

**ASE 579 METHODS OF RESEARCH  
Fall Semester 2007**

**Sam Houston State University  
College of Education  
Department of Educational Leadership & Counseling**

**INSTRUCTOR:**

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**PLACE & TIME:**

University Center  
Tuesdays, 6 – 8:50 p.m.

**REQUIRED TEXT(S):**

Gay, L. R., Mills, G. E., & Airasian, P. (2006). *Educational Research: Competencies for Analysis and Applications* (8<sup>th</sup> ed.). Upper Saddle River, NJ: Prentice Hall. ISBN 0-13-118534-9.

American Psychological Association. (2001). *Publication manual of the American Psychological Association* (5<sup>th</sup> ed.) Washington, DC: American Psychological Association.

SPSS (Social Science Statistical Package) or STATPAK.

- STATPAK is free and you can access it by purchasing the text and going to [www.penhall.com/gay](http://www.penhall.com/gay).
- SPSS can be obtained by: (a) downloading a 14-day trial from [www.spss.com](http://www.spss.com), (b) remote accessing through Sam Houston web page {Start>All Programs>Accessories>Communications>Remote Desktop Connection. Click Connect, SHSU log-in appears, log-in, SHSU desktop will appear on the computer screen. Any problems with this call, Computer Help Desk 936-294-1950, (c) or by purchasing through Barnes and Noble SHSU Bookstore, 936-294-1862. The entire package of Educational Research.....(text, workbook, and SPSS student version) is \$146.00, text itself is \$107.00 and shipping is \$6.95.

- If you are looking to save money on the text, you may rent the text for the course by logging on to <http://www.safarix.com>.

### **COURSE DESCRIPTION:**

This course is designed to guide graduate students in the College of Education through the process of conducting a research study. Study is made of types and methods of educational research, the collecting, analyzing and sharing of data with the public. The student is expected to complete a research project or field study utilizing appropriate methods of educational research.

### **COURSE OBJECTIVES:**

1. Identify and define a researchable problem.
2. Review related literature in which a context is provided for your researchable problem.
3. Use technology for enhancing learning (e.g., Blackboard, e-mail, web-sites, Power Point, SPSS, STATPAK).
4. Write research questions (hypotheses) to guide research.
5. Write null hypotheses for research questions.
6. Write nondirectional hypotheses for research questions.
7. Write directional hypotheses for research questions.
8. Apply a sampling procedure in developing your research proposal.
9. Demonstrate knowledge of criteria for evaluation and selection of test instruments and apply this knowledge to a research problem.
10. Compare and contrast the following research designs (i.e., descriptive, experimental, correlational).
11. Apply one of the above-mentioned research designs in developing your research proposal.
12. Select and calculate, as appropriate, the following measures of central tendency: mean, median, and mode.
13. Select and calculate the following measures of variability: range, variance, and standard deviation.
14. Select and calculate, as appropriate, the following statistical procedures: z scores, independent samples t-tests, dependent samples t-tests, oneway analysis of variance, Pearson product moment correlation coefficients, and Pearson chi-squares.
15. In calculating any of the above-mentioned statistics, be able to use a statistical package such as SPSS or STATPAK.
16. In calculating any of the above-mentioned statistics, be able to interpret correctly.
17. In calculating any of the above-mentioned statistics, be able to write the findings correctly in APA style.
18. Evaluate research articles in a critical manner.
19. Use library resources in an efficient manner for conducting research.
20. Be able to write a research proposal in conformity with the American Psychological

- Association's latest style manual.
21. Be familiar with and apply ethical procedures in conducting research.

### **Course Methods and Learning Experiences**

All students are expected to be active contributors in the class. Students are expected to read extensively, seek information, communicate using electronic means, and participate in class projects and discussions. It is the responsibility of each person in the class -- students and instructor -- to contribute both from the literature and his/her experience so that we all may gain a more comprehensive understanding of research and its applications in education.

#### Time Expectations:

For this class (as with most graduate-level classes) you should anticipate spending 2-3 times as many hours outside of class as you do in class to complete readings and assignments (approximately 6-9 hours per week outside of class).

