Escuela de Ciencias Sociales y Humanidades
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Investigación en la Enseñanza del Inglés I

(5182)

STUDY GUIDE

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Academic revision

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CONTENTS

I. INTRODUCTION

English teachers are constantly faced with different educational problems that challenged novice and experienced teachers. The available literature provides the professionals with tools to overcome many of these problems and make the learning experience more meaningful. However, each classroom as well as each student is unique, therefore it is impossible to use the same “solution” for different problems and get the same results. That is why, today, English teachers must be trained and ready to do classroom research and come up with specific solutions for the specific problems they face on their daily teaching. Throughout this course, the students will develop the essential skills to pinpoint problems in the classroom and propose a research methodology that will evidence conclusions and possible solutions to the stated problem.

II. GENERAL DESCRIPTION OF THE COURSE

This course, which belongs in the “Bloque K” of the “Licenciatura”, introduces the students to the theoretical and practical aspects of research. Its emphasis however is the analysis of the Basic elements of research in the area of Teaching English as a Foreign Language.

The methodology of this course is the result of the use of not only distance learning activities but also classroom instruction. Through distance learning, the students will study individually and do the assigned readings as well as the exercises included in the textbook. Throughout the course, the students will be instructed to work on a final research project as the main assignment and the students must constantly work and present advances to the tutor.

There are four mandatory workshops, where the students will engage in collaborative work and will put into practice the concepts studied in the book through different activities that will be checked and shared with the classmates and the instructor.

For the purposes of this course, an updated English textbook that includes the topics proposed will be used as the core material. This, however, will be complemented through the use of digital material available on-line, web-sites, and through the use of the virtual platform to engage in on-line forums and discussions. The materials for the course have been recently published and include the topics selected among which the students will find the development of the concept of investigation, planning the research project, the qualitative and quantitative methodologies, and the presentation of a final report that includes an introduction, the statement of the problem, three research instruments, and the literature review.

The book that will be used in this course is **"***Practical Research; Planning and Design"* by Paul D. Leedy and Jeanne Ellis Ormrod, published by Pearson. Chapters 8, 10, and 11 of the book will not be studied, but the students are advised to read them for personal learning and growth. The chapters included in the program, have been rearrange for the purposes of UNED, therefore the order the students will study them, is not the same order stated by the author of the book.

General objective

Provide the students with the knowledge and training to plan research projects for professional development.

Specific objectives

- Develop a clear concept of what research is to be able to develop workable research problems in the Costa Rican educational context.
- Recognize the basis, objectives, research instruments, advantages and disadvantages of the qualitative and quantitative research methodologies in teaching English as a foreign language.
- Plan a feasible and doable research project in the Costa Rican educational environment based on the elements of research.
- Write a review of related literature on the specific research topic based on either the qualitative or quantitative methodologies.

III. FIRST WORKSHOP : Introduction to research

Main objective

Develop a clear concept of what research is to be able to develop workable research problems in the Costa Rican educational context.

Readings

For this tutorial, you have to read these chapters:

Chapter 1: What is Research?, pages 1-11.

Chapter 3: The Problem: The Heart of the Research Process, pages 44-65.

Activities

1. Read Chapter I: *What is research?,* pages 1-11.

2**.** Answer the following questions.

a. Explain why the following statements do not define research. Justify your choices.

- Research is information gathering.
- Research is mere transportation of facts from a location to another.
- Research is merely rummaging for information.

b. Research is a catchword used to get attention.

_____
_____
_____
_____
_____

c. What is your own definition of research? Write it down and share it with your classmates**.**

Remember: Research has eight distinct characteristics. Study them carefully make sure you understand them. Refer to your textbook for further explanations.

- *Research originates with a question or problem.*
- *Research requires clear articulation of a goal.*
- *Research requires a specific plan for proceeding.*
- *Research usually divides the principal problem into more manageable sub-problems.*
- *Research is guided by the specific research problem, question, or hypothesis.*
- *Research accepts certain critical assumptions.*
- *Research requires the collection and interpretation of data in an attempt to resolve the problem that initiated the research.*
- *Research is, by its nature, cyclical or, more exactly, helical*.

