CHAPTER ONE

Developing the Problem Statement for Your Dissertation Proposal

Introduction

From the outset, did you notice something in the title of this book that may be different from those of other books you may have read about writing a doctoral dissertation? In case you didn't, unlike many other authors, I want to focus solely on writing the dissertation proposal, the first part of the dissertation that sets the stage for the research to be conducted, and ultimately the final dissertation report. In general, the proposal usually consists of stating a research problem and purpose, asking research questions, stating hypotheses (i.e., ideas or explanations you will test), reviewing the literature about the problem area, and creating a very detailed plan, called the research method, which will be the guideline for your study.

Let me say, however, right from the outset, that this isn't a research methodology book per se. Obviously, talking about different research designs and methodologies is part of the process, but my primary focus is helping you to write a good proposal. While I do go into some detail about such things as statistical tests, instrument development, different research designs, and so on, it's all within the scope and context of getting a good start on your dissertation. In cases where you need more detail about a specific topic, I've supplied great references in each chapter. You'll find that outstanding authors such as Earl Babbie, Kathy Charmaz, John Creswell, Lorraine Gay, Sharlene Hesse-Biber, Clark Moustakas, Robert Stake, Robert Yin, and many others will provide you with all of the information you will need.

My reasoning for focusing solely on the dissertation proposal is this: I don't want to discourage you but, surprisingly, only about half of the students entering a doctoral program in the United States ultimately graduate. The reasons are many:

they might run out of money, their personal life intervenes, they have academic problems, and so on. In my 20 years of experience working with doctoral students, however, I've found that the biggest hurdle to graduation is writing the dissertation proposal, and more specifically being able to identify or focus on a problem area to investigate. Most of my students are academically capable of writing a dissertation or they wouldn't be in a doctoral program in the first place; they just need something to help them understand the process and get them started.

That's my goal in this book: to help you understand what it takes to get started and write your proposal. In doing so, I've included a lot of material that I think you'll find very useful. There are chapters dedicated to very specific parts of the dissertation, the **problem statement** and the review of literature, for example, and separate chapters focusing on **quantitative data** (i.e., numeric), **qualitative data** (i.e., text-based), and mixed methods (i.e., where both quantitative and qualitative data are collected) research. There are review questions throughout, definitions of many of the terms you'll encounter in your research, an extensive reference list, and examples of everything we discuss. Finally, at the end of the book you'll see examples of a quantitative, qualitative, and mixed methods proposal based on the true story of a toxic waste recycling plant in a small southern town.

In short, I've given you a good set of tools with which to work. Before we talk in more detail about a dissertation, however, let's talk about how we get to the point where we actually need to write one.

The Doctoral Experience

Doctoral students are the most capable, academically successful, and carefully chosen students in higher education; because of that, admission into a doctoral program is a feat unto itself. Upon acceptance, many doctoral students spend the first 2 or 3 years taking coursework in their area of interest. These courses help students become subject-matter experts, as well as prepare them for conducting research in their area of interest. Once finished with their courses, many universities require students to take comprehensive exams covering the broad gamut of their area of expertise. Upon successfully completing these exams, students are then allowed to begin writing their dissertation—the major research paper that shows the world they are a proficient producer of academic research.

The first step, for most students, is finding a dissertation supervisor, or chair, to work with. When students have asked me to potentially supervise their work, it's been my experience that, right after they've finished their coursework and their comprehensive exams, they are really excited and motivated to get started writing their dissertation. Many of these students are successful but, as I said, many never finish. I've talked to quite a few of these ex-students over the years and many told me, "I just couldn't complete my dissertation." In most instances I tell them, "The reason you didn't finish your dissertation is because you never really started!" Before I explain what I mean, let me start with three disclaimers:

1. Different universities may have different formats or sections to be included in a dissertation. A very common model is to include five chapters:
   - Chapter 1: Introduction
   - Chapter 2: Review of Related Literature
   - Chapter 3: Methodology
   - Chapter 4: Results
   - Chapter 5: Conclusions

   The first three of these chapters taken together is called the Proposal and must be approved before a student conducts his or her research. Once his or her research has been completed, students write Chapters 4 and 5 to explain their results and the conclusions they were able to make. The five chapters taken together are the Dissertation Report.
2. Different types of studies may require different components in the dissertation proposal. We'll talk later in the book about quantitative, qualitative, and mixed methods research designs; the proposal for each of these different types of studies may vary somewhat. Our goal here is to understand, in general terms, how to write a proposal.
3. Some components of a proposal may be specific to a given study. For example, if you have terms that might not be understood by the reader, you might include a "Definitions of Terms" section to explain what you mean. Because we're looking at a generic approach here, we'll discuss those later in the book.

