to Scientific Study?**

*Rubric Standards: Feasible, Objective*

Framed objectively; able to be a systematic study, permitting multiple possible outcomes.
Writing the Problem Statement

From the PhD Prospectus Guide

Provide a one- to two-paragraph statement that is the result of a review of research findings and current practice and that contains a description of the problem along with evidence that provides a justification that the problem is meaningful to the discipline. Therefore, problem statements need:

- Intro/Support Information
- Problem with Evidence
- Justification of Discipline Importance
- Gap in the Literature

Sample Problem Statement from the PhD Prospectus Guide

Conducting a supervised independent research project is a unique feature of completing a doctoral degree (Lovitts, 2008; Luse, Mennecke, & Townsend, 2012). Contrary to the commonly held belief of a 50% all-but-dissertation (ABD) rate, only approximately 20% of doctoral students are unable to complete the dissertation after finishing their coursework (Lovitts, 2008; Wendler et al., 2010). The challenge of the dissertation is not a new phenomenon in higher education, but what is new is the growing number of students who complete their academic programs online (Allen & Seaman, 2007; Kumar, Johnson, & Hardemon, 2013). Although many students are ultimately successful in defining the central argument for a doctoral capstone, how this process occurs in a distributed environment has not been well researched.

Highlighted in the book on doctoral education by Walker, Golde, Jones, Conklin-Bueschel, and Hutchings (2009) is the need to develop more “pedagogies of research” (p. 151) to support teaching graduate students to be scholars. Although a modest body of scholarship exists on research training in traditional programs, emerging research suggests that the online environment offers some unique challenges and opportunities for doctoral students (Baltes, Hoffman-Kipp, Lynn, & Weltzer-Ward, 2010; Kumar et al., 2013; Lim, Dannels, & Watkins, 2008). Of the many aspects of a research project, development of the problem statement is arguably a key step because it provides the rationale for the entire dissertation (Alvesson & Sandberg, 2013; Luse et al., 2012).

Note: Once a doctoral-level, discipline-specific problem is identified, and an appropriate problem statement completed, you will have met 6 of the 9 Prospectus Rubric Standards. The only remaining Prospectus Rubric Standards are (a) Complete (does the prospectus contain all required elements?), (b) Impact (will the study affect positive social change), and (c) Aligned (do the various components of the research plan align overall?).
Aligning the Research Design Components

Required Components for a Doctoral-Level Research Design

When we think about the basic components of a research design—those that must align with one another—they typically include the

- Research Problem Statement (with social implications);
- Purpose Statement (e.g., “To address the research problem, the purpose of this {method/design} study is to...”);
- Theoretical or Conceptual Framework;
- Research Question(s), Method, & Design;
- Data Collection Tools and Sources (e.g., instrument and people, artifacts, records);
- Data Points (e.g., variables, questions, scales); and
- Data Analysis.

Conceptualizing the research plan is sometimes challenging. One way to assist with this and to ensure research design alignment is to use a visual to help you see how the various parts of a research design should fit together and therefore must align with one another. For example, as presented in the graphic below, the research problem, purpose, and framework must align with all other pieces of the research design. This example had three research questions. If one research question does not appear to fit with the study purpose, it does not belong in the study design.

See also, in SMRT guides: Alignment Language in the Problem, Purpose, RQ
Using a one-page blueprint can assist with ensuring the alignment of your research design. This example of a Research Design Alignment Table is one way to visualize your design and help you stick to your plan as you write your capstone document.

### Research Design Alignment Table

<table>
<thead>
<tr>
<th>Problem:</th>
<th>RQ1: Select Method</th>
<th>Data Collection Tools &amp; Data Sources</th>
<th>Data Points</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose:</td>
<td>Design:</td>
<td>List one or more RQs, as needed; Select method; Identify design. Add or delete rows, as needed.</td>
<td>List the instrument(s) and people, artifacts, or records that will provide the data for each RQ.</td>
<td>Briefly describe the statistical or qualitative analysis that will address each RQ.</td>
</tr>
<tr>
<td>Framework:</td>
<td>RQ2: Select Method</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design:</td>
<td>RQ3: Select Method</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. The information in the left-hand column must align with all rows; and each individual RQ row must show alignment across the columns for that row.

Once your Research Design Alignment Table is completed, reflect on your design alignment. Ask yourself:

1. Is there a logical progression from the research problem to the purpose of the study?
2. Does the identified framework ground the investigation into the stated problem?
3. Do the problem, purpose, and framework in the first column align with the RQ(s) (all rows)?
4. Does each RQ address the problem and align with the purpose of the study?
5. Does the information across each individual row match/align with the RQ listed for that row?
   - By row, will the variables listed address the RQ?
   - By row, will the analysis address the RQ?
   - By row, can the analysis be completed with the data points that will be collected?