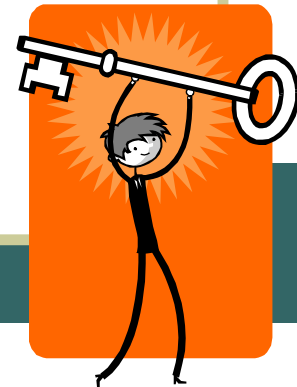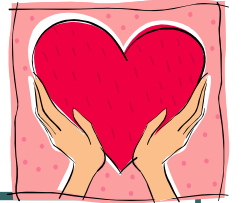# Creating The Problem Statement

The Key to Your Dissertation or Research Project

Marilyn K. Simon, Ph.D.

The Heart of a Dissertation

- **The heart of a doctoral dissertation IS the PROBLEM STATEMENT. This is the place where most committee members go first to understand and assess the merits of a proposal or a dissertation.**

- **After reading the problem statement, the reader will know *why* you are doing this study and be convinced of its importance.**

- **The reader will NOT be left with an unanswered: "So What?" question at the studies conclusion.**

Select a Real Problem

- *That which is not worth doing is not worth doing well* – Abraham Maslow

- Simple curiosity is not a good enough reason to do scholarly research, i.e. research for research sake.

- The fact that nothing like this has ever been done before might tell you something.

Recipes for Success

Selecting a Real Problem

- **You must know thoroughly the body of research and the techniques related to the chosen methodology.**

- **Naivety might be a source of joy in an artistic field but is not the case in valued research efforts.**

- **You must know:**

What you are doing +

Why you are doing it!

Bias aside – truth is what we seek

- *"Consider this, you who are engaged in investigation: If you choose to seek truth, cast aside: passion, accepted thought, and the inclination toward what you used to esteem, and you shall not be led into error."* **Just the facts; watch out for bias.**

Moses Maimonides; 12th Century scholar, philosopher, and physician.

According Mikijanis and Thomas:

- 1. **Do not use a problem in research as a ruse for achieving self-enlightenment.**

- 2. **Do not look at a problem whose ony purpose is to compare two sets of data.**

According Mikijanis and Thomas: Don'ts:

- **3. Finding only a coefficient of correlation between two sets of data to describe a relationship between those data sets is not acceptable as a problem for scholarly research**

- **4. A problem that leads to a question that can be answered with "yes" or "no" is not suitable for formal, scholarly research. "Determining if stock options are beneficial for employee morale," is not a problem (actually it is a proposed solution) and is not appropriate for research, since this statement leads to a binary conclusion (either it is beneficial or not).**

To enact *Positive Social Change*

- **Suppose, you wish to make history and not simply understand it.**
- **Suppose you want to effect change rather than simply gain insight into it.**
- **Suppose you are confronted with the problem of, or desire to, change *the System*.**

What change would you make? What challenges do you face? How could you proceed?

Metaphors: A Problem Statement is like…

metaphor -- a novel or poetic linguistic expression where one or more words for a concept are used outside normal conventional meaning to express a similar concept. Aristotle

- The DNA of the research
- A snapshot of the research
- The foundation of the research
- The Heart of the research
- A %taste+ of the research
- A blueprint for the study

Your Problem Statement

- ## What is the overriding problem?
  - " Retention; inability to adapt to change; poor working conditions; inequities; poor conditions in health or economics, deficits; lack of evaluation of a program; conflict in: ethics, values, moralsõ

- ## Where is the problem found?
  - " Manufacturing; education; health administration; government; society; corporate Americaõ

- ## What needs to be done to solve the problem?
  - " Survey; interview; create a new model; determine what experts believe; evaluate; meta-analyze, conduct an experiment; benchmarkõ

Problem Statement

- **In 200 words or less (about 1-2 paragraphs) you need to convince the reader that this study MUST be done!**

- **Society, or one of its institutions has some pressing problem that needs closer attention. You will provide evidence that this problem is serious and in need of further investigation.**

- **You will convince the reader that the problem can be solved with the methodology selected.**

Problem Statement

- **The researcher (you) will solve some part of this serious problem in a unique and clever way.**

- **You will explain what specific methodology you will use to solve the problem.**

- **The reader will know that it is *important* that this study be done with the methodology you have chosen to solve it!**

