

4

Getting On Target

*The Problem of the Study
The Hypothesis of the Study
From Raw to Refined*

I lay in the cold, damp sand of Fort Dix, New Jersey with my M-16 pointing down range. Getting my weapon “on target” was not as easy as my instructors had made it sound in class. I felt as if I were all thumbs as I wrestled with sight alignment, breathing, placement of the front sight on the target, correction for wind, and correction for distance. I had one thing going for me, however, despite my awkward confusion. My “problem” was clear: put the 7.62mm round in the center of the target standing 100 yards away. The anticipated result was clear as well: put it all together and the round will hit the bull’s eye. Practice translated the problem into the anticipated result. I qualified for the Sharpshooter’s Badge.

Writing a proposal is more complex than target practice. The need to “get on target” with your proposal, however, is just as important. **The “Problem” and “Hypothesis” statements focus every other element of the proposal.** They form the proposal’s heart – its “bull’s eye.” Confusion here will generate confusion throughout the proposal.

The Problem Statement

The problem statement defines the essence of your study and identifies the variables you will study.

Characteristics
Examples

Characteristics of a Problem

The following characteristics are important to keep in mind as you develop the formal statement of the problem of your study.

Limit scope of your study

Novice researchers tend to include too many variables or too much material in their studies. The problem statement helps limit your study by focusing your attention on the particular variables you want to investigate.

Current theory and/or latest research

The problem statement should reflect the most recent discoveries in your field of interest. You will refine your problem as you conduct the literature review (Chapter Six). A clear understanding of your specific problem will help you gather pertinent

data from your field and discover if you are proposing a redundant study.

Meaningfulness

Is your problem statement meaningful? Is it important to your field? The problem may focus on something you personally want to know, but this is not enough to establish the need for the study. The inexperienced tend to focus on the obvious, surface issues related to ministry. The problem statement should have a theoretical basis beyond the pragmatic concern of “what works?” Research seeks to know the “whys” as well as the “hows” of the way the world works.

Clearly written

The problem statement is usually a single sentence which isolates the variables of the study and indicates how these variables will be studied. The statement is terse, brief, concise. It is objectively written so that another can read the statement and understand the focus of the study.

Examples of Problem Statements

Let’s focus on several practical formats that Problems can take. We can study the relationship between variables or the differences between groups.

Association Between Two Variables

A study can focus on the relationship between two variables. The general format of this type of Problem Statement is this:

The problem of this study is to determine the relationship between (Variable 1) and (Variable 2) in (a specific group).

Dr. Helen Ang wrote her problem statement in this format:

The problem of this study [is] to determine the relationship between the leadership style of academic administrators in selected Christian colleges and universities and their educational philosophy profile.¹

This study proposes to measure the administrative leadership style and the particular philosophy of education of selected Christian college administrators and determine whether there is any relationship between these two variables. Since “style” and “philosophy” are nominal variables, this problem statement infers the use of the chi-square² Test of Independence -- relationship between two nominal variables. (See Chapters 5 and 23 for further information on chi-square.)

Association of several variables

A study may focus on how a selected group of variables may predict another. The general format is this:

The problem of this study is to determine the relationship between (variable 1) and a specified set of predictor variables.

¹Helen C. Ang, “An Analytical Study of the Leadership Style of Selected Academic Administrators in Christian Colleges and Universities as Related to Their Educational Philosophy Profile,” (Ed.D. diss., Southwestern Baptist Theological Seminary, 1984), 3

²“Chi” is pronounced “ki” as in “**k**ite.”

Dr. Bob Welch wrote his problem statement like this:

The problem of this study [is] to determine the relationship between ministerial job satisfaction and a specific set of predictor variables. These variables [are] Principle Ministry Classification, Gender, Age, Marital Status, Education, Tenure, and presence in the workplace of a Performance Evaluation.²

This statement identifies variables which the researcher believed influences the degree of job satisfaction in ministerial staff members of Southern Baptist Churches. Problem statements of this type refer to multiple regression analysis. (See Chapter 26 for further information on multiple regression).

