THE PROBLEM AND PURPOSE STATEMENTS

TAMU-CC GROW THESIS AND DISSERTATION BOOTCAMP SERIES

Researchers move back and forth between their problem, aim, objectives, and research questions. It's not a linear process.

THE PROBLEM STATEMENT

What is a research problem?

Research problems may not first present themselves as fully formed problems.

◦ A problem can be anything that you find unsatisfactory or unsettling, a difficulty of some sort, a state of affairs that needs to be changed, anything that is not working as well as it might.

◦ Research problems are usually identified from several sources including the research literature, problems in practice or work-related contexts, and personal biography or history.

◦ A good problem statement:
  ◦ Asks about a relationship between two or more variables;
  ◦ Is clear;
  ◦ Should be testable by empirical methods;
  ◦ Should be possible to collect data to answer the question(s) asked;
  ◦ Should not represent a moral or ethical position.

A problem statement…

◦ Uses a "narrative hook."
◦ Conveys a distinct research problem or issue.
◦ Clearly identifies the issue or problem that leads to a need for the study.
◦ Refrains from using quotations, especially long ones.
◦ Stays away from trite phrases or idioms.
◦ Might contain numeric information for impact.
◦ Indicates why the problem is important by citing numerous references that justify the need to study the problem.
◦ Frames the problem in a manner consistent with the approach to the research.
◦ Has a clear rationale.
◦ Contains your narrow topic of interest.
◦ Contains a research question that does not call for simple *yes* or *no* answers.
◦ Is clear, concise, compelling

When developing your problem statement, consider:

◦ What is your project about?

◦ Why are you conducting this project?

◦ Why should anyone care about your problem?

◦ What is the big picture, the context or the conditions that make it important to pursue this topic?

◦ When you are finished with the project, what is the one point that you want to leave with your readers?

◦ What will be the contributions or implications of your study?

You have several choices about the way the problem is stated

- **Hypotheses**
  - Examples:
    - There is a positive relationship between students' use of computers in learning mathematics and their achievement in mathematics.
    - Students retained in first grade will have lower achievement in mathematics than those who are promoted
    - There is a positive relationship between first-grade students' achievement in reading and the time parents spend reading to them at home

You have several choices about the way the problem is stated

- **Research questions and hypotheses**
  - Example:
    - Does teacher involvement in decision making affect teachers' morale?
      - Teacher involvement in decision making varies from school to school within a district.
      - Teacher involvement in decision making varies with decision making content.
      - Teacher involvement in decision making affects morale in a positive direction only in certain schools and only with certain types of decision-making content.

You have several choices about the way the problem is stated

- **Single question**
  - Example:
    - In what ways do students use the Internet when they are working independently on the computer?

You have several choices about the way the problem is stated

- **General question followed by two or more specific questions**
  - Example:
    - Is the curriculum audit an effective and feasible tool for educational change?
      - Is the audit feasible in terms of fiscal costs?
      - Is the audit feasible in terms of participant time?
      - Is the audit effective in the change process, from the perspective of administration?

Problem Statement Example 1

◦ Other than the brief seven weeks of tutoring a child, they are afforded few other opportunities to practice what they have learned at the university prior to entering their field-based semester. Even fewer opportunities exist for reading clinic instructors to provide thorough feedback, as the reading clinic is run by one instructor who is responsible for teaching and observing 25 PST tutors. Coaching, where the instructor meets one-to-one with the PST tutor after observing their lesson occurs even less often, if at all. These coaching moments are crucial, because, during their tutoring sessions, the tutors are often unsure about what to say to their tutee when they encounter a point of difficulty during the reading of continuous text, forcing them to rely on one or two prompts (e.g., "Sound it out.") over and over again (Hoffman et al., 1984). As such, we recognized a need to provide more intensive coaching and feedback that would be meaningful and timely and that would help our PST tutors internalize ways to prompt and reinforce strategic reading. This, in turn, would also ensure that the children they were serving would benefit more from lessons as they had before. Our response to this problem is that we might be able to accomplish these goals if we could be "in the ear" of our tutors while they engaged their tutees in guided reading instruction.