3. Oli Levi Warmer, an American sculptor, made the bass relief portrait shown in the following picture borrowed from Wikipedia.com. The title of this piece of art is "Research holding the torch of knowledge." What do you think is the meaning of this work? Why? Justify your answers and share them with your partners.

Image 1.

_____
_____
_____
_____
_____
_____
_____
_____
_____I

4**.** *Characteristics of a good research question*

A. Think about a problem that is affecting the processes of learning in your school. Discuss the following questions: What problems do you face in your classroom, your school and your district? What actions can the school take to help solve the problems? What can you as an instructor do to help solve the problem?

_____
_____
_____
_____
_____
_____
_____

B. *The Research Problem*. Think about three topics/problems/situations you would like to work with or find the answer for. Write them down in the following spaces. Discuss them with your partners and tutor.

a. _____
_____

b. _____
_____

c. _____
_____

Remember that in a good research problem you must:

- *State the problem clearly and completely.*
- *Think through the feasibility of the project that the problem implies.*
- *Say precisely what you mean.*
- *State the problem in a way that reflects an open mind about its solution.*
- *Edit your work.*

C. With the help of your tutor, classmates and the tips given before, choose only one of the problems you have stated in exercise 2. Use the guidelines on page 52 of your book to check and rewrite your research problem in case you need to do so.

5. Once you have stated **your problem**, refer to pages 4 and 5 in your book and write one or two hypotheses.

_____
_____
_____
_____
_____
_____
_____

Remember that hypotheses are reasonable guesses, and that we are constantly hypothesizing.

IV. SECOND WORKSHOP: Qualitative and quantitative research methodologies in teaching English as a foreign language

Main objective

Understand the basis, objectives, research instruments, advantages and disadvantages of the qualitative and quantitative research methodologies in teaching English as a foreign language.

Readings

You have to read for this tutorial the following chapters:

Chapter 7: Qualitative Research, pages 135-163.
Chapter 9: Descriptive Research, pages 182-222.
Chapter 2: Tools of Research, pages12- 43.

Remember that qualitative research serves the following purposes: description, interpretation, verification, and evaluation, page 136.

Activities

1. Work in groups to complete the following chart. For each purpose stated, write an in-depth definition.

Purposes of qualitative research

Purpose	Definition
Description	
Interpretation	
Verification	
Evaluation	

2. Do some on-line research and use the following space to state the purposes of the quantitative research. Share your conclusions.

_____

_____

_____

_____

_____

_____

3. Work in groups and do some online research on the possibilities and limitations of the qualitative and the quantitative methodologies. Summarize the information found and complete the following chart.

	Qualitative Methodology	**Quantitative Methodology**
Possibilities		
Limitatios		

4. Work in pairs and use the following Venn diagram to list similarities and differences between the quantitative and the qualitative methodologies. Discuss your conclusions with the rest of the group.