Difference Between Two Groups

A study may focus on how two groups differ on a variable. The general format of this type of Problem Statement is this:

The problem of this study is to determine the difference in (variable) between (group 1) and (group 2).

Dr. Mark Cook wrote his Problem statement this way:

The problem of this study [is] to determine the difference in learning outcomes between classes taught with active student participation and classes taught with no active participation in adult Sunday School classes in a Southern Baptist Church.³

This study will measure the variable “learning outcomes” -- defined later as “the achievement score of the student on the multiple-choice post test measuring the lesson objectives at three cognitive levels: knowledge, comprehension, and application”⁴ -- in two groups of adult Sunday School members. One group experienced a Bible study which intentionally integrated active participation methods. The second group experienced the same Bible study without active participation. Would intentional active participation make a difference in their learning? The statistic inferred by this statement is the t-Test for Independent Samples. (See Chapter 20 for further information on the two sample independent t-test).

Differences Between More Than Two Groups

A study may focus on how more than two groups differ on a variable. The general format of this type of Problem Statement is this:

The problem of this study is to determine the difference in (variable) across (more than two groups).

Dr. Scott Floyd wrote his second problem statement this way:

It [is] also the problem of this study to determine the difference in marital adjustment of Southern Baptist women. . . who were not employed outside the home, employed part-time, and employed on a full-time basis.⁵

This study will measure “marital adjustment,” a ratio score, in Southern Baptist

²Robert Horton Welch, “A Study of Selected Factors Related to Job Satisfaction in the Staff Organizations of Large Southern Baptist Churches,” (Ed.D. diss., Southwestern Baptist Theological Seminary, 1990), 4

³Marcus Weldon Cook, “A Study of the Relationship Between Active Participation as a Teaching Strategy and Student Learning in a Southern Baptist Church,” (Ph.D. diss., Southwestern Baptist Theological Seminary, 1994), 3

⁴*Ibid.*, 24 ⁵Floyd, 5

women divided into three employment groups. Do the mean scores of these three groups differ significantly? The Problem Statement infers the use of one-way Analysis of Variance (ANOVA). (See Chapter 21 for further information on ANOVA).

Dr. Floyd tested one independent variable above. His primary problem, however, involved two. In addition to “employment status” he also divided women into three levels of “life cycle” -- ages 18-31, 32- to 46 and 47 to 65. The Problem statement for this design read this way:

The problem of this study [is] to determine the interaction between life cycle stage and employment status of Southern Baptist women in Tarrant County, Texas, on a measure of marital adjustment.

This problem statement infers the use of two-way ANOVA, because it identifies two independent variables, employment and life cycle, and one dependent variable, marital adjustment. (See chapter 25 for information on Factorial ANOVA.)

The Problem statement delineates the question of the study. It is the climax of the Introductory Statement and opens the door to the Synthesis of Related Literature. In doing your literature search, you will learn a great deal from others who have studied the variables you are interested in studying. At the end of the Related Literature section (see Chapter 6) you will be ready to write a confidence statement of your expected findings. This statement of expectation is called a hypothesis.

The Hypothesis Statement

Research
Directional
Non-Directional
Null

As explained in Chapter 2, an hypothesis states the anticipated answer to the problem you’ve stated. The two major types of hypotheses are the research, or alternative, hypothesis, and the null, or statistical, hypothesis. The research hypothesis can either be directional or non-directional.

The Research Hypothesis

The research hypothesis flows directly out of the problem statement and declares in clear, objective, measurable terms what you expect the result of your study to be. The research hypothesis is located in the proposal under the section title “The Statement of the Hypothesis.” We’ll consider examples of hypotheses, with their corresponding problem statements, under the same four divisions as before.