#### Class Ground Rules

- Respect each other
- Listen for understanding
- Everyone participates and contributes
- Honor time limits
- Meet deadlines
- Ask for help if needed
- Assure the accuracy of your work
- Communicate openly and honestly
- Maintain a positive attitude
- Cell phones off or on silent mode

### **FOR YOUR INFORMATION**

- ✓ Please check Blackboard daily for instructions on web-site changes, web-site links, information, etc. You will need a student account, call 936-294-1950 if you have difficulty setting up account. Log on to Blackboard by accessing SHSU webpage and linking on to Blackboard. Your student account # will also permit you to use library resources.
- ✓ For better communication, it is suggested that you have "buddies" to gather information from classes you have missed. They should also collect handouts for you. Also make sure that everyone in your group has the same question. Sometimes persons in your group may be able to answer your question. If the question is not resolved after this, then contact Dr. John R. Slate by e-mail or 936-294-1118 or cell if urgent 913-710-5347.

- ✓ If you are a student with a disability that may affect your academic performance, please contact the professor as soon as possible or you may contact the Director of the Counseling Center as chair of the Committee for Continuing Assistance for Disabled Students at 294-1720.
- ✓ Academic honesty is expected in this class. Violations will result in course failure.
- ✓ Attendance. You are encouraged to attend every class meeting and only miss in case of emergencies.
- ✓ Late assignments will be penalized by one letter grade for each 24-hour-period they are not turned in.
- ✓ The syllabus is subject to change pending notification.

### Methods of Evaluation

1	Completed research proposal	33%
2	Draft One Ready by Scheduled Date	3%
3	Draft Two Ready by Scheduled Date and Incorporated Feedback from Draft One review	3%
4	Attendance at all class meetings and participation	8%
5	Presentation of research proposal	20%
6	Draft of Presentation in Powerpoint form ready by Scheduled Date	3%
7	Statistics Notebook	25%
8	Correctly completed Forms	5%

A = 90% +    B = 80% +    C = 70% +    F = below 70%

### Tentative Schedule

Date	Class	Topics
08/21	1	Overview of Course Syllabus Nature of Research Brief, brief, history of educational research Guidelines for writing researchable questions <b>Powerpoints to be Covered:</b> Introduction to Educational Research Introduction to Research Class One <b>Required Readings for Next Week:</b> GMA text chapter 1 (Introduction to Educational Research) GMA text chapter 2 (focus on Identifying a Topic or Question to Research) <b>Supplementary URLs to read, if needed:</b> <a href="http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec1.htm">http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec1.htm</a> <a href="http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec2.htm">http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec2.htm</a> <a href="http://www.csulb.edu/~msaintg/ppa696/696intro.htm#696intro">http://www.csulb.edu/~msaintg/ppa696/696intro.htm#696intro</a>

#### Objectives:

1. Use library for accessing research articles.
2. Use technology (Blackboard, SPSS, STATPAK, e-mail, Power Point, web-sites) for learning about methods of research.
3. Use American Psychology Association (APA) Publication Manual 5<sup>th</sup> Edition for formatting paper, citations, and references.
4. Work on selecting and defining a research topic. Go to the text website at [www.prenhall.com/gay](http://www.prenhall.com/gay), go to chapters 1 & 2, view Power Point that corresponds to chapters 1 & 2. You will, after discussions with each other and with me, define a research topic on which you will write a 10-15 page paper (excluding references and tables). The paper can be written in partners; you may reach them via e-mail and Discussion Board on Blackboard.

#### Activities:

1. Log on to SHSU website, on main page click Newton Gresham Library (NGLibrary)  
 Click - On-Line Instruction Series  
 Click - Information Literacy Tutorial  
 Go through the modules, take tests  
 Print certificate. Certificate will be attached to the final paper you turn in.
2. Click - Internet Tutorial  
 Go through all modules.  
 Take tests.  
 Print Certificate. Attach to final paper you turn in.
3. Brainstorm about a topic for your paper.