Qualitative methodology Quantitative methodology

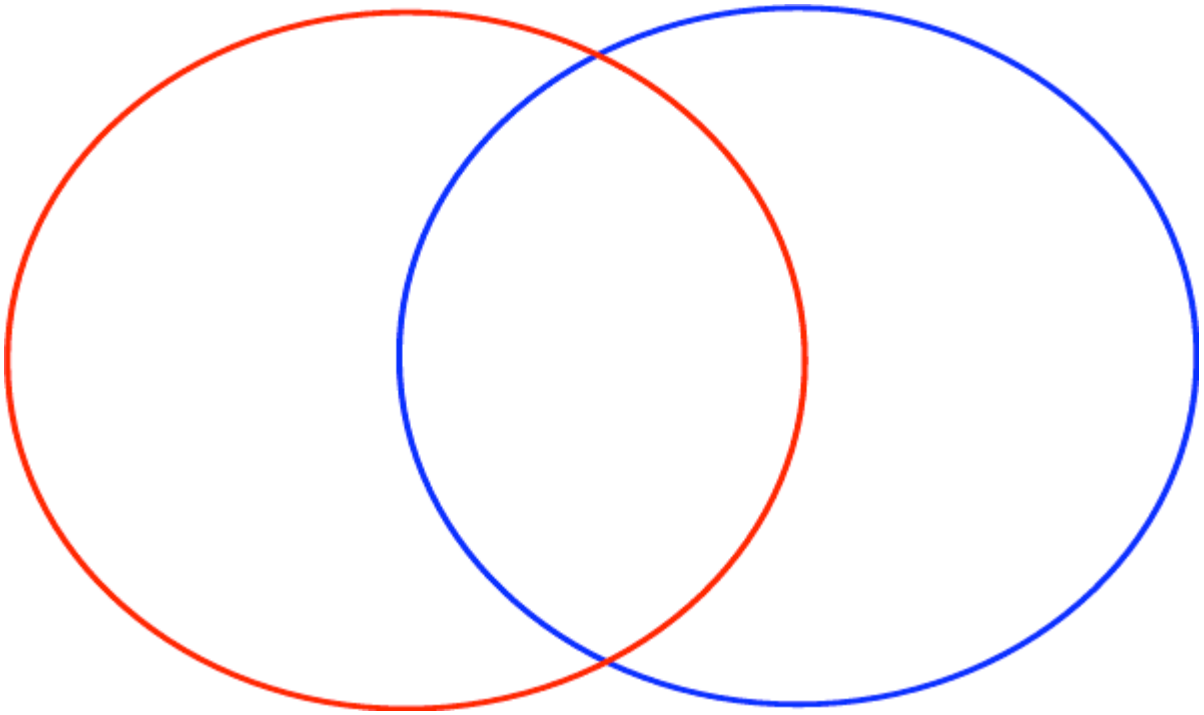


Image 2.

Follow the next steps to analyze it. Discuss your results with your partners.

a. Organization of details about the case.

b. Categorization of data.

c. Identification of patterns.

d. Synthesis and generalizations.

5. *Conducting a productive interview*

Think about your research problem again. What three questions would you like to find the answers for?

Write down the questions and share them with your partners. Try to get some feedback from them.

Remember that to conduct a productive interview you must:

- *Identify some questions.*
- *Consider how participants' cultural background might influence their responses.*
- *Make sure your interviewees are representative of the group.*
- *Find a suitable location,* page 149*.*

6. *Role-play an interview*

Now work in pairs and use the guidelines above to take turns role-playing an interview. Ask and answer the questions that each of you wrote down. Give and ask for some feedback on the way you have structured your questions and rewrite them if necessary.

Remember that interviews can yield a great deal of useful information like facts, people's beliefs, motives, present and past behaviors, standards for behavior, and conscious reasons for actions or feelings.

7. *Deciding whether to use a quantitative or qualitative approach*

Read the table 5.1 on page 96 about "distinguishing characteristics of quantitative and qualitative approaches". Decide what approach you are going to use to plan your study. Use the guidelines on pages 106-107. Write it on the blank provided:

_____

- Discuss your decision with your tutor.

Once you have chosen a methodology use one of the checklists on pages 155-158 to start planning your research project.

Remember: "No matter what research methodology you choose, you must think about the validity of your approach," page 97.

8. *Your Research Instruments*

Do some online research and fill in the following charts. Describe each of the instruments and their uses. Think about one more instrument for each methodology and provide the information requested. Share your findings with your partners.

Qualitative research instruments

Instruments	Description	Uses
Interview		
Questionnaire		
Observation		
Other: _____		

Quantitative research instruments

Instruments	Description	Uses
Survey		
Interview		
Scales		
Other: _____		

9. Do the readings *"Identifying Appropriate Measurement Instruments*" and *"Determining the Reliability of Measurement Instruments"* on pages 91-93. With the help of your tutor, and based on the activity 6, design three research instruments. Make sure your instruments include a clear heading and instructions, and that they are valid and reliable.

V. THIRD WORKSHOP: Planning your research project

Main objective

Plan a feasible and doable research project in the Costa Rican educational environment based on the elements of research.