Problem Statement Example 2

In all such systems, implementation has implications for the ways educators work together and thus the way they are prepared. Unfortunately, preparation of teachers to implement and engage in MTSS and RTI has been found inadequate, particularly for those seeking certification as general educators (Barrio et al., 2015; Fowler et al., 2019; Harvey et al., 2015; Hurlbut & Tunks, 2016). Prasse and colleagues (2012) identified seven areas of MTSS and RTI content as essential to successful preservice preparation. These domains include professional knowledge, behavior, and skills related to the multi-tiered model, data-based decision making, the problem-solving process, curriculum and instruction, the classroom environment, *collaboration*, and professional attitudes and beliefs. Further, carefully designed field experiences are necessary to the successful acquisition of competencies related to these domains (Harvey et al., 2015; Hawkins et al., 2008).
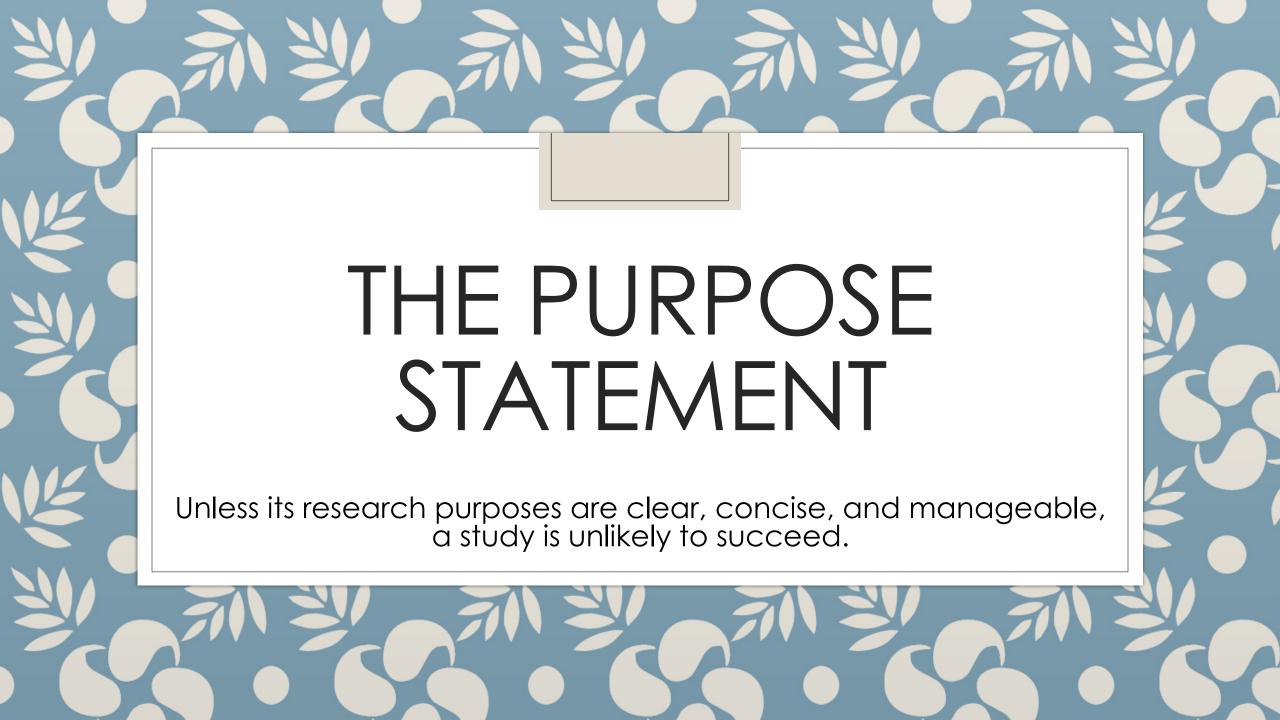
Problem Statement Example 3

Effective teacher preparation cannot occur solely in a university classroom. Prospective teachers must have numerous and early field experiences in order to learn the best ways of working alongside children (Al Otaiba et al., 2010; Darling-Hammond, 2010; Nelson et al., 2020). In the context of literacy teacher education, this includes providing opportunities to teach small groups in a guided reading setting so that preservice teachers (PSTs) learn how to provoke shifts in children's reading strategies (Davis et al., 2019; Griffith, 2017; Lipp & Helfrich, 2016).