- 08/28 2 Research Questions  
Important Terms  
For next class, write a draft of one or more research questions  
**Powerpoints to be Covered:**  
Sample Quantitative Research Questions  
Research Question Quantitative  
**Required Readings for Next Week:**  
GMA text chapter 2 (focus on hypothesis section)  
GMA text chapter 9 (Action Research)  
**Supplementary URLs to read:**  
[http://www.southalabama.edu/coe/bset/johnson/dr\\_johnson/lectures/lec3.pdf](http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec3.pdf)  
<http://www.csulb.edu/~msaintg/ppa696/696meas.htm#696meas>  
[http://www.southalabama.edu/coe/bset/johnson/dr\\_johnson/lectures/lec11.pdf](http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec11.pdf)
- 09/04 3 Theories and Hypotheses  
Quantitative Approaches  
Go over research question draft – feedback provided  
**Powerpoints to be Covered:**  
Research Proposal Guidelines  
Theories and Hypotheses  
**Required Readings for Next Week:**  
GMA text chapter 3 (Preparing and Evaluating a Research Plan)  
GMA text chapter 17 (Preparing a Research Report)  
**Supplementary URLs to read:**  
[http://www.southalabama.edu/coe/bset/johnson/dr\\_johnson/lectures/lec14.pdf](http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec14.pdf)  
<http://faculty.ncwc.edu/toconnor/308/308lect02.htm>  
<http://www.uh.edu/~srama/Research%20Basics/keyideas.htm>  
<http://www.uh.edu/~srama/Quantitative%20Methods/Quant%20Methods%20Overview.htm>
- 09/11 4 Writing in American Psychological Association format  
Ethics and research  
**Powerpoints to be Covered:**  
APA Guidelines  
Ethics in Human Subjects Research  
Simplified Overview of Research Methods  
**Relevant WORD documents:**  
Sample of Delimitations & Limitations–Arlene Sonnen  
**Supplementary URLs to read:**  
[http://www.southalabama.edu/coe/bset/johnson/dr\\_johnson/lectures/lec4.pdf](http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec4.pdf)  
<http://tamuk.edu/grad/manual.html>  
<http://www.csulb.edu/~msaintg/ppa696/696ethic.htm#ethics>  
<http://bioethics.od.nih.gov/IRB.html#guidance>

- 09/18            5            Individual Meetings to discuss **Research Proposal**  
 In Person, Via Email, or Via Phone  
 Draft of Document in Process will be provided by  
 student in electronic or paper form. (Worth 3%)  
**Required Readings for Next Week:**  
 GMA text chapter 2 (focus on Review of Related Literature)  
<http://cie.asu.edu/volume6/number2/>  
<http://cie.asu.edu/volume8/number7/index.html>
- 09/25            6            Reviewing the Literature  
 Common Errors Made in Research  
 Common Errors found in Educational Research Texts  
**Powerpoints to be Covered:**  
 Conducting a Literature Review  
 Internal and External Validity Issues  
**Relevant WORD documents:**  
 Literature Review Information  
**Required Readings for Next Week:**  
 GMA text chapter 5 (Selecting Measuring Instruments)  
 GMA text chapter 13 (Experimental Research)  
**Supplementary URLs to read:**  
<http://www.socialresearchmethods.net/kb/design.htm>  
<http://www.csulb.edu/~msaintg/ppa696/696exper.htm#Experimental%20Designs>  
<http://www.socialresearchmethods.net/kb/constval.htm>  
<http://www.socialresearchmethods.net/kb/reliable.htm>
- 10/02            7            Experimental Research Designs  
 Quantitative Data Issues  
 Validity and Reliability  
**Powerpoints to be Covered:**  
 Experimental Research Designs  
 Reliability Issues  
 Validity Issues  
**Required Readings for Next Week:**  
 GMA text chapter 12 (Causal-Comparative Research)  
 GMA text chapter 11 (Correlational Research)  
 GMA text chapter 10 (Survey Research)  
**Supplementary URLs to read:**  
[http://www.southalabama.edu/coe/bset/johnson/dr\\_johnson/lectures/lec11.pdf](http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec11.pdf)