Readings

You have to read for this tutorial:

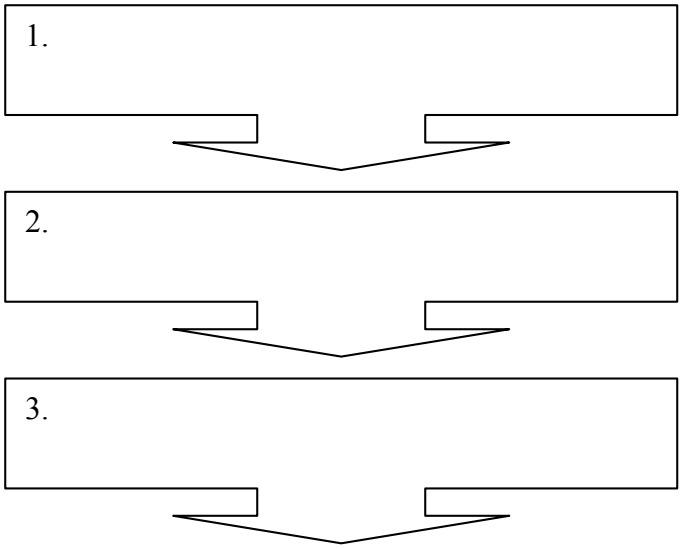
Chapter 5: Planning your Research Project, pages 85-115.
Chapter 6: Writing your Research Proposal, pages 116-134.

Activities

1. *The basic format of the research process*

Fill in the following diagram with information from page 86 and answer the following question:

- Which of the 8 stages of the research process do you think is the most challenging? Explain your choice on the space provided below.



4.

5.

6.

7.

8.

Remember that a good research project should have the following four important qualities, pages 89-90.

- *Universality*
- *Replication*
- *Control*
- *Measurement*

2. *Your population*

a. Decide which population you would like to work with. Would you like to work with one of your own groups or visit somebody else's classroom? Once you have chosen your population, write down its characteristics.

_____
_____
_____
_____
_____

b. Read the explanations on sampling on pages 146-147. Based on your research question, decide about the type of sample that represents your population and write it in the space below. Ask your instructor for help.

_____

3**.** *Your objectives*

Think about what you would like to achieve through your research project. What do you have in mind? What would you like to do with the information? What is your purpose?

a. Based on the questions above, make notes in this space.

_____
_____
_____
_____
_____
_____

b. Write down the general objective of your research.

_____
_____
_____
_____

c. Write down your specific objectives.

_____
_____
_____
_____
_____
_____
_____

4. Visit libraries, do Internet research, and consult different sources of information. Use APA to list a bibliography of 8 to 10 reliable either printed or digital sources. The number of Internet sources must not exceed a 50% of your bibliography. Make sure all your sources are serious publications. Ask your instructor to check your bibliography.

1._____
_____
2._____
_____
3._____
_____
4._____
_____
6._____
_____
7._____
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8_____
_____
9._____
_____
10._____
_____

In the following box, you will find some explanations and examples of how to format APA references. Borrowed from

Free Science Fair Project Ideas,

<http://www.sciencebuddies.org/science-fair-projects/project_apa_format_examples.shtml>,

For more examples you may visit the site above, or the one below:

APA, <http://www.apastyle.org/>.

Books

Format:
Author's last name, first initial. (Publication date). *Book title*. Additional information. City of publication: Publishing company.

Example:

Allen, T. (1974). *Vanishing wildlife of North America*. Washington, D.C.: National Geographic Society.

Magazine & Newspaper Articles

Format:
Author's last name, first initial. (Publication date). Article title. *Periodical title, volume number(issue number if available)*, inclusive pages.

Examples:
Harlow, H. F. (1983). Fundamentals for preparing psychology journal articles. *Journal of Comparative and Physiological Psychology, 55*, 893-896.

Henry, W. A., III. (1990, April 9). Making the grade in today's schools. *Time, 135*, 28-31.

Website or Webpage

Format:

Online periodical:
Author's name. (Date of publication). Title of article. *Title of Periodical*, volume number, Retrieved month day, year, from full URL

Online document:
Author's name. (Date of publication). *Title of work*. Retrieved month day, year, from full URL

Note: When citing Internet sources, refer to the specific website document. If a document is undated, use "n.d." (for no date) immediately after the document title. Break a lengthy URL that goes to another line after a slash or before a period. Continually check your references to online documents. There is no period following a URL.
Note: If you cannot find some of this information, cite what is available.

Examples:

Devitt, T. (2001, August 2). Lightning injures four at music festival. *The Why? Files*. Retrieved January 23, 2002, from http://whyfiles.org/137lightning/index.html

Dove, R. (1998). Lady freedom among us. *The Electronic Text Center*. Retrieved June 19, 1998, from Alderman Library, University of Virginia website:
http://etext.lib.virginia.edu/subjects/afam.html

VI. FOURTH WORKSHOP: The review of related literature

Main objective

Write a review of related literature on the specific research topic based on either the qualitative or quantitative methodologies.