Association Between Two Variables

Dr. Helen Ang wrote her problem statement in this format:

The problem of this study [is] to determine the relationship between the leadership style of academic administrators in selected Christian colleges and universities and their educational philosophy profile.⁶

Her corresponding hypothesis was:

[It is the hypothesis of this study that there will be] a significant relationship between the leadership style of the academic administrator and his/her educational philosophy profile.⁷

Another way this “relationship between nominal variables” could be stated is this: It is the hypothesis of this study that leadership style of the academic administrator

⁶Ang, 3

⁷Ibid., 19

and his/her educational philosophy profile are not independent.” The phrase “not independent” indicates more clearly that the study will use the chi-square statistic. Categories of leadership style and educational philosophy are the nominal measurements.

Association of several variables

Dr. Dean Paret wrote his problem statement like this:

The problem of this study [is] to determine the relationship between perceived current nuclear family health and a set of predictor variables: perceived autonomy and perceived intimacy in the family of origin of randomly selected married graduate students...⁸

His corresponding hypothesis was:

It [is] the hypothesis of this study that autonomy and intimacy as perceived in the couple's family of origin are significant positive predictors of current nuclear family health.⁹

The above is a multiple regression example where one variable is being predicted by two others. Association among several variables can also involve several pairings of variables. **Dr. Maria Bernadete Da Silva** wrote her problem statement to analyze the relationships among several pairs of variables.

The problem of this study [is] to determine the relationship between leadership style and the levels of agreement on selected social work values of social work administrators in social service agencies in Texas.¹⁰

Her corresponding hypothesis was:

The hypothesis of this study [is] that leadership styles of social work administrators and the levels of agreement on four selected social work values [will not be] independent.¹¹

The four social work values were respect for basic rights, social responsibility, individual freedom, and self-determination. “Level of agreement” of these values consisted of the number of social workers selecting one of four options: strongly agree, agree, disagree, or strongly disagree. This design required four chi-square tests of independence, matching leadership style and each of the four values.

Difference Between Two Groups

Dr. Joan Havens wrote her problem statement like this:

The problem of this study [is] to determine the difference in level of academic achievement across four populations of Christian home schooled children in Texas: those whose parents possessed (1) teaching certification, (2) a college degree but no certification, (3) two or more years of college, or (4) a high school diploma or less.¹²

One of her four hypotheses was stated this way:

[The third hypothesis of this study is that] there would be no significant difference in levels of academic achievement in home schooled children whose parents possessed a teaching certificate and those whose parents did not.¹⁰

⁸Paret, 5

⁹*Ibid.*, 37

¹⁰Da Silva, 4

¹¹*Ibid.*, 7

¹²Havens, 7

¹³*Ibid.*, 10

Scores were divided into two groups for purposes of testing this hypothesis: one group of children had parent-teachers with teacher certification and the second group did not. Did academic achievement -- defined as "improved grade level scores in vocabulary, reading, writing, spelling, mathematics, science and social studies skills, as measured by the subtests of the Stanford Achievement Test"¹⁴ -- significantly differ between these two groups? This hypothesis suggests the use of t-Test for Independent Samples (Chapter 20).

Dr. Daryl Eldridge, conducting an experimental study, wrote his problem statement this way:

*The problem of this study will be to investigate the effect of student knowledge of behaviorally stated course objectives upon the performance and attitudes of seminary students in a church curriculum planning course.*¹⁵

Dr. Eldridge wrote two hypotheses out of this problem:

To carry out the purposes of this study, the following hypotheses will be tested:

1. *It is the hypothesis of this study that the test scores of students who have knowledge of course objectives will be significantly greater than the test scores of students who have no knowledge of objectives.*

2. *It is the hypothesis of this study that students with knowledge of course objectives will score significantly higher on an inventory of Student Appraisal of Teaching and Course than those who have no knowledge of objectives.*¹⁶

Both of these hypotheses infer t-Test for Independent Samples.