Problem Statement

- **The problem statement will state or imply the nature of the study: correlation; heuristic; Delphi; Q-methodology, evaluative; phenomenological, historical; create a model; experimental, etc.**

- **You will be judged on the degree to which you find the answer to the problem you pose and thus, achieve your purpose.**

- **Many (most?) Researchers have difficulty formulating a concise problem statement. *That is the purpose of this presentation.***

- **This is an iterative process and will likely take multiple attempts to get it right!**

Some Basic Questions

- 1. What is the overriding problem (in one sentence)?
- 2. What is the population and sample that are affected by this problem?
- 3. What type of study will this be?
- 4. Will this study be qualitative or quantitative?
- 5. What type of methodology will be used?
- 6. What type of data will be collected?
- 7. What possible outcomes are expected?

Recipes for Success

Some Inequities in society

- Gap between rich and poor.
- Unequal access to employment and rates of pay.
- Unequal access to education.
- Unequal access to health care.
- Discrimination due to sexual preference; gender, race, physicality; etc.
- Unhealthy conditions.

According to Merriam (1988) There Are Three Basic Types of Research Problems:
CAVe : Conceptual, Action, Value

- 1. **Conceptual problem** - two juxtaposed elements that are conceptually or theoretically inconsistent.

This is the way it should be– this is the way it is.

- Example: Short-term economic and political interests can limit the vision of a corporation and inhibit the achievement of long term improvement.

- Example: We would like the top undergrad students to be teachers but the entry salary is not commensurate with the salaries these students could earn.

Concept Problem

- *The Iowa State Park system's first mission is to protect and preserve the State Parks for their natural beauty and delicate ecosystems. The second mission is to provide an outdoor recreational resource for the general public.   Foot traffic, vehicle traffic, tents, fires, boats, and facilities for the public contribute to the degradation of the protected natural elements of the State Parks. Both missions are necessary but a balance based on science and public interests demands is sometimes hard to negotiate.*

According to Merriam (1988) There Are 3 Basic Types of Research Problems:
cAv(e)

- **2.** __Action problem__ **– arises when a conflict offers no clear choice of alternative course of action. Undesirable outcome due to apparent lack of choices.**

  "**E.g.** *Hazardous Material Responders at UPS are required to wear personal protective equipment when responding to a spill, but the gear is not always available at the places where the spills are located.*

According to Merriam (1988) There Are 3 Basic Types of Research Problems:
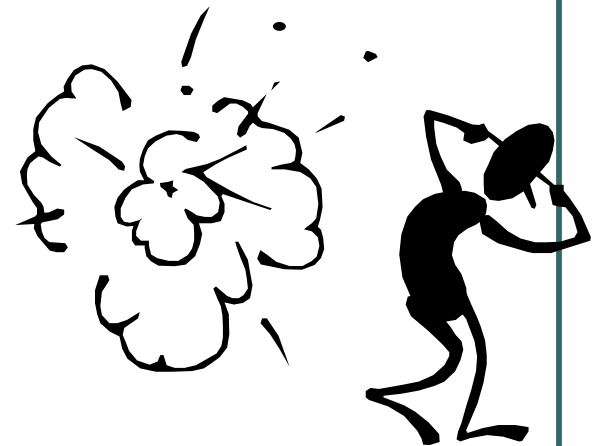**caV(e)**

> **Value problem – A value problem arises when there is a conflict about what people consider ethical, moral, worthwhile, and/or desirable .**

> **E.g.** *Employees believe their dress is a matter of freedom of choice but companies are requiring a dress code.*

Recipes for Success

To Frame Your Problem Statement (PS)

- ***What is wrong with society, or one of its institutions?***
  - Employees/students are quitting
  - Overcrowding
  - Inequity
  - Inadequate productivity
  - Underachieving
  - Lack of resources
  - Scandals
  - Unevaluated Program
  - Some group is being physically, economically or psychologically harmed
- ***What has failed in society or one of its organizations?***
  - An unfulfilled promise
  - Under-representation
  - Ethical and/or moral dilemma
  - Depletion of resources
  - Inability to adjust to change

Recipes for Success

Framing Your PS (Con't)
½all questions you will answer.