Readings

Chapter 4: Review of Related Literature, pages 66-84.
Chapter 12: Technical Details, pages 291-311.

Activities

1. Read chapter 4 carefully. Pay special attention to the suggestions given on pages 74-76 (Guidelines: Using Your Library Time Efficiently), and pages 79-81 (Writing a Clear and Cohesive Literature Review).

Remember that for writing a solid review of related literature you have to:(pages79-81)

- *Get the proper psychological orientation.*
- *Have a plan.*
- *Emphasize relatedness.*
- *Give credit where credit is due.*
- *Review the literature. Don't reproduce it!*
- *Summarize what you have said.*
- *Remember that your first draft will almost certainly NOT be your last draft.*
- *Ask others for advice and feedback*.

2. Review the literature you chose on the third tutorial. Make sure all your literature is totally related to your research problem. If any of your materials is not related, it should be eliminated from your bibliography.

- Are all your sources useful for your research?

  YES _____ NO_____

Remember to list all your sources following the APA guidelines.

3. Use different reading techniques (skimming, scanning, close reading) to locate important passages in the texts you have chosen. Locate specific passages in the text and copy them onto cards or your notebook. **Make sure you also write down the source and the page you took the information from**. Look at the following example of a note card. It includes the number of the source, a heading, a direct quote, and the page number.

1

Locating Related Literature

"You might find literature related to your topic in a number of places – for instance, in books, journals, newspapers, government publications, conference presentations, and Internet websites."

Practical Research, p. 67

4. Organize your cards and based on them and your previous knowledge, write your review of related literature.

Remember that plagiarism is against the rules of UNED. See Reglamento de Condición Académica de los Estudiantes.

5. Read Chapter 12 carefully but keep in mind that in this course, you will NOT have to develop a complete research. Your research report will only include the following parts.

1. Front matter
Title page
Abstract
Acknowledgments
Table of contents
List of tables (if any)
List of figures (if any)

2. Body of the report

1. Chapter I. INTRODUCTION
   Statement of the problem
   Purpose of the study (objectives)
   Research question and hypothesis
   Limitations of the study
2. Chapter II. REVIEW OF THE LITERATURE
   Present the research problem
   Explain and analyze the information you collected

3. List of References

4. One or more appendices
   - Include your three research instruments here.

6. Use the following checklist adapted from pages 307-308 of the textbook to check your work report and assess your writing.

STEP 1. THE PROBLEM		YES	NO
_____	Is the problem clearly and concisely stated?		
_____	Is the problem adequately narrowed down into a researchable problem?		
_____	Is the problem significant enough to warrant a formal research effort?		
_____	Is the relationship between the identified problem and previous research clearly described?		

STEP 2. LITERATURE REVIEW		YES	NO
_____	Is the literature review logically organized?		
_____	Does the review provide a critique of the relevant studies?		
_____	Are gaps in knowledge about the research problem identified?		
_____	Are important research studies relevant to the topic?		
_____	Are all cited works included in the reference list?		
_____	Are all works included in the reference list cited in the literature review or elsewhere in the report?		

STEP 3. THEORETICAL OR CONCEPTUAL FRAMEWORK		YES	NO
_____	Is the theoretical framework easily linked with the problem (or does it seem forced)?		
_____	If a conceptual framework is used, are the concepts adequately defined, and are the relationships among these concepts clearly identified?		

STEP 4. RESEARCH VARIABLES		YES	NO
_____	Are the independent and dependent variables operationally defined?		
_____	Are the confounding variables present? If so, are they identified?		

STEP 5. HYPOTHESES		YES	NO
_____	Are the hypotheses clear, testable, and specific?		
_____	Does each hypothesis describe a predicted relationship between two or more variables included in each hypothesis?		
_____	Do the hypothesis flow logically from the theoretical or conceptual framework?		

STEP 6. SAMPLING		YES	NO
_____	Is the sample size adequate?		
_____	Is the sample representative of the defined population?		
_____	Is the method for selection of the sample appropriate?		
_____	Is any sampling biased in the chosen method acknowledged?		
_____	Are the criteria for selecting the sample clearly identified?		