Many universities across the US offer tutoring opportunities that are tied to a course in which PSTs work with children and youth one-to-one or in small groups in the university reading clinic to implement assessment and instruction strategies they are learning in the course. These reading clinics vary in the materials and processes they use (Laster, 2013; Pletcher et al., 2019). Most universities also provide a senior year clinical teaching experience, where PSTs are field-basing in schools. There are also other volunteer and paid opportunities offered during and after school, where PSTs can gain practice by engaging in both structured and unstructured tutoring.

Exercises to complete on your own

◦ Read several problem statements in journal articles related to your discipline.

◦ Apply the following criteria to three of them.

  ◦ Uses a "narrative hook."

  ◦ Conveys a distinct research problem or issue.

  ◦ Clearly identifies the issue or problem that leads to a need for the study.

  ◦ Refrains from using quotations, especially long ones.

  ◦ Stays away from trite phrases or idioms.

  ◦ Might contain numeric information for impact.

  ◦ Indicates why the problem is important by citing numerous references that justify the need to study the problem.

  ◦ Frames the problem in a manner consistent with the approach to the research in the study.

  ◦ Has a clear rationale.

  ◦ Contains a narrow topic of interest.

  ◦ Contains a research question that does not call for simple *yes* or *no* answers.

  ◦ Is clear, concise, compelling.

THE PURPOSE STATEMENT

Unless its research purposes are clear, concise, and manageable, a study is unlikely to succeed.

What is the Purpose Statement?

◦ A research purpose should refer to observable behaviors and be sufficiently specific to guide the planning and conduct the research.

◦ Establishes the intent of the entire study.

◦ Most important statement in the entire study.

◦ Usually last part of the introduction.

◦ Why you want to do the study and what you intend to accomplish.

◦ The purpose builds on a need (the problem) and is refined into specific questions (the research questions).

Qualitative Purpose Statement

◦ Contains information about a central phenomenon explored in the study, the participants, and the research site

◦ Use words such as purpose, intent, or objective

◦ Set the statement off as a separate sentence or paragraph

◦ Use the language of research

◦ Past tense

◦ Focus on a single phenomenon

◦ Narrow the study to one idea to be explored or understood

◦ Use action verbs to convey how learning will take place

◦ Keep your inquiry open and convey an emerging design

◦ Use neutral words and phrases

◦ Provide a general working definition of the central phenomenon or idea

◦ Include words that state the qualitative research strategy to be used

◦ Mention the participants in the study

◦ Identify the site for research

◦ Include some language that delimits the scope of the participation – who exactly is participating in the study – who is it limited to?

Qualitative Purpose Statement Script (Creswell, 2014)

◦ Script that should be helpful in drafting a statement

  ◦ The purpose of this _____ (strategy of inquiry) study is (was? Will be?) to _____ (understand, explore, develop, discover) the _____ (central phenomenon being studied) for _____(the participants) at ____ (research site). At this stage in the research, the ____ (central phenomenon being studied) will be generally defined as ____ (general definition).

Quantitative Purpose Statement

◦ Include the variables in the study and their relationship, the participants, and the research site; includes language associated with quantitative research

◦ Include words to signal the intent of the study, such as purpose, intent, or objective

◦ Identify the theory, model, or conceptual framework

◦ Identify the independent and dependent variables, control variables

◦ Use words that connect the independent and dependent variables to indicate they are related

◦ Position or order the variables from left to right, with independent variable followed by the dependent variable

◦ Mention the specific type of strategy of inquiry used in the study

◦ Make reference to the participants or unit of analysis in the study and mention the research site

◦ Generally define each key variable, preferably using established definitions found in the literature

Quantitative Purpose Statement Script (Creswell, 2014)

◦ The purpose of this _____ (experiment? Survey?) study is (was? Will be?) to test the theory of ____ that _____ (describes outcomes) or (compares? Relates?) the _____ (independent variable) to _____ (dependent variable), controlling for _____ (control variables) for ____ (participants) at ____ (research site). The independent variable(s) ____ will be defined as _____ (provide a definition), and the control and intervening variable(s), ____ (identify the control and intervening variables) will be defined as ____ (provide a definition).

Mixed Methods Purpose Statement

◦ Contains the overall intent of the study, information about both qualitative and quantitative strands of the study, and a rationale incorporating both strands to study the research problem.