The Problem Is the Problem

Needless to say, after putting in a significant amount of time and getting nowhere, a few students get aggravated when they hear me tell them they've never really started. On far more than one occasion I've heard, "Of course I started. Haven't you seen all of the work I've put into this?" I usually agree they have put in a lot of effort, but then I remind them of something that more than likely they've heard before:

> *All research starts out by identifying a meaningful problem or opportunity about which we want to gain better knowledge or find a solution. Among others, opportunities for research can come from issues at the workplace or institution, personal experience, literature from their field of study, or a desire to replicate the work of other researchers in an attempt to better understand or explain a phenomenon. By conducting valid research and completing their dissertation, students are contributing to the knowledge base from which future researchers may work.*

Knowing that, I then ask students the crucial questions: "What is your problem statement?" and "What is the exact focus of your research?" In many instances they

can give me a broad overview of what they want to do, but can't focus it precisely. The problem they have starting their dissertation proposal is that they can't tell me the problem they want to investigate; in short, *the problem is the problem*.

In order to get over this barrier I ask them a series of questions:

1. What is the focus of the research? This is the actual **problem statement.**
2. How was the problem identified and why is it a problem? We call this the **background** of the problem.
3. What is the benefit of investigating the problem? We call this the **significance** of the problem.

My experiences with doctoral students are not unique; many experts believe that defining a clear, researchable problem is the most difficult part of any research study. Given that, for the remainder of this chapter, we will focus on answering these questions by learning how to find, develop, and write a good problem statement. In subsequent chapters, we will see exactly how the problem sets the stage for the rest of the dissertation proposal: a statement of the purpose of the study, research questions, hypotheses, the review of related literature, and the research method for investigating the problem. By understanding this process, you will be well on your way to writing a quality dissertation proposal.

Finding a Good Research Problem

Problems or opportunities for research are all around us. For many students, the real issue isn't finding a problem to investigate, it's narrowing down the many possibilities—things you've studied in your coursework, personal experience, issues at your workplace or institution, or by reading about a topic in which you are interested. Other potential areas for investigation can be found by attending professional conferences, speaking with experts in your field, or by replicating the work of others in an attempt to better understand or apply the results of research they have conducted. We'll look at several examples but, before we do, let's talk briefly about the reading that will be required as part of identification of your problem.

Reading the Literature in Your Field Underlies Everything You Do

As I've pointed out several times up to this point, a formal **review of the literature** is an essential component of a good dissertation proposal. That leads some students to believe that all of the literature they read as part of their proposal is contained in that section, but nothing could be further from the truth. Every part of a good dissertation is influenced and supported by what you read.

For example, in many instances students identify a potential dissertation problem based on readings in a specific area they are interested in; other students focus on problems suggested by prior researchers in the field. We'll also find that knowledge of the literature in a field is needed to provide the background of a problem for

the reader, as well as to convince the reader of the significance of investigating the proposed problem area. The key, at this point in your paper, is that the literature you read and report on focuses on the problem itself. The formal review of the literature, later in the paper, will expand upon that knowledge and provide the reader with a deeper understanding of the problem area, discuss prior research that has been conducted, and provide a basis for a sound research methodology upon which to investigate the problem. While this may sound somewhat confusing, the key lies in reading other proposals and dissertations. It will become readily apparent how writers use the literature to support their problem area and then how it is used to better define, understand, and guide the research itself. In this book, we'll go into greater detail when we get to those sections, but for now let's get back to finding a good research problem.

A Problem Based on Experience

Let's suppose we're working at a university where the attrition rate from the doctoral program is higher than the historical average of doctoral programs throughout the United States; that's clearly a problem I could investigate:

Our school has an attrition rate greater than 50%.

This type of problem is generally called a **practical or applied research problem** because it focuses on an issue within an organization. In another applied case, I might focus on a problem in the gym where I work out:

Regardless of the amount of exercise they do, participants in aerobics classes do not lose a significant amount of weight.

Finally, I might focus on a problem that many employers today seem to be wrestling with:

Employees who smoke are less productive than those who do not smoke.

As an aside, you might be reading this and thinking, "How can that be? You've actually increased the amount of time an employee can focus on work due to the elimination of smoking breaks." Interestingly, I've seen just the opposite occur. Our university's campus recently became completely smoke-free. As I was leaving campus recently, I saw several of the people from my building standing in the parking lot of an office complex across the street and, as you might guess, they were smoking. What does that mean for the university? The time spent leaving the office, crossing the road and coming back, could lead to even lower productivity.

