COLORADO TECHNICAL UNIVERSITY

2018 DOCTORAL SYMPOSIUM

JULY 2018
CREATING THE FOUNDATION OF YOUR DISSERTATION

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WHAT IS RESEARCH

Research is . . .

- Systematic process of collecting, analyzing, and interpreting information (but what information?)

Research originates with a question or a problem

- Question is not…What is [fill in the blank]? 
- Question, if used, asks…What is not happening, but should be?

Problem is a better consideration for originating research

- A problem is a gap in knowledge (this means unknown information)

How do you know if you have a proper problem?
A problem comes from the literature

Find journal articles that help you

- For example, an article that states, “Over $100 million is spent each year attempting to solve your problem” indicates a problem and the need to solve the problem

Chapter 5 in Dissertations, “Needs Further Research” is an area to find unsolved problems

A research foundation is what all other parts are built on

Stand on the shoulders of those that have gone before you


THE METHOD TO FILL THE GAP

Chapter 1
Problem Statement
Purpose Statement
Research Question

Chapter 2
Methodology/Design
Data Collection
Data Analysis
Validity/Reliability

Chapter 3
Contributors to History
Changes in Theory
Result of each Change

Chapter 4
History of Problem

Chapter 5
Findings and Conclusions
Implications for Practice

Presentation of Data
Presentation/Discuss Findings

Conclusion
THE BODY OF KNOWLEDGE GAP IS FILLED
DUAL PYRAMID OF RESEARCH

Where Research and Real-world Meet

Foundations of Your Dissertation

Broad Topic

Focused Topic

Real-world Problem

Research Problem

Research Question

Purpose Statement

Review of Literature

Framework of Study

Data Collection

Data Analysis

Findings

Conclusions

Foundation of Your Dissertation

DOCTORAL SYMPOSIUM
PROBLEM STATEMENT – WHAT IS IT?

The Problem Statement is the heart of the dissertation

All other parts of the dissertation are based on the Problem Statement

Problem should be focused on your specialty area

Indication of what should be occurring, but is not

A symptom of a problem is not wanted
An analogy

You go to the medical doctor. You say – doctor, I have a problem

My problem is, I have a cough

Oh, I have a second problem, I have a fever

The medical doctor says, well, you may think the fever and the cough are your problems, but you have pneumonia

The cough and fever are symptoms of the problem
WHAT IS NEEDED FOR A SOLID RESEARCH PROBLEM

The points to remember –

Do not build your study plan on a symptom of a problem

Ensure you have a real research problem

Have at least one journal article, 5-years-old or less that indicates the problem’s existence
Elements of a Problem Statement include

- A cited statement of the specialty-related problem
- Anchor the problem using a number or statistic to illustrate its significance for doctoral research
- Identifying the gap in the literature regarding the problem
- Indicating how the proposed study might fill the gap
Elements of a problem statement include:

1. A cited statement of the specialty-related problem
2. Anchor the problem using a number or statistic to illustrate its significance for doctoral research
3. Identifying the gap in the literature regarding the problem
4. Indicating how the proposed study might fill the gap

The problem to be addressed in the proposed study is the significant distrust in automated medical records, which is causing more than 10,000 deaths each year (Jones, 2010). The lack of medical record data security is known to be the primary reason patients do not feel safe with automated medical records (Smith, 2011). Once the characteristics of safe medical records are determined, automated medical records could be established with the necessary safe aspects expected by the using public (Green, 2012).
WHAT IS NEEDED TO GET STARTED

The problem is something that should be occurring, but is not. Since the "something" is not occurring, research is needed to determine what must be done to "start" the something and remove the issue (i.e., you must study something that needs to occur).

For example, if you stated – My problem is, small businesses are failing in the first five years
- This is a symptom of a problem
- What is not occurring? Here are some possibilities
  - Are the correct management processes not being used?
  - Do the leaders not have the correct competencies/skills?
  - Are the management standards not established?
  - Have the leaders not been properly trained?

For the small businesses failing in the first 5 years, let us convert the symptom of a problem into a real research problem. Please use the following format…

The problem to be addressed in the proposed study is since 1980, more than 50% of small business start-ups fail in the first 5 years because the leadership skills for start-up IT managers have not been established (Smith, 2015).
- The context of this problem = since 1980, more than 50% of small business start-ups fail in the first 5 years
- What you will study = the leadership skills for start-up IT managers

The problem is something that should be occurring, but is not. Since the "something" is not occurring, research is needed to determine what must be done to "start" the something and remove the issue (i.e., you must study something that needs to occur).
The purpose statement indicates the goal(s) of your study