Differences Between More Than Two Groups

Dr. John Babler wrote his Problem Statement this way:

*The problem of this study [is] to determine the differences between hospice social workers, nurses, and spiritual care professionals in their provision of spiritual care to hospice patients and families.*¹⁷

His corresponding hypothesis was:

*The hypothesis of this study [is] that there [will] be significant differences in scores on the instrument adapted for this study to assess the provision of spiritual care to hospice patients and families between social workers, nurses, and spiritual care professionals.*¹⁸

The instrument adapted for his study produced interval data. The hypothesis infers use of the one-way Analysis of Variance statistic. (Chapter 21)

Research hypotheses can be directional or non-directional. The distinction between these two types of research hypotheses lies in whether the hypothesis simply states a difference or states a difference in a specific direction.

The Directional Hypothesis

Several of the previous examples of research hypotheses are directional. That is, they include a specific "direction" of result: **For example, look at the following again:**

¹⁴Ibid., 21

¹⁵Eldridge, 3

¹⁶Ibid., 29

¹⁷Babler, 7

¹⁸Ibid., 32

It [is] the hypothesis of this study that autonomy and intimacy as perceived in the couple's family of origin are significant positive predictors of current nuclear family health. (Paret)

1. It is the hypothesis of this study that the test scores of students who have knowledge of course objectives will be significantly greater than the test scores of students who have no knowledge of objectives. (Eldridge)

When you state your research hypothesis in a directional form, you show more confidence in the anticipated result of your study. This confidence grows out of your literature review and expertise in the field. You should state your research hypotheses in a directional format if possible.

The Non-directional Hypothesis

A non-directional hypothesis states that a “difference” or “relationship” exists between variables, but does not specify what kind of difference or relationship it is. For example, the hypotheses above can be re-written as non-directional hypotheses as follows:

It [is] the hypothesis of this study that autonomy and intimacy as perceived in the couple's family of origin are significant predictors of current nuclear family health.

1. It is the hypothesis of this study that the test scores of students who have knowledge of course objectives will be significantly different from the test scores of students who have no knowledge of objectives.

The first hypothesizes prediction, but does not specify direction positive or negative. The second hypothesizes difference, but does not specify greater than or smaller than. These non-directional statements are weaker than the directional statements actually stated by the researchers. Use a non-directional research hypothesis in your proposal only if you cannot develop a reasonable basis for stating a direction for your anticipated results.

The Null Hypothesis

Research design emphasizes the research hypothesis. Statistical analysis, on the other hand, emphasizes the null hypothesis since **statistical procedures can only test null hypotheses**. The null hypothesis is stated to reflect “no difference” between groups or “no relationship” between variables. If the null hypothesis of “no difference” is shown statistically to be unlikely, we can “reject the null hypothesis” and “accept the alternative (research) hypothesis.”

The null hypothesis is located in the proposal section entitled “Testing the Hypothesis.” This section is found in the ANALYSIS section of your proposal. (Review this section in chapter 2.)

Let’s restate the hypotheses listed above in their null form.

It [is] the hypothesis of this study that autonomy and intimacy as perceived in the couple's family of origin are not significant predictors of current nuclear family health.

1. It is the hypothesis of this study that the test scores of students who have knowledge of course objectives will not be significantly different from the test scores of students who have no knowledge of objectives.

Notice that the “null” form of the hypothesis declares no relationship among variables, and no difference between groups.

NOTE: There are times, though rare, when the “null hypothesis” is the “research hypothesis” of the study. For example, you are creating a new treatment that you believe will require half the time, but will produce the same results, as a more costly, time-intensive procedure. Your intent to show “no difference” between the approaches. In these rare occasions, the **null is the research hypothesis** as well as the statistical hypothesis. The point: The null is not always the opposite of the research hypothesis.

Revision Examples

It is relatively easy to read a statement of problem or hypothesis and agree that it is focused and meaningful. It is quite another to *write* such statements. The following examples are problem and hypothesis statements written by students in class. I will comment on the statement as written, and then suggest a revised version.

Example 1

“The problem of this study is to determine the effect of adequate premarital counseling on the success rate of teenage marriages.”