Theoretical or Basic Research Problems

We may also investigate **theoretical or basic research problems**; those that come from conflicts or contradictions in previous findings or a desire to extend the

knowledge about a specific problem area. This is a perfect example of using the literature to help demonstrate the background and significance of the problem statement. For example, let's say we have found conflicting research regarding how to support dissertation students in an online environment; we could easily write a problem statement such as:

There is conflicting research on how to support dissertation students in an online environment.

This problem statement implies that multiple studies (i.e., literature focused directly on the problem area) have been conducted about supporting online dissertation students; apparently there is no consensus on the best approach. For example, these studies may have been based on traditional learning theories such as behaviorism and constructivism; our job would be to conduct further studies using the same constructs to help better explain or support prior results. We might actually attempt to replicate one or more of the studies to determine if the results might be different using another population of students or different pedagogical tools based on the same learning theories. We could also attempt to extend the work by investigating a different approach.

In another example, one of my students was interested in using laboratory simulators to teach basic concepts in his undergraduate anatomy and physiology classes. He searched the literature and found that many studies had been conducted, with varying results, in other disciplines; unfortunately, none of them dealt with anatomy and physiology. Because the results of using laboratory simulators might vary from field to field, it led him to state:

There have been no studies investigating the use of laboratory simulators in undergraduate anatomy and physiology classes.

Using Suggestions for Future Research

Whether a student is still taking coursework or starting his or her dissertation I tell the student it's important to become an expert in their field. In order to do so, just as we discussed above, the student must "read, read, read and then read some more"; only by knowing the relevant literature in a field will he or she be comfortable in, or capable of, moving forward. While reading the literature, an area of research may present itself; in other cases, I tell the student to look at the final section of articles interest. In more cases than not, that is where there are sections titled "Suggestions for Future Research," "Articles of Interest," "Future Trends," "Conclusions," or other titles to that effect. In many instances, in that section, the article's author points a doctoral researcher even more in the direction they may want to go.

To make the point, I've just reached to the right of my desk and picked up the first journal I could find; when I open it to a random article, the author has written about exploring the career aspirations of undergraduate students majoring in math. One of his findings reports that most students feel they are adequately prepared for

a job in their field; the author warns, however, that the results are tentative, exploratory, and come from a small sample. He suggests future research that focuses on things such as gender-specific variables and developmental factors that might influence a student to major in math. For someone interested in math education, this article might be a gold mine of inspiration.

Speaking with Experts in the Field

I've found, through the years, that once you have identified a broad topic to work with, many people who are the acknowledged experts in that field are more than willing to help you. For example, when I was writing my dissertation, I was interested in working with elementary school children to help raise their motivation in math and science classes. One of the things holding me back was a survey instrument that was no longer in print, so I contacted the original author directly. She was very gracious and sent me a copy with permission to use it; she even went so far as to follow up by asking how my work was progressing and offering her insight (A. Gottfried, personal communication, July 15, 1991).

Based on successes like that, I have encouraged my students to reach out to experts for help; very few of these students' inquiries have been ignored, and the success stories are wonderful. One student was led through a civil rights museum by an actual freedom rider from the 1960s, one had a world-famous cardiac surgeon agree to serve on his dissertation committee, and another worked with a person famous in the equestrian world. Though he is not my student and he wasn't working on a dissertation, one the best success stories I've witnessed involves my son during a high school science class.

From an early age, my son dreamed of a career as an astronaut. He had a general idea for a science fair project related to astronautics but he could not narrow his focus to one specific aspect of the problem. I told him he should identify one of the astronauts involved in the work he was interested in and send an e-mail asking for help. Andy, never being shy, went directly to the top and e-mailed one of the shuttle commanders from a Hubble Space Telescope mission. To make a long story short, though he never became an astronaut, my son received a tremendous amount of guidance and information simply because he wasn't too shy to ask a leading professional for his help (L. Shriver, personal communication, May 5, 1997).

Attending Conferences or Professional Meetings

This idea is basically the same as speaking to experts in your field but, in this case, it's limited to a specific venue. For example, each year there are literally thousands of conferences dedicated to almost any discipline you can imagine. Personally I attend quite a few educational research conferences; while I'm there I see many of the people whose names I recognize from the literature I have read. I've found there are several ways for students to learn more about a potential problem area.

