

Step 3: Selecting Your Research Approach, Problem, and Purpose

Written and Compiled by Amanda J. Rockinson-Szapkiw

Topical Discussion: Selecting Your Research Approach

There are two primary approaches to research, quantitative and qualitative. This workbook focuses upon the latter. However, it is important that we define both approaches and understand when each is most appropriately used.

Defining Qualitative and Quantitative Research

Qualitative research is research in which you, as the researcher, seek to observe and to interpret meanings in context. Findings are reported primarily in verbal form.

Qualitative research is most appropriate if you desire:

- To better understand any phenomenon about which little is yet known
- To gain new perspectives on things about which much is already known, or to gain more in-depth information that may be difficult to convey quantitatively
- To first identify the variables that might later be tested quantitatively, or where the researcher has determined that quantitative measures cannot adequately describe or interpret a situation
- To develop theory

Quantitative research is research in which you, as the researcher desire to test a hypothesis, as this approach is characterized by the statistical testing of hypotheses. Findings are reported primarily in numerical form.

Quantitative research is most appropriate if you desire:

- To explain the relationship between or among variables
- To predict or determine causal relationships
- To test a theory or model

Choosing a Qualitative /or Quantitative Research Approach

The research approach that you choose needs to be based on your research problem, purpose, and questions. The research problem, purpose, and question needs to be guided by the literature and clearly contribute to the research in the field that has preceded your research.

According to Creswell (2007) and Patton (1990) qualitative focused research questions:

- Tend to be broad and more general in terms that quantitative questions as not to delimit the study
- Are open ended
- Usually begin with words such as “what” and “how”
- Do not usually contain directional words such as “affect,” “impact” “cause” or “relate”

- Identify the research site
- Ask about people's experiences, the meaning people make of their experiences, or people and their social or interpersonal contexts

Example qualitative questions include:

- How do high school conflict manager mediators manage their inner experience of conflicting voices within themselves while conducting peer mediation?
- In what ways do teenagers diagnosed with cancer construct definitions of their illness, self, and situation?
- What are employees' significant experiences of performance evaluation in organizations and what are the factors that affect motivation and performance? More specifically, which feature of the evaluation and of the surrounding context will lead performance evaluations to have a positive effect and which will lead to having a negative effect? (LaPelle, 1997)
- When women have grown up with a mother who has earned as much money as her father, and received as much recognition for her vocational accomplishments, what role do these processes have in the mother- daughter relationship? What is the impact on the daughters' own experience of agency? (Jersild, 2006)

Quantitative focused research questions (Borg, Borg, & Gall, 2007; LaFountian & Bartos, 2002):

- Are specific and restricted in scope. Identify specifically what is to be studied.
- Involve constructs that are measurable numerically
- Contain directional words such as "affect," "impact" "cause" "difference" or "relate"
- Clearly identifies variables. Variables are typically independent (e.g. groups) or dependent (e.g. test scores, attitudinal survey scores).
- Ask precisely about the difference or relationship between variables

Example quantitative questions include:

- What is the effect of the dyslexia reading intervention program on adolescents' coping skills?
- Is there a difference in undergraduate education students' sense of community based on type of online course (synchronous or asynchronous) and gender (male or female)?
- Is there a relationship between teachers' yearly earnings and the number of hours they participate in extracurricular school related activities?

Additional Considerations.

Although the first consideration in choosing an approach needs to be the problem, purpose and question, there are a few additional things that you need to consider. These includes:

- **Your personal beliefs about knowledge construction.** A quantitative approach is more suitable if you believe that there is an objective reality and research can confirm it; whereas, a qualitative approach is more suitable if you believe that there are multiple realities that can be constructed. Quantitative research is based on logical positivism. The assumption underlying logical positivism is that knowledge is derived from direct observation and logical inference based on that observation. Qualitative research is based on constructivism that holds that knowledge is a result of perspective.

- **Your Time.** Due to the nature of data collection, qualitative research can be more time consuming than quantitative.
- **Your Desire to Work with People.** Due to the nature of data collection, qualitative research may require more time interacting with people. Quantitative research is likely to require more time interacting with numbers.
- **Your Writing Skills.** Quantitative research requires that you write in a technical, scientific manner; whereas qualitative research requires more writing and narrative writing.
- **Desire to Grow.** If you are working on a thesis or dissertation, you may desire to gain mentorship in a specific approach.
- **Mixed Methods-** some students may decide on a mixed methods approach that includes both a quantitative and qualitative component.
- **Assessable population.** For most quantitative studies, you need at least 30 participants per group. We will discuss this in more detail when we discuss participants.

Topical Discussion: Selecting Your Purpose Based on the Problem in the Literature

A research approach, as stated above, needs to be based on the research problem, purpose, and question. These things need to be derived from the review of the literature and articulated in the research manuscript. Here let's briefly talk about the problem and purpose statement.

Problem Statement

“A problem might be defined as the issue that exists in the literature, theory, or practice that leads to a need for the study” (Creswell, 1994, p. 50). After a review of the literature, a researcher usually includes a problem statement. A problem statement summarizes “the context for the study” and the main problem the study seeks to address (Wiersma, 1995, p. 404). It usually identifies the general problem, the specific problem, the focus of the research, and the population sample. It usually states with: “The problem is . . . “

Purpose Statement

A purpose statement should follow the problem statement and clearly and succinctly state the focus and intentions of the proposed research. “The purpose statement should provide a specific and accurate synopsis of the overall purpose of the study” (Locke, Spirduso, & Silverman, 1987, p. 5). At minimum, the statement includes the research method (i.e., Qualitative, Quantitative or Mixed); the research design(s), the variables, a brief definition of the variables, identification of the variables (i.e., Independent, Dependent, Variable of Interest, Covariate), and the specific population.