- What is missing in society?
- What historical event is in need of re-examination?
- What program is in need of study or evaluation?
- What program needs to be developed?
- What need is there to analyze a current theory based on new events?
- What group is being under-served?
- What health or social problem exists?

What Research Methodology Best Describes Your Study?

- **Correlational research refers purpose - discover relationships between variables through the use of correlational statistics (r) , IV and DV.**
  - **Make certain each IV and DV can be justified.**

- **Be careful and remember that correlation _does not_ necessarily tell us about cause and effect.**

What Research Methodology Best Describes Your Study?

- **If a strong relationship is found between two variables, causality can be tested by using an experimental approach or more sophisticated statistical techniques.**

- **Usually requires a large sample.**

- **Multivariate larger.**

Correlational Study

- **Correlational research refers purpose - discover relationships between variables through the use of correlational statistics (r) , IV and DV.**
  "Make certain each IV and DV can be justified.

- **Be careful and remember that correlation _does not_ tell us about cause and effect.**

- **A problem: Learning more about the relationship between ___ and ___, could help ___ and lead to____.**

Recipes for Success

True Experimental and Quasi Experimental Design

- **True - subjects are randomly assigned to program and control groups. A treatment is given to the Control Group.**
  - " Every member of the target population has an equal chance of being selected for the sample.
  - " Quantitative data are collected.

- **Quasi- the omission of random assignment of participants to a program and control group.**

Qualitative Research Methods

- ◆ **Study social and cultural phenomena.**

- ◆ **Examples: action research, case study research, ethnography, phenomenology.**

- ◆ **Qualitative data - observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions.**

- ◆ **Understand phenomenon from the point of view of participants and its particular social and institutional or organizational context.**

Recipes for Success

Case Study

investigates contemporary phenomenon within its real-life context, using multiple types of data.

♦ Emphasizes detailed contextual analysis of a limited number of events or conditions and their relationships.

♦ Social scientists, have made wide use of this qualitative research method to examine contemporary real-life situations and provide the basis for the application of ideas and extension of methods.

♦ An empirical inquiry that is used when the boundaries between phenomenon and context are not clearly evident" (Yin,1994, p. 23).

Ground Theory

- ◆ <u>Grounded theory</u> - seeks to develop theory that is grounded in data systematically gathered and analyzed.
- ◆ An inductive, theory discovering methodology.
- ◆ Allows researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data.
- ◆ A continuous interplay between data collection and analysis.

Critically analyze the Problem Statements that follow.

What could make these statements better?

Problem Statement A
(52 Words)

- *The Department of Justice (DOJ) found that minority applicants are disproportionately denied business loans (Boyd, 2002). A quantitative descriptive study is needed to investigate how the required monitoring data, reported by decision (accept/deny) and geography (Census tract,) and the means of obtaining the loan (face-to-face/electronic) are related and what could be done to develop strategies to correct unfair lending practices.*

Problem Statement B

- Anxiety, frustration, pressure and stress cause many doctoral degree seeking learners to abandon doctoral programs. Brown and Rudenstine (1992) found that over 40% of those who begin the process never graduate. Long, Convey, and Chwalek (1985) pointed out that selecting and developing a dissertation topic is one of the of important yet difficult steps in completing a doctoral degree. This becomes even more difficult in a nontraditional, distance learning doctoral program where f2f meetings between mentors and mentees are infrequent.

Problem Statement B (con't)

- In order to offer appropriate assistance to nontraditional distance doctoral students it is important that a rigorous descriptive quantitative study be conducted to determine how successful graduates of non-traditional doctoral programs selected their topics, and what type of support could be offered to those who are struggling.

Problem Statement C

- **Emotional intelligence includes the ability to be aware and in control of one's own emotions, to be empathic with others, to motivate oneself, and to be effective in intrapersonal and interpersonal relationships (Cooper & Sawaf, 1997; Gardner 1993, 1999; Goleman 1995, 1998; Mayer & Salovey 1997; Stein & Book, 2000; Weisinger 1998). When human communication is involved, emotional intelligence is involved (Rivera, 2000a, 2000b).**

Problem Statement C

- **Attrition appears to be a serious problem in online learning, as the dropout rate is more than twice that of traditional forms of learning (Flood, 2002; Lynch, 2001). Learning more about the relationship between emotional intelligence and online learning might help offer an explanation for the unacceptably high attrition rate of learners in online programs.**

Problem Statement D

- Bullying is one of the most critical issues facing middle school education. Beane (2008), found that two in seven children is subjected to bullying behavior and that it affects about ten million middle school children. Bullies who once cornered their victims on the playground are now tormenting them online (Blaire, 2009). E-mail messages and Web sites have increasingly become vehicles to threaten, tease, and humiliate other students.