VII. SOURCES OF INFORMATION

- Creswell, J. W. (2008). *Educational Research*. New Jersey: Pearson Merrill Prentice Hall.
- Hernández Sampieri, R. , Fernández-Collado, C.and Baptista Lucio, P. (2006). *Metodología de la Investigación*. México: McGraw Hill.
- Rubin, A. and Babbie, E. (1997). *Research Methods for Social Work*. USA: Brooks/Cole Publishing Company..

VIII. DIGITAL LINKS

- American Phychological Association (n.d.). Retrieved, September 21 from

  <http://www.apastyle.org/>.

- Chamot Anna U. (1998). *Conducting Action Research in the Foreign Language* C*lassroom*. Retrieved, September 21 from

  <http://www.nclrc.org/about_teaching/reports_pub/conducting_action_research.pdf>.

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Images

- 1. Borrowed from Wikipedia <http://en.wikipedia.org/wiki/File:Research-Warner-Highsmith.jpeg >.
- 2. Borrowed from St. Joan of Arc School <http://www.stjoanofarc.org/school/grade5/venn.htm >.

IX. GLOSSARY OF KEY TERMS

Adapted from <http://writing.colostate.edu/guides/research/glossary/ >.

accuracy.	A term used in survey research to refer to the match between the target population and the sample.
case study.	The collection and presentation of detailed information about a particular participant or small group, frequently including the accounts of subjects themselves.
causality.	The relation between cause and effect.
central tendency.	These measures indicate the middle or center of a distribution.
confirmability.	Objectivity; the findings of the study could be confirmed by another person conducting the same study
construct validity.	Seeks an agreement between a theoretical concept and a specific measuring device, such as observation.
content validity.	The extent to which a measurement reflects the specific intended domain of content (Carmines & Zeller, 1991, p.20).
context sensitivity.	Awareness by a qualitative researcher of factors such as values and beliefs that influence cultural behaviors
continuous variable.	A variable that may have fractional values, e.g., height, weight and time.
control group.	A group in an experiment that receives not treatment in order to compare the treated group against a norm.

convergent validity.	The general agreement among ratings, gathered independently of one another, where measures should be theoretically related.
correlation.	1) A common statistical analysis, usually abbreviated as r, that measures the degree of relationship between pairs of interval variables in a sample. The range of correlation is from -1.00 to zero to +1.00. 2) A non-cause and effect relationship between two variables.
credibility.	A researcher's ability to demonstrate that the object of a study is accurately identified and described, based on the way in which the study was conducted
data.	Recorded observations, usually in numeric or textual form
deductive.	A form of reasoning in which conclusions are formulated about particulars from general or universal premises
dependability.	Being able to account for changes in the design of the study and the changing conditions surrounding what was studied.
dependent variable.	A variable that receives stimulus and measured for the effect the treatment has had upon it.
design flexibility.	A quality of an observational study that allows researchers to pursue inquiries on new topics or questions that emerge from initial research
deviation.	The distance between the mean and a particular data point in a given distribution.
discrete variable.	A variable that is measured solely in whole units, e.g., gender and siblings
discriminate validity.	The lack of a relationship among measures which theoretically should not be related.
distribution.	The range of values of a particular variable.
empirical research.	"…the process of developing systematized knowledge gained from observations that are formulated to support insights and generalizations about the phenomena under study" (Lauer and Asher, 1988, p. 7)
equivalency reliability.	The extent to which two items measure identical concepts at an identical level of difficulty.

ethnography. Ethnographies study groups and/or cultures over a period of time. The goal of this type of research is to comprehend the particular group/culture through observer immersion into the culture or group. Research is completed through various methods, which are similar to those of case studies, but since the researcher is immersed within the group for an extended period of time more detailed information is usually collected during the research.

experiment. Experimental Research A researcher working within this methodology creates an environment in which to observe and interpret the results of a research question. A key element in experimental research is that participants in a study are randomly assigned to groups. In an attempt to create a causal model (i.e., to discover the causal origin of a particular phenomenon), groups are treated differently and measurements are conducted to determine if different treatments appear to lead to different effects.