Creswell (1994, 2003) provides the following guide for writing the purpose statement: The purpose of this _____ (true experimental? Causal comparative? Correlational? Pre-test/post-test control group?) study is to test the theory of _____ that _____ (compares? relates?) the _____ (independent variable, variable of interest) to _____ (dependent variable), controlling for _____ (control variables) for _____ (participants) at _____ (the research site). The independent variable(s)/ one of the variables of interest _____ will be generally defined as _____ (provide a general definition). The dependent

variable(s)/ other variable of interest will be generally defined as _____ (provide a general definition), and the control and intervening variables(s), _____ (identify the control and intervening variables) will be statistically controlled in this study. The statement usually begins with “The purpose of this study is. . .” It foreshadows the research question(s) and hypothesis(es).

Although brief in nature, the problem and purpose statements are two very important components of any manuscript. These statements support the importance of the study and identify the goal(s) of the research. All preceding writing within the manuscript should funnel into the problem and purpose statements. All preceding aspects of the manuscript support and further expand upon the problem and purpose statements.

An Example Problem and Purpose Statement

“Computer Mediated Communication (CMC) systems are central in the delivery of online education. Research has demonstrated that asynchronous technologies promote reflection and learning, and research is beginning to demonstrate that synchronous technologies may enhance the asynchronous e-learning environment by decreasing feelings of isolation and better supporting learners’ sense of community. Researchers have also cited limitations of synchronous technologies, such as technical and scheduling problems, that have the potential to detract from the asynchronous e-learning environment. Improved understanding is needed regarding if and how synchronous systems, especially audio and visual technologies, can enhance or detract from the quality of the traditional asynchronous e-learning environment. The purpose of this study is to contribute to this understanding by examining how the use of synchronous CMC systems, as a complement to asynchronous CMC systems, influence higher education learners’ social presence, cognitive presence, teacher presence, and perceived learning measure in the e-learning environment. This understanding will assist educators in identifying practices for quality online teaching and learning (Argaugh et al., 2008, Garrison & Kanuka, 2004) and provide higher education administrators with conceptually grounded research to guide decisions about technology adoption, specifically adoption on CMC systems, to enhance the quality of their online programs and courses.” (Szapkiw, 2009, p.8)

The Case of Charlie

Based on his review of the literature, Charlie recognizes that there is a call to examine interventions based on emotional intelligence and cognitive behavioral theory. As such, he deems that a quantitative study is most appropriate for his research. Charlie writes the following purpose statement:

The purpose of this quantitative study is to test the theory of cognitive behavioral and emotional intelligence theory that suggests that the application of cognitive behavioral techniques (CBT) and presence of emotional intelligence (EI) influence anxiety levels, academic performance, and interpersonal relationships. The independent variable of interest is type of college freshman orientation will be generally defined as a traditional freshman orientation and the EI CBT freshman orientation small structured groups. The dependent variable will be anxiety levels, academic performance, and interpersonal relationships. The control variables will be previous anxiety levels, academic performance, and interpersonal relationships.

He will choose a specific quantitative design next.

Application: Developing My Research Plan

Answer the following questions:

Your Problem Statement

Consider your review of the literature. In 1-2 paragraphs, write the problem you plan to address. Make sure that the problem is supported with literature and guided by your conceptual and theoretical framework.

“The problem is . . .

Now review and edit your statement. This will serve as the problem statement for your research plan.

Your Research Approach

What is the purpose of your planned research idea? To what?

Do you seek to:

- To better understand any phenomenon about which little is yet known? Yes/ No
- To gain new perspectives on things about which much is already known, or to gain more in-depth information that may be difficult to convey quantitatively? Yes/ No
- To first identify the variables that might later be tested quantitatively? Yes/ No
- To develop theory? Yes/ No

If you answered “yes,” to any of the above, then you probably need to conduct qualitative research.

- To explain the relationship between or among variables? Yes/ No
- To predict or determine casual relationships? Yes/ No
- To test a theory or model? Yes/ No

If you answered “yes,” to any of the above, then you probably need to conduct quantitative research.

What research questions do you seek to answer?

Which approach do your research questions lend themselves to?

Justify the reason for your selection of a quantitative or qualitative approach. Use research texts to support your justification.

For the research design section of your research plan, using your answers to the above questions, write a paragraph identifying your research approach and justify the reason(s) for your selection. Use research texts to support your justification.

Do you need to consider the following in your choice of research approach. If so, how?

- Your personal beliefs about knowledge construction.

- Your Time.

- Your Desire to Work with People.

- Your Writing Skills.

- Desire to Grow
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Note that a fear of statistics is not a good reason to avoid quantitative research. In fact, a lot of qualitative research includes statistics.

Your Purpose Statement

Drawing from your problem statement and your answers about your research approach, in 1-2 paragraphs, write the purpose of your research plan.

“The purpose of the present study is . . .

Now, review the statement,

- Is the purpose statement specific? Yes/ No
- Does the Purpose statement provide an accurate synopsis of the overall purpose of the study (Locke, Spirduso, & Silverman, 1987, p. 5)? Yes/ No
- Does the statement include the research method(s) (i.e., Qualitative, Quantitative or Mixed) and the research design? (Note that you may need to complete additional lessons and revise this statement as you progress). Yes/ No
- Does the statement include all the variables that are being studied? Yes/ No
- Does the statement include a brief definition of each variable under study? Yes/ No
- Does the statement include identification of each of the variables (i.e., Independent, Dependent, Variable of Interest, Covariate)? Yes/ No
- Does the statement include the specific population under study? Yes/ No

Now review and edit your purpose statement. This will serve as the purpose statement for your research plan.

“The purpose of the present study is . . .