First, simply look at the conference program and identify sessions you are interested in attending; at the end of the sessions there is usually an open period where

anyone can ask questions. That's your big chance; ask the presenter specific questions about the topic you're interested in. You'll be surprised how often an author will appreciate an insightful question and provide very informational feedback.

I've also found that approaching an author outside of a formal session, introducing yourself, and asking questions focusing on the author's area of expertise is very productive. In my case, I've had students approach me to ask about articles I've written; I'm always so flattered that they've read my work that I'm more than glad to spend a few minutes talking with them. Most authors I know feel exactly the same way when students approach them.

Finally, many of the larger organizations have special interest groups, often called SIGs, devoted entirely to a specific topic. I always enjoy going to presentations and social events hosted by SIGs whose focus interests me. Meeting and talking to people who, up to that point have only been names in the literature, is always refreshing and informative. In fact, I've developed quite a few relationships that have evolved into friendships outside the professional meetings and conferences. For example, one of my very well published friends is more than willing to talk to anyone if you respond positively to his suggestion "to continue our conversation over dinner."

Characteristics of a Good Problem

While these are only a few ways one might identify a problem area in which to work, all good problem statements have six characteristics. As you're reading these, keep in mind that we're not going to look at them in any specific order; all of these characteristics must be met before we can move forward (Terrell, 2012a):

1. The problem is interesting to the researcher.
2. The scope of the problem is manageable by the researcher.
3. The researcher has the knowledge, time, and resources needed to investigate the problem.
4. The problem can be researched through the collection and analysis of data.
5. Investigating the problem has theoretical or practical significance.
6. It is ethical to investigate the problem.

Let's use examples of each of these characteristics to ensure we know what we need to do.

The Problem Is Interesting to the Researcher

Many times, I run into students who simply want to finish their dissertation and really don't care what they work on, as long as they're working on something. Unfortunately, this system often fails simply because they are not interested enough

to see the problem under investigation through to the end. For example, I once had a student who was near her wits' end trying to find a topic for her dissertation. She was a very bright student, so I asked her to work with me on a project investigating the abysmal failure rate of students taking algebra at a community college. She jumped at the chance to work on the project, not necessarily because she was interested but because she saw it as a way to graduate. Unfortunately, she did not finish the project with me; she simply didn't have the interest, energy, and enthusiasm she needed to work on something for which she really didn't have a commitment. Two good things did come from her experience with me: she did graduate after she found a suitable project and I ultimately finished what I was working on; both of us met our goals because we were working on something we were interested in.

The Scope of the Problem Is Manageable by the Researcher

As I said earlier, when my students tell me they cannot find an interesting problem to work on for their dissertation, in many instances I tell them, "It's not that you can't find a problem, it's just that you can't find one with a scope you can manage." For example, look at the following "problem statement" presented to me by one of my students:

> *Many inner-city children throughout the United States come from single-parent homes and live at or below the poverty level. Research shows that these students are more likely to drop out of high school than their peers from different socioeconomic backgrounds.*

The problem here is certainly clear; students from lower socioeconomic, single-parent homes are more likely to drop out of high school than students coming from more affluent, traditional families. This certainly seems to be a serious problem, one that bears investigating. While important, however, is this something my student could investigate as written? Of course not! The scope is much too broad; in this case, it seemed my student was suggesting an investigation of students throughout the country. In cases like this, I tell my students not to attempt to "boil the ocean"; if the issue is so large that it cannot be easily investigated, focus on narrowing it down into something more specific and manageable.

My student might be able to reword this proposal as a more manageable practical problem statement by simply stating:

> *Many children in our school come from single-parent homes and live at or below the poverty level. Research shows that these students are more likely to drop out of high school than their peers from different socioeconomic backgrounds.*

By narrowing down the first statement, the student was able to create a problem statement that could be easily investigated. Let's look at another example.

Initiations for admission into fraternities and sororities are problematic throughout the United States. Published reports have shown problems such as alcohol abuse, physical harm, and other criminal activities are often related to these rights of passage.

Instead of asking what's wrong with this problem statement, it might be easier to ask if there is anything right with it. First, the idea of investigating problems at institutions throughout the United States is monumental. Following that, trying to define exactly what we mean by "alcohol abuse" would be debatable; some schools are well known for partying, others have very strict student conduct codes against drinking alcoholic beverages. Finally, what does "physical harm" mean? While I knew that a symbolic paddling from my fraternal "big brother" was part of the process, other institutions may forbid such paddling. In short, in this case the physical scope of the problem (i.e., the United States), as well as the broad scope of some of the areas to be investigated, would preclude this from being a viable problem statement.