Comments

The term “effect” calls for an experimental or ex post facto approach to the study. If you are thinking in this direction, move to Chapter 13 soon. I encourage you to pursue an experimental design, but students sometimes use the term “effect” when they are actually thinking of correlation. You cannot infer a cause-and-effect relationship from a correlation.

There are other questions raised by this Problem. What is “adequate” counseling? What kind of “premarital counseling”? How will you measure “success rate”? Success over what period of time? How do you define “teenage marriage”? Is this study focusing only on teenagers who are married, or on all marriages which began in the teenage years?

Suggested revision

“The problem of this study is to determine the difference in attitude toward married life between married teenagers who undergo a specified course of premarital counseling and those who do not.”

Here you are studying teenagers who are married. You will have two groups: one group undergoes a specified counseling treatment (which you will define under Procedure for Collecting Data) and the other doesn’t. You measure differences in attitude toward married life between the two groups.

Example 2

“The problem of this study is to determine whether those who complete MasterLife Discipleship Training will have a more positive attitude toward discipleship and will become actively involved in discipleship.”

Comments

“More positive” than what? There is nothing to compare MasterLife against. What is meant by “actively involved”? “Discipleship” is a global term. What does it mean in the framework of this study? What is the theoretical basis for this study? How will it contribute to the field of Christian education? Is this really an evaluation of the MasterLife program?

Suggested revision

“The problem of this study is to determine the difference in discipleship skills and attitudes developed in median adults between the MasterLife Discipleship Training program and the (Alternative) Discipleship Training program.”

This study will evaluate MasterLife against another discipleship training program. The basis for comparison will be measured skills and attitudes in the area of discipleship.

Example 3

“It is the hypothesis of this study that the level of social extroversion expressed by a child will differ significantly in relationship to the type of before and after school care environment he or she receives.”

Comments

This statement targets the variables rather well. Level of social extroversion and type of “care” environment are clearly stated. But the wording is awkward. How many types of “before and after school care” will be studied? Two? Three? What does “type of care” mean? How will it be measured?

Suggested revision

“It is the hypothesis of this study that children receiving Type I care will score significantly higher on the social extroversion scale than children receiving Type II care.”

Two types of child care are specified. These two types are directly compared on the basis of a social extroversion measurement of the children. If one were interested in comparing several types of child care, the hypothesis could read:

“It is the hypothesis of this study that children’s scores on the social extroversion scale will significantly differ across (number) specified types of before and after school care.”

Example 4

“It is the hypothesis of this study that staff longevity of ministers is significantly increased in churches using a salary administration plan than churches who do not use such a plan.”

Comments

The term “increased” indicates a “before and after” study. This may be difficult to do in churches. How do you get churches to agree to install a different plan for pur-

poses of a research study? It is easier to focus on “difference.”

What is “staff longevity”? How long a staff member stays in a position? How is it measured? Months? Years? What is a “salary plan”? This is a fuzzy concept. How will you determine whether a church qualifies as “having a plan” or “not having a plan”? Is a bad plan better than no plan?

Is salary the major factor in staff longevity? Are there other variables that need to be considered in studying why staff members remain in a given church? How will the researcher deal with ineffective staff members who are not invited to consider other churches – those who remain because they have nowhere else to go?

Suggested revision

“It is the hypothesis of this study that the length of service of ministers is significantly higher in churches that qualify as having a specified salary administration plan than in churches that do not.”

The researcher maintains his focus on salary. However, there is a procedure which will be used to categorize churches on the basis of their salary plans. Rather than measure “increase,” the researcher will look at the difference between length of service of ministers in two categories of churches.

Example 5

“The hypothesis of this study is that men who remain in the pastorate are significantly different than those who leave the pastorate to enter denominational work.”