Suggest following with another sentence that I call the intent sentence

The intent sentence indicates what the product of your study will be

- A brief situational story - when I go to your office after you have completed your doctoral study, I want to "see" your product
- An evaluation, an analysis, an understanding, a trend, or a reason is not a product
- You will show me words, figures, and tables, but what will these words, figures, and tables represent?
  - What is expected, for example, would be a standard, an architecture, an algorithm, a list of competencies, a strategy, a plan, training requirements, differences in leadership required for the 21st century, a process, management skills needed for the 21st century, or technology improvements

The reminder is that your purpose statement is a companion to the problem statement

- Without the problem statement, a purpose statement cannot be prepared properly
- In addition, without a problem statement, the purpose has no context when indicating what the proposed study's product will be or what gap the study will fill
PURPOSE STATEMENT
(QUALITATIVE)

After establishing the statement of the problem, align the purpose statement with the problem statement

The purpose statement identifies the direction and goals of the proposed/accomplished work

The following content should be considered for inclusion in a purpose statement

- The strategy of inquiry
- The study’s method of conveying learning
- The central phenomenon of the study
- The participants in the study
- The site of the research
- The phenomenon or primary idea used to focus the study
- A tentative definition of the central phenomenon
After establishing the statement of the problem, align the purpose statement with the problem statement.

The purpose statement identifies the direction and goals of the proposed/accomplished work.

The following content should be considered for inclusion in a purpose statement:

- The study type description
- The study’s independent variable, dependent variable, and control variable
- Participants
- The geographical location of the study
- Definitions of the independent variable, dependent variable, and control variable
- Additional results the study may provide
- The intended users of the research results
Returning to the example problem I provided –

The problem to be addressed in the proposed study is since 1980, more than 50% of small business start-ups fail in the first 5 years because the leadership skills for start-up IT managers have not been established (Smith, 2015).

- The context of this problem = since 1980, more than 50% of small business start-ups fail in the first 5 years
- What you will study = the leadership skills for start-up IT managers

The purpose of the proposed qualitative exploratory study is to explore the leadership skills for start-up IT managers
A purpose statement cannot be provided without a problem statement

A reminder that a purpose statement cannot be written without first providing the problem statement

The purpose statement must be in alignment with the problem statement or your proposal will not be acceptable

Let us assume the problem sentence and purpose sentence are

- The problem to be addressed by the proposed study is corporate governance procedures do not indicate the operating standards that increase a corporation's competitive advantages (Browne, 2015).
- The purpose of the proposed qualitative study is to explore the operating standards that increase the corporation's competitive advantages.

Though the example is simplistic, notice how the purpose sentence aligns with the cited problem sentence.
Research questions are for the researcher only

Research questions guide the researcher’s thinking to ensure the proper data are collected, which answers the problem in the problem statement or fills the noted gap

**Qualitative research questions** should start with the words *what* or *how*
- Creswell (2009) indicated these words indicate an openness and emergence of design, which addresses the phenomenon of interest
- Your qualitative study will have one overarching research question
- Qualitative research questions are developed based on a central question
- Qualitative research questions do not have hypotheses

Creswell (2009) indicated **quantitative research questions** address the relationship among variables
- Your quantitative study will have one research question
- Each quantitative research question has a hypotheses set consisting of a null hypothesis and an alternative hypothesis
- A quantitative research question might “operationalize” into three to five quantitative research questions
- Hypotheses do not exist without a quantitative research question

A research question **cannot be answered by a yes or no**
Qualitative researchers seek to understand participants’ experiences through a broad generalized purpose statement and research question. Qualitative researchers take a reflexive and subjective approach when collecting data from a small number of individuals.

Qualitative research questions are open and general rather than defining specific hypotheses. Because qualitative research begins with a framing or central question, such a starting question allows for the exploration of the research topic.

The central question guides your work. In addition, sub-questions support the central question and identify what data must be gathered to fill the gap of the problem statement (in most instances, these sub-questions become your interview questions for data collection).
Focus your research questions on the possible relationship (correlation) between/among variables, only. Consider formatting your research questions as

- To what extent, if any, does (independent variable) relate to (dependent variable) for (participants) at (the research site)?

In addition, hypotheses are needed for quantitative questions

Hypothesis statement format

- $H_0$: <null>
- $H_A$: <alternative>
  - $H_0$: IT flexibility is not correlated to IT effectiveness
  - $H_A$: IT flexibility is correlated to IT effectiveness

Example -
To what extent, if any, is there a significant influence of operational software types (independent variable [IV]) on user satisfaction (dependent variable [DV]) within small manufacturing businesses?

- $H_0$: A correlation does not exist between operational software types (IV) and user satisfaction (DV) within small manufacturing businesses
- $H_A$: A correlation does exist between operational software types (IV) and user satisfaction (DV) within small manufacturing businesses
The **problem** to be addressed in the proposed study is ...