10/09	8	<p>Causal-comparative and Correlational Designs          Survey Designs          Internal and External Validity Concerns  <b>Powerpoints to be Covered:</b>          Correlational &amp; Causal-Comparative Designs          Survey Research Methods          Internal and External Validity Factors  <b>Supplementary URLs to read:</b>  <a href="http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec7.pdf">http://www.southalabama.edu/coe/bset/johnson/dr_johnson/lectures/lec7.pdf</a>  <a href="http://www.socialresearchmethods.net/kb/sampling.htm">http://www.socialresearchmethods.net/kb/sampling.htm</a>  <a href="http://www.csulb.edu/~msaintg/ppa696/696sampl.htm#sampling">http://www.csulb.edu/~msaintg/ppa696/696sampl.htm#sampling</a></p>
10/16	9	<p>Sampling          Methods and Procedures  <b>Powerpoints to be Covered:</b>          Sampling Presentation          Methods and Procedures section  <b>Required Readings for Next Week:</b>          GMA text chapter 14 (Descriptive Statistics)  <a href="http://www.statsoft.com/textbook/stathome.html">http://www.statsoft.com/textbook/stathome.html</a>  <a href="http://glass.ed.asu.edu/stats/lesson2/">http://glass.ed.asu.edu/stats/lesson2/</a>  <a href="http://www.mste.uiuc.edu/hill/dstat/dstat.html">http://www.mste.uiuc.edu/hill/dstat/dstat.html</a>  <a href="http://www.animatedsoftware.com/statglos/statglos.htm">http://www.animatedsoftware.com/statglos/statglos.htm</a></p>
10/23	10	<p>Descriptive Statistics          Statistical Package for the Social Sciences-PC version  <b>Activities:</b>          Calculate measures of central tendency for notebook.          Calculate measures of variability for notebook.          Run three types of visual depictions of data for notebook.</p>
10/30	11	<p>Individual Meetings to discuss <b>Research Proposal</b>          In Person, Via Email, or Via Phone          Draft of Research Proposal in Process will be provided by student in electronic or paper form. Draft will be substantially improved over initial version. (Worth 3%)  <b>Required Readings for Next Week:</b>          GMA text chapter 15 (Inferential Statistics)  <a href="http://www.statsoft.com/textbook/stathome.html">http://www.statsoft.com/textbook/stathome.html</a>  <a href="http://glass.ed.asu.edu/stats/lesson4/">http://glass.ed.asu.edu/stats/lesson4/</a>  <a href="http://www.psychstat.missouristate.edu/introbook/sbk28.htm">http://www.psychstat.missouristate.edu/introbook/sbk28.htm</a></p>



11/06	12	<p>Inferential Statistics Statistical Package for the Social Sciences-PC version</p> <p><b>Activities:</b> Calculate Pearson product moment correlation coefficients for notebook. Calculate Pearson chi-squares for notebook.</p> <p><b>Required Readings for Next Week:</b> <a href="http://www.statsoft.com/textbook/stathome.html">http://www.statsoft.com/textbook/stathome.html</a> <a href="http://www.sjsu.edu/faculty/gerstman/StatPrimer/paired.pdf">http://www.sjsu.edu/faculty/gerstman/StatPrimer/paired.pdf</a> <a href="http://www.sjsu.edu/faculty/gerstman/StatPrimer/independ.pdf">http://www.sjsu.edu/faculty/gerstman/StatPrimer/independ.pdf</a></p>
11/13	13	<p>Inferential Statistics Statistical Package for the Social Sciences-PC version</p> <p><b>Activities:</b> Calculate independent samples t-test for notebook. Calculate dependent samples t-test for notebook.</p> <p><b>Required Readings for Next Week:</b> <a href="http://davidmlane.com/hyperstat/intro_ANOVA.html">http://davidmlane.com/hyperstat/intro_ANOVA.html</a> <a href="http://www2.chass.ncsu.edu/garson/pa765/anova.htm">http://www2.chass.ncsu.edu/garson/pa765/anova.htm</a></p>
11/20	14	<p>Inferential Statistics Statistical Package for the Social Sciences-PC version</p> <p><b>Activities:</b> Calculate oneway analysis of variance for notebook.</p>
11/27	15	Formal oral presentation of research proposal
12/04	16	<p>Formal oral presentation of research proposal</p> <p><b>Relevant WORD documents:</b> Scoring Rubric for Research Proposal</p> <p><b>Assignments Due:</b> Research proposal Statistics notebook</p>