Believe it or not, problems with scope occur more often than you might imagine; I suppose that some students believe that the bigger the problem, the more impressed I'll be. When that happens, I tell them three things:

1. Don't try to investigate all the world's problems.
2. Don't try to investigate some of the world's problems.
3. Investigate one problem.

The Researcher Has the Knowledge, Time, and Resources Needed to Investigate the Problem

This requirement is pretty obvious, isn't it? A researcher lacking any of these criteria could cause the research to fail or, at best, add significantly to the length of time it would take to complete. For example, I recently was involved in a study where I was looking at the need for mental health counseling for families of soldiers returning from combat deployment. My initial literature search indicated that levels of post-traumatic stress disorder were, in many instances, as severe in family members as it was for the returning service members. I was applying for grant funding and needed a certified mental health counselor as part of my team. Since one of my best students is nationally certified, I assumed she had the knowledge, time, and resources she needed. I thought we had a "win–win" situation; I would have someone to help me, and she could write her dissertation as part of the study.

Unfortunately, my assumption that she had the knowledge, time, and resources didn't hold true. While she did ultimately finish her dissertation, despite her knowledge and experience as a counselor, I had put her into a situation where she did not have the specific knowledge needed to work within the military culture. Given that, she had to spend time reading and talking to members of the military in order to understand the dynamics of military families before she was able to move forward

with writing her proposal. She also didn't have the resources necessary to investigate the problem and it took her several months to find military families who were willing to participate in the counseling program. Again, she did finish her dissertation (Stevenson, 2014) but it took quite some time for her to overcome these obstacles.

Finally, many doctoral students underestimate the cost or availability of resources they might need to finish their dissertation. For example, one of my students focused on understanding the life experiences of single mothers returning to graduate school. Her plan seemed simple enough: she would record interviews with 12 to 15 students and then analyze transcripts of those interviews. Unfortunately, it didn't go as smooth, financially, as she might have hoped. First, she needed recording equipment and software that cost several hundred dollars and, after the interviews, she quickly found out that accurately transcribing over 20 hours of interviews was a job best left for a professional; that wound up costing another $1,200 or so. While needing resources such as these might sound obvious, they can be easily overlooked. Costs for other things such as travel, testing instruments, software, work-study assistance, or anything else that is required to finish your dissertation, should be identified and planned for while writing your proposal.

The Problem Can Be Researched through the Collection and Analysis of Data

This requirement is also quite obvious. If we're investigating a problem, we have to be able to collect data to help in our decision making. Depending on the problem, we might need **quantitative data** such as grades, miles-per-gallon, or medical measurements such as weight or blood pressure. In other cases, we might need qualitative data from interviews, transcripts, or texts. We'll talk more in detail about different types of data later when we get into the methodology chapters, but for now let's just accept the fact that data are required and move forward.

Investigating the Problem Has Theoretical or Practical Significance

Simply put, whether a problem has **theoretical** or **practical significance** means that it can pass the "Who cares?" test. In looking back at the problems dealing with attrition rates from doctoral programs or high school dropout by students from inner-city schools, we can readily see that these are practical problems and investigating each problem is worthwhile.

In other cases, we might investigate a problem that has theoretical significance. In my dissertation, for example, I investigated the following problem:

> *Students in fifth-grade math classes have low levels of intrinsic motivation. Research has shown that low levels of intrinsic motivation lead to low levels of achievement.*

I ultimately based my study on a theory that suggested achievement feedback that is timely and informational would lead to higher levels of student intrinsic

motivation (Deci & Ryan, 1985). In doing that, I looked at differences between elementary school students receiving weekly graphical "cause-and-effect" report cards versus traditional report cards received every 6 to 9 weeks. Unfortunately, my intervention did not work as planned. We'll discuss this problem in more detail later, but now suffice it to say that sometimes there is value in showing what doesn't work.

Let's look at a few more examples and determine if their investigation is either theoretically or practically significant:

Imported cars are better than domestically made cars.

At first glance, this seems like a practical problem, doesn't it? We want to find out if foreign built cars are better than those we make here in the United States. It seems, though, that there are too many issues here to make it practical. First, what does "better" mean? Would we be comparing fuel mileage, crash test results, resale value, or one of the myriad characteristics that contribute to the definition of "better" in this context? Second, what does "imported" and "domestic" mean? Are we talking about companies whose headquarters are in foreign countries versus those who are based in the United States? While that may be something to look at, we have to keep in mind that, among others, Honda, Hyundai, and Mercedes-Benz have plants here in the United States. I'm sure there are other issues we should be worried about, but the bottom line is that this isn't a very good problem statement.