external validity. The extent to which the results of a study are generalizable or transferable. See also validity

face validity. How a measure or procedure appears.

factor analysis A statistical test that explores relationships among data. The test explores which variables in a data set are most related to each other. In a carefully constructed survey, for example, factor analysis can yield information on patterns of responses, not simply data on a single response. Larger tendencies may then be interpreted, indicating behavior trends rather than simply responses to specific questions.

generalizability. The extent to which research findings and conclusions from a study conducted on a sample population can be applied to the population at large.

grounded theory. Practice of developing other theories that emerge from observing a group. Theories are grounded in the group's observable experiences, but researchers add their own insight into why those experiences exist.

holistic perspective. Taking almost every action or communication of the whole phenomenon of a certain community or culture into account in research

hypertext. A nonsequential text composed of links and nodes

hypothesis. A tentative explanation based on theory to predict a causal relationship between variables.

independent variable. A variable that is part of the situation that exist from which originates the stimulus given to a dependent variable. Includes treatment, state of variable, such as age, size, weight, etc.

inductive. A form of reasoning in which a generalized conclusion is formulated from particular instances

inductive analysis. A form of analysis based on inductive reasoning; a researcher using inductive analysis starts with answers, but forms questions throughout the research process.

internal consistency. The extent to which all questions or items assess the same characteristic, skill, or quality.

internal validity. (1) The rigor with which the study was conducted (e.g., the study's design, the care taken to conduct measurements, and decisions concerning what was and wasn't measured) and (2) the extent to which the designers of a study have taken into account alternative explanations for any causal relationships they explore (Huitt, 1998). In studies that do not explore causal relationships, only the first of these definitions should be considered when assessing internal validity. See also validity.

interval variable. A variable in which both order of data points and distance between data points can be determined, e.g., percentage scores and distances

interviews. A research tool in which a researcher asks questions of participants; interviews are often audio- or video-taped for later transcription and analysis.

irrelevant information. One must decide what to do with the information in the text that is not coded. One's options include either deleting or skipping over unwanted material, or viewing all information as relevant and important and using it to reexamine, reassess and perhaps even alter the one's coding scheme.

level of analysis. Chosen by determining which word, set of words, or phrases will constitute a concept. According to Carley, 100-500 concepts is generally sufficient when coding for a specific topic, but this number of course varies on a case by case basis.

level of generalization. A researcher must decide whether concepts are to be coded exactly as they appear, or if they can be recorded in some altered or collapsed form. Using Horton as an example again, she could code profanity individually and code "damn" and "dammit" as two separate concepts. Or, by generalizing their meaning, i.e. they both express the same idea, she could group them together as one item, i.e. "damn words."

level of implication. One must determine whether to code simply for explicit appearances of concepts, or for implied concepts, as well. For example, consider a hypothetical piece of text about skiing, written by an expert. The expert might refer several times to "???," as well as various other kinds of turns. One must decide whether to code "???" as an entity in and of itself, or, if coding for "turn" references in general, to code "???" as implicitly meaning "turn." Thus, by determining that the meaning "turn" is implicit in the words "???," anytime the words "???" or "turn" appear in the text, they will be coded under the same category of "turn."

matching. Process of corresponding variables in experimental groups equally feature for feature.

mean. The average score within a distribution.

mean deviation. A measure of variation that indicates the average deviation of scores in a distribution from the mean: It is determined by averaging the absolute values of the deviations.

median. The center score in a distribution.

mental models. A group or network of interrelated concepts that reflect conscious or subconscious perceptions of reality. These internal mental networks of meaning are constructed as people draw inferences and gather information about the world.

mode. The most frequent score in a distribution.

multi-modal methods. A research approach that employs a variety of methods; see also triangulation

narrative inquiry. A qualitative research approach based on a researcher's narrative account of the investigation, not to be confused with a narrative examined by the researcher as data

naturalistic inquiry. Observational research of a group in its natural setting

nominal variable. A variable determined by categories which cannot be ordered, e.g., gender and color

normal distribution. A normal frequency distribution representing the probability that a majority of randomly selected members of a population will fall within the middle of the distribution. Represented by the bell curve.