Statement D

- Yet, to date, there has been little, if any, formal evaluation of online bullying, referred to by many as %cyberbullying+. Incidents of online bullying can be just as hurtful as face to face bullying, yet are less likely to be detected or prevented by adults. In order to be able to understand the complexities of online bullying, it is important that a case study be conducted to determine the ill effects of online bullying and examine a case where online bullying was detected and dealt with.

Side note on bullying

- **The internet has transformed children's social lives, moving cliques from lunchrooms and lockers to live chats and online bulletin boards and intensifying their reach and power. When conflicts arise today, children use their expertise with interactive technologies to humiliate and bully their peers and avoid reprimand from adults or foes. As parents plead technological ignorance and many schools decline to discipline "off-campus" behavior, the Internet has become a free-for-all where bullying and cruelty are rampant.**

Recipes for Success

Problem Statement E

- Alternative education programs offer an option for disaffected and disenfranchised students who would otherwise dropout or be pushed out of school. For the past 30 years, a growing number of alternative education programs across the United States have helped at-risk students achieve academic success (Duke & Griesdorn, 1999; Freeman, 2000; Meyers, 2001). There has been extensive inquiry into a variety of alternative education programs describing alternative education programs by approach (i.e., type I, transformative; type II, punitive; and, type III, therapeutic) (Kellmayer, 1995; Lehr & Lange, 2000, 2003; Raywid, 1994).

Problem Statement E

- There, however, has been little formal inquiry into the leadership and managerial practices that advance transitioning an alternative education program from a marginally effective type III to a more effective type I approach as presented by Raywid's (1994) alternative school typology. To confirm, challenge, or extend this typology in a natural and unique setting, and provide a holistic understanding of this cultural system of action to leaders involved in alternative education programs and policy it is important that an evaluative case study be conducted

Problem Statement F

- **Leaders need a comprehensive understanding of economic theory and its' application to help foster positive economic outcomes. Davis and Wessel (1998) found that leaders who lack a profound understanding of economics see only the results and cannot critically analyze economic problems. However, well-informed leaders make better decisions that can enhance resource allocation and contribute to efficiency, productivity, and living standards.**

Problem Statement F

- Case and Fair (1999) recommend that economics be taught in a way that simulates real world events and situations. Economic textbooks have a reputation for being dull and abstract. Therefore, many educators have relied on supplemental materials, including interactive simulated case studies. One of the more promising of the genre is Aplia. However, there is a lack of empirical evidence to determine how effective such applications are with respect to improving the ability of students to solve economic problems and make sound economic decisions. A quantitative quasi-experimental designed study could help elucidate the efficacy of integrating technology into the economic curricula. Half of the participants of this study will utilize Aplia software (the experimental group) and a comparison will be made between the knowledge gained in using this software and that gained from more traditional teaching methods (the control group).

Problem Statement G

- Identity fraud is one of the fastest growing crimes in America (Adams, 2002). In 2003, at least 7 million Americans were victims of identity fraud, an increase of 79% from 2002 (AFP, 2003). The nation's system of personal identification and verification failed to stop the 9/11 terrorists and according to the *9/11 Investigations* report (Strasser, 2004), some of the 19 hijackers of the 9/11 attacks had fraudulent identification, passports, and other travel documents (Wang, 2004). Seven of the 19 hijackers fraudulently obtained and used drivers' licenses as identification to board commercial aircraft (*Driver's License Fraud*, 2003).

Problem Statement G

- Drivers' licenses can still be obtained or made fraudulently and are still used as a de facto form of national identification (Etzioni, 2004). The *9/11 Commission Report* (9/11 Commission, 2004) recommended using an NBIC system as a more reliable and secure means of fighting terrorism. One associated problem of the 9/11 Commission's recommendation is that various civil liberty advocates oppose the use of a compulsory NBIC, arguing that compulsory use of NBICs may have a potential to deprive citizens of their civil rights and invade individual privacy (Eaton, 2003). A Delphi study is needed to understand how experts perceive the strengths and weaknesses of the NBIC program and how to use this in future programs.