What do you think about the following problem statement?

Youth who receive their driver's license at age 16 have a higher number of accidents than drivers licensed at an older age.

This problem would seem to have some practical significance but there are obviously two reasons we might not want to investigate it as stated. First, is it really the age that affects the number of accidents or is it the experience the driver has? Doesn't it stand to reason that drivers who receive their license at a later age would have, percentage-wise, the same number of accidents as those who started earlier? As beginning drivers, they would have the same level of experience as their 16-year-old peers. Second, this problem doesn't warrant a full-scale investigation; it would be easy to simply look at the percentage of drivers in each age group who have an accident to determine if there is a difference.

Let's look at one last problem:

Emergency room physicians historically make more diagnostic mistakes than physicians in other specialties.

This was an actual problem statement presented to me by one of my doctoral students. At first, it seemed like a problem that might bear investigation; it stands to reason that, when the health of a patient is at stake, physicians would want to make a diagnosis that is as accurate as possible. In this case, the student wanted to develop a software system that emergency room physicians could use during the

examination of their patient. I told her to go ahead with the initial work on her dissertation based on her assertion that it could have both practical and theoretical significance. Unfortunately, her proposed study fell through very quickly as she learned that, while theoretically the diagnoses might be more accurate, emergency room physicians simply do not have time to turn their back on their patients in order to enter data into a computer and wait for diagnostic help. It is best for the physicians to rely on the skills they are taught in school and that are reinforced by their training residencies, internships, and experience.

It Is Ethical to Investigate the Problem

The history of research is filled with studies that were clearly unethical, from testing drugs after injecting viruses into terminally ill patients to simulating electric shock to investigate a person's reaction to authority. It's obvious to most researchers when a study is not ethical but at most institutions review boards have been established to review dissertation proposals to ensure any study conducted within their venue meets their prescribed standards. In most instances approval is not an issue but, when human or animal subjects are part of a research study, proposals are closely scrutinized to determine whether they should be approved. For example, do you think the study using computers to assist emergency room physicians would be considered **ethical research**? Probably not, since a patient's life is hanging in the balance. It's best to err on the side of caution; regardless of the type of study you are conducting, if you're not sure if it's ethical, always ask. We will discuss this issue, in far greater detail, later in the book.

Writing the Problem Statement

In the preceding sections, we defined and discussed the characteristics of a good problem statement. We now have to put those things together and learn how to actually write a good problem statement using the following criteria:

Problem Statements Must Be Clear and Concise

The most important thing to keep in mind as you write a problem statement is that the reader must understand what the problem is; it must be stated as clearly and concisely as possible. We alluded to this issue in an earlier section but let's look at another example to ensure we understand exactly what this means. It's common for me to receive a problem statement such as this:

Higher student engagement in courses using online learning management systems.

What does this mean? Is what the author trying to say clear and concise? In this case, it is not; in order to state the problem more clearly, the author needs to

establish the relationship between student engagement and learning management systems. It could be presented in this manner:

Observations indicate that there are low levels of student engagement when using online management systems in our school.

Thinking back, does this statement meet our six criteria? First, we can only hope that it's interesting to the researcher and he or she has the time, skills, and resources necessary; if not, why would he or she want to investigate the problem? Next, the problem can certainly be analyzed through the collection and analysis of numeric data and investigating it has practical significance. It appears that it would be ethical to investigate the problem but, again, an institutional review panel could confirm that for us. Finally, the scope of the problem is manageable because it is limited to our school.

How about this?

Epilepsy and diet.

In this case, we don't know much about what the researcher is proposing to investigate, but it could be reworded to make it clearer:

Seizure disorders in children are a prevalent concern in the United States.

Here again, we're assuming the researcher is interested in the problem and has the knowledge, skills, and time necessary to study it properly. Investigating this problem has both theoretical and practical significance, and numeric data can be collected. There is still an issue with the ethics of investigating this problem in that the participants are children and they are being treated for a medical condition; both of these issues raise a red flag with review boards and would be closely examined to ensure the health and well-being of the children while in the study. The scope of the problem, however, seems to be our biggest concern. Who are the children the author wants to work with? All of those in the United States? The state he or she lives in? Who? In short, this problem statement should reflect a much narrower scope, one the researcher has access to and has the ability to work with.