Comments

This statement uses some of the words we’ve discussed, but misses the mark as a hypothesis statement. It is an excellent example of a hypothesis written by someone who “knows the words” but does not understand their meaning (“But I used the words ‘significantly different’!) What is the variable being studied? These two groups of men will be “different” on what variables(s)? What is the theoretical foundation of this? Is there justification for considering “pastoral ministry” or “denominational ministry” better than the other? Besides, what is being measured? How will the researcher obtain his data? There is really no study here. We need to head back to the drawing board on this one.

Dissertation Examples

The Problem-Hypothesis-Statistic set forms the backbone, the framework, for both the proposal and the dissertation itself. While you are certainly not expected to understand the statistical procedures referenced here, I include them for future reference and for a sense of completeness. We will introduce you to these and other statistical procedures in Chapter 5, and focus on them in chapters 16 to 26.

The following statement-sets are drawn from dissertations of our graduates. They are written in the past tense since they are taken from the dissertations.

Regression Analysis

The problem of this study was to determine the relationship between attitudes concerning computer-enhanced learning and selected individual and institutional variables of full-time

faculty members at Southwestern Baptist Theological Seminary.

[The hypothesis] of this study was that the following variables would prove to be significant predictors of attitudes toward computer-enhanced learning for theological education among the full-time faculty of Southwestern Baptist Theological Seminary: age, gender, school division where teaching, discipline teaching, degree(s) held, number of years teaching at Southwestern, last enrolled in a course, whether or not own a computer, believe students should own a computer, and taken any computer courses/instruction.¹⁹

The statistic for this study was Multiple Regression (see Chapter 26). There were two significant predictors found in this study: whether the professor owned a computer or not, and whether they believed students should own a computer. A positive attitude toward computer-enhanced learning in theological education was predicted by "yes" answers to these two questions.

Correlation of Competency Rankings

The problem of this study was to determine the relationship between rankings of competencies for effective ministers of education. These rankings were produced by two groups of Southern Baptist ministers. Group one consisted of Southern Baptist pastors currently serving with ministers of education. Group two consisted of ministers of education currently serving in Southern Baptist churches.

The hypothesis for this study was that there is a significant positive relationship between the two rankings of competencies for an effective minister of education as identified by Southern Baptist pastors and ministers of education.²⁰

The statistic for this study was Spearman rho correlation coefficient (see Chapter 22). Competencies for ministers of education were divided into five areas: minister, administrator, educator, growth agent, and personal [relational skills]. Higher coefficients reflect higher agreement between pastors and educators on ranked competencies. Lower coefficients reflect lesser agreement. The coefficients were minister (0.94), administrator (.64), educator (.83), growth agent (.54) and personal (.70).

Factorial Analysis of Variance

The problem of this study was to determine the difference in the spiritual maturity levels of the Christian school senior and the public school senior in the Texas Southern Baptist churches sponsoring a Christian school with twelve grades.

The hypotheses of this study are (1) there will be insignificant interaction between the variables "school" [public, Christian] and "activity" ["active"/"inactive" in Sunday School], (2) there will be significant . . . difference in spiritual maturity across the variable "school," and (3) there will be a significant . . . difference in spiritual maturity across the variable "activity."

The statistic for this study was Factorial Anova (see Chapter 25). There was no interaction between the two variables, so the two "main effects" (school, activity) could be interpreted directly. There was no significant difference in spiritual maturity between seniors in Christian vs. public schools, but spiritual maturity in active Sunday School attenders was significantly higher than in inactive attenders.

Chi-Square Analysis of Independence

The problem of this study was to determine the relationship between the dominant management style and selected variables of full-time ministers of preschool and childhood education in Southern Baptist churches in Texas. The selected variables were level of education, years

¹⁹Bergen, 7, 46

²⁰Bass, 3, 37

²¹LaNoue, 2, 22

²²Marcia McQuitty, 5, 27

of service on church staffs, task preference, gender, and age.