◦ Begin with words that signal intent, such as purpose or intent

◦ Indicate the overall purpose of the study from a content perspective so the reader has an anchor to use to understand the overall study

◦ Indicate the type of mixed methods design

◦ Discuss the reasons for combining both quantitative and qualitative data

Mixed Methods Purpose Statement Script (Creswell, 2014)

◦ Script for convergent mixed methods strategy in which quantitative and qualitative data are collected and analyzed separately and then merged

  ◦ This mixed methods study will address ___ (overall content aim). A convergent mixed methods design will be used, and it is a type of design in which qualitative and quantitative data are collected in parallel, analyzed separately, and then merged. In this study ____ (quantitative data) will be used to test the theory of ___ (the theory) that predicts that (independent variable) will (positively, negatively) influence the ___ (dependent variables) for ____ (participants) at ___ (site). The ____ (type of qualitative data) will explore ___ (central phenomenon) for ___ (participants) at ___ (site). The reason for collecting both quantitative and qualitative data is to ____.

Mixed Methods Purpose Statement Script (Creswell, 2014)

◦ Script for explanatory sequential design in which the intent is to understand the quantitative data at a deeper level using follow-up qualitative data

  ◦ This study will address ___ (content aim). An explanatory sequential missed methods design will be used, and it will involve collecting quantitative data first and then explaining the quantitative results with in-depth qualitative data. In the first, quantitative phase of the study, ___ (quantitative instrument) data will be collected from ___ (participants) at ____ (research site) to test ___ (name of theory) to assess whether ____ (independent variables) relate to ____ (dependent variables). The second, qualitative phase will be conducted as a follow up to the quantitative results to help explain the quantitative results. In this explanatory follow-up, the tentative plan is to explore ___ (the central phenomenon) with ___ (participants) at ____ (research site).

Mixed Methods Purpose Statement Script (Creswell, 2014)

◦ Script for exploratory sequential design in which the intent is to develop measures or instruments that work with a sample by first collecting qualitative data and then using it to design measure or the instrument that can be tested with a sample of a population

  ◦ This study addresses ___ (content aim). The purpose of the exploratory sequential design will be to first qualitatively explore with a small sample and then to determine if the qualitative findings generalize to a large sample. The first phase of the study will be a qualitative exploration of ____ (the central phenomenon) in which ___ (types of data) will be collected from ___ (participants) at ___ (research site). From this initial exploration, the qualitative findings will be used to develop assessment measures that can be administered to a large sample. In the tentatively planned quantitative phase, ___ (instrument data) will be collected from ___ (participants) at ___ (research site).

Purpose Statement Example 1

◦ The purpose of this qualitative case study, then, was to explore the use of BIE coaching with PST tutors in a virtual reading clinic setting. The research question that guided this study was: In what ways does bug-in-ear (BIE) coaching impact PST tutors' delivery of prompts and teaching points during the guided reading portion of their virtual tutoring sessions with second-grade children?

Purpose Statement Example 2

◦ The purpose of this convergent parallel mixed-methods pilot study was to explore the collaboration of PSTs in a reading clinic setting. This research involved the simultaneous collection of qualitative and quantitative data that were analyzed separately and then merged. Likert scale survey items were used to explore PSTs' reactions to the collaborative partnerships. Open-ended survey items, focus groups interviews, and collaborative meeting notes submitted by participants explored their attitudes related to collaborative work in the reading clinic. Our research questions were:

Purpose Statement Example 3

After implementing IHEART for five semesters, the goal of the current study was to consider the children's assessment data, as well as the perspective of the tutors and the coordinators and combine this information to determine the overall impact of the program on the children's reading achievement and the tutors' knowledge of providing reading intervention. The purpose of this study, then, was to determine the effects of an in-school tutorial program on first-grade children's reading skills and teacher candidates' knowledge of reading assessment and instruction. Our research questions were: 1) What are the effects of a small group reading tutorial program, taught by PST tutors, on first-grade students' reading achievement based on five literacy tasks (letter identification, sight word test, hearing and recording sounds in words, concepts about print, and reading continuous text) when compared to a first-grade control group? and 2) Based on tutor surveys and program coordinator observation notes, how do the tutors navigate the experience of providing reading intervention?

Exercise to complete on your own

◦ Practice writing a purpose statement for your proposed study, using one of the scripts presented (based on the possible research design of your study).

Here's to no more dissertation-related crying... Probably.

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