The Problem Statement Must Include All Variables to Be Considered

The second criterion for writing a good problem statement is that each of the variables to be investigated must be included. For example, in the problem statement where we wanted to investigate the relationship between online management systems and student engagement, no other variables were included in the problem statement. In another case, if we wanted to investigate the relationship of different piano manufacturers and perceived quality by musicians, would there be anything wrong with this problem statement?

Pianos from different manufacturers have different tones.

In this case, we have included a variable that describes the cause, different piano manufacturers, but instead of a variable measuring perceived quality, we have a variable labeled "piano tone"—these are two completely different things. A piano could have good perceived quality but the tone might be affected by the manner in which it is played or tuned.

Is the problem statement below valid if we are interested in investigating the ability of a dog to be trained and whether the dog was purchased from a breeder or from a pet store?

There is a difference in the ability to be trained between puppies that were purchased from a breeder and puppies that were purchased from a pet store.

This statement seems to meet our criteria; both variables, the location where the dog was purchased and their ability to be trained, are included. Thinking back in this chapter, however, are there other issues with this problem statement we should concern ourselves with? I would argue that there is no practical or theoretical significance in investigating the problem; after all, what difference does it make? When it comes to purchasing a dog, aren't there a lot more factors involved in selecting one than their potential to be trained? Besides, if they are easy to train, who cares where they came from?

The Problem Statement Should Not Interject the Bias of the Researcher

Here again lies one of the biggest pitfalls that underlie research; far too many people want to "prove" things or conduct research that supports their personal beliefs or goals. For example, if I was arguing for the need for more technology in our public schools, I might write:

This study will prove that purchasing computers to use in the elementary school curriculum will increase achievement.

That's a fairly large assumption on my part, isn't it? Suppose I do conduct research and show that there is increased achievement after obtaining new technology? Have I proven anything? Absolutely not! There are far too many things that affect achievement: the students themselves, a change in the curriculum, new teachers who work in a manner different from their predecessors, and the like. At the same time, what would occur if achievement went down? Would we go back to Apple, Dell, or Gateway and demand our money back? Of course not; we do not know if the technology had any effect on student achievement. There are far too many factors that influence achievement to assume we can "prove" anything. Instead of the problem statement above, what about the following one?

Students who do not use computers as part of their curriculum have lower achievement than students who use computers as part of their curriculum.

In this case, we are very clear and concise. We have included all variables to be considered, in this case technology and achievement, and we have not interjected our personal bias. This seems to be a very good problem statement.

As is the case with many things in life, there is one caveat we need to discuss. When I said that the problem shouldn't interject the bias of the research, this isn't to say that the researcher cannot use his or her personal judgment when identifying a problem or writing a problem statement. We'll see a great example of that in the next section.

The Problem Statement as Part of a Dissertation Proposal

Even though we're able to write a good problem statement, that's not enough for a dissertation proposal. We need to clearly tell the reader the genesis of the problem; we call this the **background of the problem**. We also need to tell the reader why investigating the problem is important; we call this the **significance of the problem.** We touched on both of these ideas while discussing the characteristics of a good problem, but let's look at how we would actually include these in a dissertation proposal.

When a student approaches me with a potential dissertation idea, I tell him or her not to create a full proposal right from the outset; instead, I want him or her to give me a three-to-five-page paper that tells me the background and significance of a potential problem. I insist that the background and significance is not just their own personal opinion and that they must include substantiating references from other related literature. By doing this, I'm assured that the student is off to a good start in his or her dissertation proposal.

For example, let's use an actual problem statement from one of my former students. He works at an institution described as a historically black college or university (HBCU). This is the problem he described to me (Poorandi, 2001).

African American students at ABC College fail entry-level Algebra I classes at rates higher (i.e., 22%) than the historical United States average of 15%.

When I asked my student how he knew this, the answer was simple; faculty at the college knew they had a high failure rate but were astonished to find it was higher than the national average. When I asked him to provide me with the background of the problem, he presented me with something along the lines below. As I said earlier, including references from the problem area is important; for the sake of the example, I'm paraphrasing what he said and inventing the references he used:

Background

Many students enter college with weak math backgrounds (Bosley, 2009). In schools where general requirements include math classes, historically the failure rate for Algebra I is approximately 15% (Alderman, 2011).

So far we're looking good; my student has laid the groundwork by establishing a good background for his problem. He followed up with the following section explaining why investigating the problem is important (i.e., the significance); again, he included references to the literature to help make his point:

Significance

Failure of classes early in a student's academic career not only extends their time in school for having to repeat a course, it is a major predictor of dropping out of college (Schneider, 2006).