The **problem** to be addressed in the proposed study is **since 1980, more than 50% of small IT business start-ups fail in the first 5 years** because ...

The **problem** to be addressed in the proposed study is **since 1980, more than 50% of small IT business start-ups fail in the first 5 years** because **[What is Not Occurring?]**

The **problem** to be addressed in the proposed study is **since 1980, more than 50% of small IT business start-ups fail in the first 5 years** because the **leadership skills for start-up IT managers** have not been established (Greene, 2014).

The **problem** to be addressed in the proposed study is **since 1980, more than 50% of small IT business start-ups fail in the first 5 years** because **the leadership skills needed by start-up IT managers** have not been established (Greene, 2014).
The **problem** to be addressed in the proposed study is since 1980, more than 50% of small IT business start-ups fail in the first 5 years because **the leadership skills needed by start-up IT managers** have not been established (Greene, 2014).

The context of this problem = since 1980, more than 50% of small IT business start-ups fail in the first 5 years

What you will study = **the leadership skills needed by start-up IT managers**
The problem to be addressed in the proposed study is since 1980, more than 50% of small IT business start-ups fail in the first 5 years because the leadership skills needed by start-up IT managers have not been established (Greene, 2014).

The purpose of the proposed qualitative study is to explore ... 

The purpose of the proposed qualitative study is to explore the leadership skills needed by start-up IT managers.
The problem to be addressed in the proposed study is since 1980, more than 50% of small IT business start-ups fail in the first 5 years because the leadership skills needed by start-up IT managers have not been established (Greene, 2014).

The purpose of the proposed qualitative study is to explore the leadership skills needed by start-up IT managers.

What are ... ?

What are the leadership skills needed by start-up IT managers?
The problem to be addressed in the proposed study is since 1980, more than 50% of small IT business start-ups fail in the first 5 years because the leadership skills needed by start-up IT managers have not been established (Greene, 2014).

The purpose of the proposed qualitative study is to explore the leadership skills needed by start-up IT managers.

What are the leadership skills needed by start-up IT managers?

Dissertation Title ...

EXPLORING THE LEADERSHIP SKILLS NEEDED BY START-UP IT MANAGERS
THE FOUNDATION – PROBLEM, PURPOSE, AND RESEARCH QUESTION

The **problem** to be addressed in the proposed study is **since 1980, more than 50% of small IT business start-ups fail in the first 5 years because the leadership skills needed by start-up IT managers have not been established** (Greene, 2014).

The context of this problem = **since 1980, more than 50% of small IT business start-ups fail in the first 5 years**

What you will study = **the leadership skills needed by start-up IT managers**

The **purpose** of the proposed qualitative exploratory study is to explore **the leadership skills needed by start-up IT managers**.

The **research question** is

What are **the leadership skills needed by start-up IT managers**?

The **Dissertation Title** is

Exploring **the leadership skills needed by start-up IT managers**
The **problem** to be addressed by the proposed study is a lack of understanding the relationship between a product’s programming language and customer satisfaction (Jones, 2015).

The **purpose** of the proposed quantitative correlational study is to examine the relationship between a product’s programming language and customer satisfaction.

The **research question** is ...
What, if any, relationship exists between a product’s programming language and customer satisfaction?

H$_{10}$: A correlation does not exist between a product’s programming language (IV) and customer satisfaction (DV)

H$_{1A}$: A correlation does exist between a product’s programming language (IV) and customer satisfaction (DV)

Dissertation Title ... **EXAMINING THE RELATIONSHIP BETWEEN A PRODUCT’S PROGRAMMING LANGUAGE AND CUSTOMER SATISFACTION**
The **problem** to be addressed in the proposed study is since 1980, more than 50% of small IT business start-ups fail in the first 5 years because the leadership skills for start-up IT managers have not been established (Greene, 2014).

The context of this problem = since 1980, more than 50% of small IT business start-ups fail in the first 5 years

What you will study = the leadership skills for start-up IT managers

The **purpose** of the proposed qualitative exploratory study is to explore the leadership skills for start-up IT managers.

The **research question** is

- What are the leadership skills for start-up IT managers?

From this one research question comes additional questions to guide your literature search

- Q1-What leadership skills for start-up IT managers have worked in the past?
- Q2-What leadership skills for start-up IT managers have not worked in the past?
- Q3-What leadership skills for start-up IT managers should be used in the future?
SUMMARY

Research originates with a question or a problem
- Question is not…What is [fill in the blank]?
- Question, if used, implies…What is not happening, but should be?

Problem/Question originates the research
- A problem is a gap in knowledge (this means unknown information)

Together, the problem, purpose, research question trio provides the foundation of your dissertation
- Research originates with a question or problem
- Research requires clear articulation of a goal
- Research is guided by specific research question
Thank you for joining this session!

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