A Problem Statement Must Pass ROC Test. Show the Study Is:

- *Researchable* - the problem can be answered by collecting and analyzing data. (Doable)
- *Original.*
  - " Has not been done previously and creates new knowledge.
  - " Can be a repetitive study with new population/passage of time.
- *Contributory.*
  - " Make a difference in profession.
  - " In society.

A Problem Statement Must Elucidate:

Importance- needs to have theoretical or practical importance.

The type of research to be employed.

The population to be investigated and why this population was chosen.

The variables and how the variables are related and will be measured.

Clarity, conciseness, and lucidity.

Template for initial draft of problem statement

There is a problem in _____(societal organization). Despite _____ (something that should be happening) _____ is occurring. This problem has negatively impacted _____(victims of problem) because _____. A possible cause of this problem is _____ Perhaps a study which investigates _____ by _____(method) could remedy the situation.

"I hear and I forget, I see and I remember, I do and I understand"
John Dewey on Experiential Learning.

Check Point
Reflections on creating a Problem Statement (PS)

- What do you now know about a PS that you did not know before this presentation?

- What is the most important aspect of a PS?

- What did you know about a PS before this presentation that you now know is false?

- What will you need to DO to get you closer to forming a %perfect+problem statement?

Academic Review check list:

Problem Statement   **about 200 words**   **The Problem Statement concisely states what will be studied by describing at least two factors and a conjectured relationship among them that leads to an identified problem.**
1. General Problem identifying the need for the study. The problem is
2. Specific õProblemö proposed for research. (use citation & usually a number to make it clear to the reader. [e.g. 3 out of 5 Superintendents are overweight and at risk for heart attack]
3. Introductory words describing Methodological approach (i.e. Research Design) are given and are appropriate to the specific proposal õproblemö, [e.g. This qualitative case study will examine í]
4. General population group of proposed study is identified. [e.g. Principals from the Northeast will be surveyed to determine í .].

½Check Again

Problem Statement 4 required parts

- 1. General Problem identifying the need for the study. Provide current statistics and research to support that the problem is real and exists NOW. [e,g, About 21-24% of American children and adolescents are overweight and another 16-18% are obese (NIH, 2010)]

- 2. Specific %Problem+proposed for research. It is important to understand if the %Healthy Children+program has helped reduce childhood obesity.

- 3. Introductory words describing methodological approach (i.e. Research Design) are given and are appropriate to the specific proposal %problem+, E.g. This mixed method case study will explore the efficacy of the Healthy Children program

- 4. General population group of proposed study is identified. Stakeholders in the Healthy Children program in Baltimore, Maryland will be enrolled in this study.

Your Turn

- Complete a problem statement.
- Share this with a support person.
  - Have him or her go through the PS Checklist.
- See if it passes the ROC bottom test.
- See if you can answer all the questions about the PS.

PS Check List

- **1. What is the overriding problem?**
  What type of problem is this? (CAVe)
- **2. Is sufficient and convincing evidence provided?**
- **3. What is the population and sample that are affected by this problem?**
- **4. Will this study be qualitative or quantitative?**
- **5. What type of methodology will be used?**
- **6. What type of data will be collected?**
- **7. What possible outcomes are expected?**

Recipes for Success

Template for initial draft of problem statement
There is a problem in _____(societal organization). Despite _____ (something that should be happening) _____ is occurring. [provided supporting evidence]. This problem has negatively impacted _____(victims of problem) because _____. A possible cause of this problem is _____ Perhaps a study which investigates _____ by _____(paradigm/method) could remedy the situation.

"I hear and I forget, I see and I remember, I do and I understand"
John Dewey on Experiential Learning

Concluding Thoughts

- "Each problem that I solved became a rule which served afterwards to solve other problems." Rene Descartes (1596-1650), "*Discours de la Methode*"

- "The significant problems we face cannot be solved at the same level of thinking we were at when we created them." Albert Einstein (1879-1955

- "Obstacles are those frightful things you see when you take your eyes off your goal." Henry Ford (1863-1947)

- "The secret of success is to know something nobody else knows." Aristotle Onassis (1906-1975)