phenomenology. A qualitative research approach concerned with understanding certain group behaviors from that group's point of view

population. The target group under investigation, as in all students enrolled in first-year composition courses taught in traditional classrooms. The population is the entire set under consideration. Samples are drawn from populations.

precision. In survey research, the tightness of the confidence limits.

pre-defined or interactive concept choice. One must determine whether to code only from a pre-defined set of concepts and categories, or if one will develop some or all of these during the coding process. For example, using a predefined set, Horton would code only for profane language. But, if Horton coded interactively, she may have decided to half-way through the process that the text warranted coding for profane gestures, as well.

probability. The chance that a phenomenon has a of occurring randomly. As a statistical measure, it shown as p (the "p" factor).

qualitative research. Empirical research in which the researcher explores relationships using textual, rather than quantitative data. Case study, observation, and ethnography are considered forms of qualitative research. Results are not usually considered generalizable, but are often transferable.

quantitative research. Empirical research in which the researcher explores relationships using numeric data. Survey is generally considered a form of quantitative research. Results can often be generalized, though this is not always the case.

quasi-experiment. Similar to true experiments. Have subjects, treatment, etc., but uses nonrandomized groups. Incorporates interpretation and transferability in order to compensate for lack of control of variables.

random sampling. Process used in research to draw a sample of a population strictly by chance, yielding no discernible pattern beyond chance. Random sampling can be accomplished by first numbering the population, then selecting the sample according to a table of random numbers or using a random-number computer generator. The sample is said to be random because there is no regular or discernible pattern or order. Random sample selection is used under the assumption that sufficiently large samples assigned randomly will exhibit a distribution comparable to that of the population from which the sample is drawn.

randomization. Used to allocate subjects to experimental and control groups. The subjects are initially considered not unequal because they were randomly selected.

range. The difference between the highest and lowest scores in a distribution.

reliability. The extent to which a measure, procedure or instrument yields the same result on repeated trials.

sampling error. The degree to which the results from the sample deviate from those that would be obtained from the entire population, because of random error in the selection of respondent and the corresponding reduction in reliability (Alreck, 454).

sampling frame. A listing that should include all those in the population to be sampled and exclude all those who are not in the population (Alreck, 454).

simple. The population researched in a particular study. Usually, attempts are made to select a "sample population" that is considered representative of groups of people to whom results will be generalized or transferred. In studies that use inferential statistics to analyze results or which are designed to be generalizable, sample size is critical--generally the larger the number in the sample, the higher the likelihood of a representative distribution of the population.

serial effect. In survey research, a situation where questions may "lead" participant responses through establishing a certain tone early in the questionnaire. The serial effect may accrue as several questions establish a pattern of response in the participant, biasing results.

short-term observation. Studies that list or present findings of short-term qualitative study based on recorded observation

stability reliability. The agreement of measuring instruments over time.

standard deviation. A term used in statistical analysis. A measure of variation that indicates the typical distance between the scores of a distribution and the mean; it is determined by taking the square root of the average of the squared deviations in a given distribution. It can be used to indicate the proportion of data within certain ranges of scale values when the distribution conforms closely to the normal curve.

standard error (S.E.) of the mean. A term used in statistical analysis. A computed value based on the size of the sample and the standard deviation of the distribution, indicating the range within which the mean of the population is likely to be from the mean of the sample at a given level of probability (Alreck, 456).

survey. A research tool that includes at least one question which is either open-ended or close-ended and employs an oral or written method for asking these questions. The goal of a survey is to gain specific information about either a specific group or a representative sample of a particular group. Results are typically used to understand the attitudes, beliefs, or knowledge of a particular group.

transferability. The ability to apply the results of research in one context to another similar context. Also, the extent to which a study invites readers to make connections between elements of the study and their own experiences.

triangulation. The use of a combination of research methods in a study. An example of triangulation would be a study that incorporated surveys, interviews, and observations. See also multi-modal methods

validity. The degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure. A method can be reliable, consistently measuring the same thing, but not valid. See also internal validity and external validity

variable. Observable characteristics that vary among individuals.

variance. A measure of variation within a distribution, determined by averaging the squared deviations from the mean of a distribution.

variation. The dispersion of data points around the mean of a distribution.

verisimilitude. Having the semblance of truth; in research, it refers to the probability that the research findings are consistent with occurrences in the "real world."