When my student put all of this together, it was a perfect introduction to his research proposal:

The Background, Problem, and Significance Together

Many students enter college with weak math backgrounds (Bosley, 2009). In schools where general requirements include math classes, historically the failure rate for Algebra I is approximately 15% (Alderman, 2011). African American students at ABC College fail entry-level Algebra I classes at significantly higher rates (i.e., 22%). Failure of classes early in a student's academic career not only extends their time in school for having to repeat a course, it is a major predictor of dropping out of college (Schneider, 2006).

This is a great example, but my students will tell you that in many instances writing the problem statement section isn't as easy as we've just demonstrated; it's often quite more extensive in terms of the material needed to write a meaningful and supportable problem statement. At the same time, in every case, the background/problem/significance model should be followed.

SUMMARY OF CHAPTER ONE

Understanding and clearly stating the problem you are investigating is the first step in writing a good proposal. Keep in mind, while formulating a good problem statement, you must ensure you meet the following criteria:

1. You must be interested in the problem you are investigating.
2. The scope of the problem you want to investigate must be manageable.

3. You must be comfortable in terms of the knowledge, time, and resources necessary for you to investigate the problem.
4. You must be able to collect and analyze data.
5. There must be a practical or theoretical reason for you to investigate the problem.
6. It must be ethical for you to investigate the problem.

Once you are sure you have met these criteria and begin writing the actual problem statement, you must ensure that you are clear and concise, that all variables to be investigated are included, and that you do not interject your personal bias. Following all of these rules ensures that you have a viable problem statement. Keep in mind that stating a valid research problem is only the first step of the proposal. As I stated above, the problem statement will be followed by the research questions, the purpose statement, hypotheses, a review of literature, and a detailed research method. We'll cover all of these topics in the following chapters but, for now, let's see how much we've learned up to this point.

Do You Understand These Key Words and Phrases?	
Background of the problem	Qualitative data
Ethical research	Quantitative data
Practical significance	Significance of the problem
Problem statement	Theoretical significance

REVIEW QUESTIONS

Evaluate each of the problem statements below; are all six criteria for a good problem statement met? Are they clear and concise? Do they include all variables and do they avoid interjecting personal bias? If the problem statement does not meet the criteria, what is wrong?

1. Birth weights of babies born to drug-addicted mothers.
2. Employees working in the older section of an industrial plant are concerned with the effects of asbestos used in building the plant.
3. Farmers in the United States are concerned that strict immigration laws will not allow them to hire enough farmhands to reap their annual harvests.
4. Publishers are concerned that the ever-increasing costs of printing traditional textbooks will cause decision makers in the elementary school market to opt for electronic textbooks.
5. Subscriber feelings toward anonymous text messages used for advertising.

6. Is there a difference in recovery times between patients who receive medication for back injuries, patients who receive physical therapy for back injuries, and patients who receive a combination of medication and physical therapy for back injuries?
7. Engineering students at Fireside University are concerned that changes in gravitational pull during the 28-day lunar cycle are affecting the structure of the microwave tower on their classroom building.
8. High altitude climbers are concerned with hypoxia, the inability of the human body to perform due to a generalized lack of oxygen in the body.
9. Clients at an inner-city mental health facility who are suffering from depression and are working with therapists using a psychoanalytic approach are not responding to therapy as effectively and efficiently as those working with therapists using a cognitive-behavioral approach.
10. This study will investigate morale between soldiers wearing camouflage uniforms versus those wearing khaki uniforms.

Let's Start Writing Our Own Proposal

I always tell my students that the key to learning to write a good dissertation is to just begin writing. Given that, I want you to start actually writing a proposal; you'll expand it as we move through each chapter by adding the material that was the focus of that chapter. Granted, by the end of this book, you probably won't have a dissertation proposal 100% ready for your dissertation supervisor to approve, but you will have learned the process, and will be well on your way toward writing a good dissertation proposal.

Given that, take a few minutes to think about a problem you would like to investigate. Reflect back on articles you have read, classes you have taken, experts you may have talked to, or one of the myriad other sources for a good dissertation problem. Then, keeping in mind the six characteristics of a good problem, just start writing. Make sure that what you're writing is clear, includes the variables you are interested in, and does not interject your personal bias. As you're writing, ensure you reinforce the problem statement by using literature to develop sound Background and Significance sections.

Once you've finished, it's always a good idea to put your work aside for a day or so and then read it again with a "fresh set of eyes"; it never hurts to get someone else to read it and give you feedback. Chances are you won't get it right the first time but just keep trying; as trite as it sounds, practice does make perfect!

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