The hypothesis of this study was that dominant management style and selected variables were not independent.²²

The statistic for this study was the chi-square test of independence (see Chapter 23). Dr. McQuitty queried all full-time preschool and children's ministers serving in Texas Baptist churches (N=132), and actually gathered data from eighty one (81). Only nineteen (19) ministers produced a "dominant" management style, and thirteen (13) of these were categorized as "comforter." This discovery required a change in the hypothesis: rather than one of five management styles, Dr. McQuitty tested her specified variables against "dominant" vs "multiple" management styles. None of the specified variables produced a significant chi-square value.²³ Still, insights gained through the data collection provided important insights into the strengths and needs of preschool and childhood education ministers -- insights which Dr. McQuitty uses in her seminary classes.

Analysis of Variance

The problem of this study was to determine the difference in achievement, both cognitive and affective, among students who learned through interactive instruction, simulation games, and presentational instruction in the Hong Kong Baptist Theological Seminary, Hong Kong.²⁴

The following were the hypotheses of the study:

1. H_1 : was the hypothesis that there was significant difference among the means across [testing] occasions. . .
2. H_2 : was the hypothesis that there was significant difference among the means across all groups. . .
3. [interaction]
4. [post-test 1: cognitive]
5. [post-test 1: affective]
6. [post-test 2: cognitive]
7. [post-test 2: affective]²⁵

The statistic for this study was one-way analysis of variance (see Chapter 21). The analysis revealed no significant differences in cognitive learning across teaching methods used in the three groups. All three groups learned. The greatest change in attitude toward learning and interpersonal relationships occurred in the "Simulation Games" group.²⁶

Summary

The material of this chapter is crucial to your research proposal. It is important that you understand the concepts discussed here and be able to use them with your own topic. Read the examples of good statements several times until the pattern of each kind of study begins to become clear. Work step-by-step through the evaluations of the "real-life" examples.

²³*Ibid.*, 43

²⁴Stephen Tam, "A Comparative Study of Three Teaching Methods in the Hong Kong Baptist Theological Seminary," (Ed.D. diss., Southwestern Baptist Theological Seminary, 1989), 2

²⁵*Ibid.*, 14-17

²⁶*Ibid.*, 76-77

Vocabulary

research hypothesis	anticipated outcome of study, stated in terms of difference (grps), or relationship (vars)
null hypothesis	anticipated outcome of study, stated in terms of NO difference or NO relationship
statistical hypothesis	same as null hypothesis
directional hypothesis	states a direction of difference (larger, smaller) or relationship (positive, negative)
non-directional	states no direction -- simply states 'difference' or 'relationship'

Study Questions

1. Explain the purpose of the problem and hypothesis statements.
2. Describe the four characteristics of a good problem statement.
3. Describe four types of hypothesis statements.

Sample Test Questions

1. A good problem statement should
 - A. broaden the focus of the proposed study
 - B. give primary attention to practical "how-to" matters
 - C. include necessary definitions and procedures for clarity
 - D. focus on the theoretical foundation of your field
2. Choose the best problem statement below: "It is the problem of this study...
 - A. to determine the relationship between pastors and youth ministers on their attitude toward the Bible."
 - B. to see how well churches treat their staff members."
 - C. to answer the question, "Why do so many staff members leave the ministry?"
 - D. to determine the difference between SBC pastors and denominational employees' attitudes concerning Cooperative Program giving."
3. Identify the following hypothesis statements as directional research, non-directional research, or null (statistical) hypotheses by writing the appropriate letter in the blank provided.

Directional

Non-directional

Statistical

- _____ Therapy A will result in significantly less marital anxiety than therapy B
- _____ There will be no significant difference between Teaching Approaches 1 and 2.
- _____ There will be a relationship between Number of Hours Studied and GPA
- _____ Number of Hours Worked Outside the Home and Marital Satisfaction are independent
- _____ Bible Knowledge Score will be significantly different across the three groups
- _____ Senior Adults' Preference Score toward the King James Version will be significantly higher than for Young Adults
- _____ There will be no difference in ministerial commitment scores across three staff categories
- _____ Men and women will score differently on the "nurturing scale" of the BA12 Test