- Make a 15- minute oral power presentation summarizing your paper. A rubric will be provided for you on this assignment.
- A 10-15 page paper to include: (a) quantitative research, (b) APA-style, (c) a minimum of 10 references and citations, (d) emphasis of one particular design (survey, correlational, experimental, causal-comparative, (e) 3 research questions, and (f) null, nondirectional, and directional hypotheses.
- The two certificates for library work will be attached to paper.
- The Research Form and Consent Form will be attached to paper.
- The typed paper will be stapled when you turn it in.

## PLAGIARISM: WHAT IT IS

The following comments are taken verbatim from Campbell, Ballou, and Slade's (1986) book entitled, Form and Style Theses, Reports, Term Papers (7th ed.).

"Quotations in a research paper, thesis, or dissertation can be of two types: indirect (paraphrased or summarized), or direct (verbatim). Both indirect and direct quotations must be documented. That is, you must indicate the source either with parenthetical documentation accompanied by a list of works cited...

Plagiarism-the use of another person's ideas or wording without giving proper credit-results from the failure to document fully and accurately. Ideas and expressions of them are considered to belong to the individual who first puts them forward. Therefore, when you incorporate ideas or phrasing from any other author in your paper, whether you quote them directly or indirectly, you need to be honest and complete about indicating the source to avoid plagiarism. When intentional or unintentional, plagiarism can bring serious consequences, both academic, in the form of failure or expulsion, and legal, in the form of lawsuits. Plagiarism is a violation of the ethics of the academic community.

Any fact or opinion that you read in one of your sources, whether you first discovered the idea there or have assimilated it so thoroughly that it seems to be your own, should be documented in your paper. Two exceptions are facts that are common knowledge (e.g., John Hancock signed the Declaration of Independence) and facts that can be verified easily and would not differ from one source to another (the headquarters of the Common Market are in Brussels, Belgium). Under most circumstances, these kinds of materials would not need to be documented. On the other hand, material available in only one source or a limited number of sources (a fact about changes in the birth rate in China) should usually be documented." (p. 59).

In reference to notetaking, Campbell, Ballou, and Slade (1986) stated: "When you write a summary during notetaking, you must be careful to avoid inadvertently using the author's wording. Changing an occasional word or reversing the order of phrases or sentences does not result in an adequate summary. A good discipline is to try to write a summary without looking at the source. After writing a summary, look at the original and make a critical comparison, checking for duplication of wording and accuracy in statement of the ideas. If you find that you have used more than two consecutive words from the original (with the exception of articles or prepositions), place them in quotation marks. Carelessness in writing a summary can result in unintentional plagiarism...Even though the summary contains your own words, you will want to give credit for the ideas if you use them in your paper. Be as careful about recording the author's name and page numbers for a summary or paraphrase as you would be for a direct quote." (p. 14-15).

Commenting about paraphrasing, Campbell, Ballou, and Slade (1986) add: "Your paraphrase or summary should represent the source's ideas accurately, avoiding distortion through misstatement or improper emphasis. At the same time, your summary should be stated entirely in your own words. Avoid imitating sentence structure, rearranging words and phrases, and borrowing phrases even of two or three words, since these constitute plagiarism. If you find that you cannot avoid using a phrase from the original, place the words in quote marks. Even when you have restated a passage completely in your own words, indicate that you encountered the information in your reading by" (p. 59-60) citing the reference and including the reference on your reference page.