

EDF 8363
Fall 2015
Functions and Methods of Research

Debra L. Prince
511C Allen
(662) 325-7055
Office Hours by Appointment
dprince@colled.msstate.edu

Credit: 3 Semester Hours
Prerequisites: Graduate Status

Catalog Description:

Three lectures: The function of research in developing and conducting educational programs; research methods and techniques used in education; the contribution of research to public education; rules and evidence governing research conclusions.

Objectives:

- 1) To become consumers of research by developing a background knowledge of research methodology and interpretive skills. CFPO 7
- 2) To develop a basic understanding of research reports in research periodicals and other literature (2 critiques required). CFPO 8
- 3) To understand the function of research in developing, evaluating and conducting programs. CFPO 4, 5
- 4) To become familiar with and be able to use various library resources in the location of data and references in order to develop extensive reviews of literature. CFPO 10
- 5) To acquire the necessary skills for preparing a simple action research proposal. CFPO 1, 4

Topics to be Covered:

- 1) Introduction to educational research
 - a) To differentiate between applied and basic research
 - b) To describe the major steps involved in conducting a research study
 - c) To understand the scientific (research) method and its application to educational programs
 - d) To understand the various approaches (designs) used in research
 - e) To differentiate between quantitative and qualitative research

- 2) The research problem
 - a) To identify research problems in published articles and to devise research problems of his/her own

 - b) To understand the components and functions of a problem statement

 - c) To become familiar with and be able to use the information retrieval systems in the library

 - d) To understand the purpose, scope, and formulation of the review of related literature
 - 2.5 To understand the components of a hypothesis and the functions of a hypothesis statement

 - 2.6 To know the different types of hypotheses and understand the appropriate use of each

3. Research plan
 - 3.1 To understand the definition and purpose of the research plan

 - 3.2 To develop an awareness of the ethical considerations of research

 - 3.3 To become familiar with the components of a research proposal

- 4) Subjects
 - a) To understand the definition and purpose of sampling

 - b) To recognize and be able to use appropriate sampling techniques

 - c) To become familiar with determining sample size

- 5) Measurement
 - a) To understand the necessity of validity and reliability of measuring instruments
 - b) To become familiar with some of the types of instruments used in research for data collection

- 6) Types of research: Historical, Qualitative, Descriptive, Correlational, Causal-Comparative, True Experimental, and Quasi-experimental
 - a) To understand and recognize the definition, purpose, and process of conducting the different types of research
 - b) To become familiar with the threats to internal and external validity of experimental research and how to minimize these threats
 - c) To know the concept of replication and the types of replications utilized in conducting a study

- 7) Data analysis
 - a) To know the scales of measurement in the pre-analysis stage of data
 - b) To become familiar with preparing data for analysis
 - c) To know and identify concepts underlying the application of descriptive and inferential statistics
 - d) To identify when to use tests of significance

Suggested Student Activities:

- 1) Each class member will be responsible for the mastery of the basic class material.
- 2) Each class member will be responsible for completing assignments presented by the instructor (chapter outlines, outside readings, etc.)
3. Each class member will complete a literature review on a selected topic. This review should include the use of several information retrieval systems and should consist of at least ten (10) RESEARCH-BASED articles. (This review will serve as the background and literature review section for the research proposal.)
4. Each class member will critique two (2) published educational research articles.
5. Each class member will complete two examinations.
6. Each class member will prepare a research proposal.

Evaluation:

- | | | |
|----|--|------------|
| 1) | Completion of assignments/Class participation | 100 Points |
| 2) | Two critiques of educational research articles | 100 Points |
| 3) | Research Proposal | 300 Points |
| 4) | Two examinations | 300 Points |
| 5) | Quizzes | 100 Points |
| 6) | Annotations (10) | 100 Points |

Total

1000 Points

TEXT: Gay, L. R., Mills, G. E. & Airsian, P. (2012). *Educational research: Competencies for analysis and application* (9th edition). New Jersey: Prentice Hall, Inc.

Any Edition of this text will work just fine

Academic Honesty at Mississippi State University

All occurrences of academic misconduct will be dealt with in accordance with guidelines and procedures outlined in the Academic Misconduct Policy, which may be accessed on the web at: <http://www.msstate.edu/web/security.html>

Disability:

Students with disabilities will be afforded appropriate accommodations. Contact disability services at 325-3335 or visit the Student Support Services website or office for more information.

BIBLIOGRAPHY:

- Armstrong, D.G., Henson, K.T. & Savage, T.V. (1981). *Education: An introduction*. New York: Macmillan.
- Ary, D., Jacobs, L. C., & Razavieh, A. (1990). *Introduction to research in education (4th ed.)*. New York: Holt, Rinehart, & Winston.
- Ary, D., Jacobs, L.D., Razavieh, A., & Sorensen, C. (2006). *Introduction to research in education (7th ed.)*. Belmont, CA: Thomson Higher Education.
- Babbie, E. (1999). *The basics of social research*. Belmont, CA: Wadsworth.
- Berg, B. (2001). *Qualitative research methods for the social sciences*. Boston, MA: Allyn and Bacon.
- Best, J.W. & Kahn, J.V. (1998). *Research in education*. Boston, MA: Allyn and Bacon.
- Best, J.W., & Kahn, J.V. (2006). *Research in education (10th ed.)*. Boston, MA: Allyn and Bacon.
- Charles, C.M. (1995). *Introduction to Educational Research*. White Plains, NY: Longman.
- Christensen, L.B. (2001). *Experimental methodology*. Boston, MA: Allyn and Bacon.
- Cole, A. & Knowles, G. (2000). *Researching teaching*. Boston, MA: Allyn & Bacon.
- Creswell, J.W. (2002). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Education, Inc.
- Creswell, J.W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed.)*. Thousand Oaks, CA: Sage Publications.

- Dorsten, L.E. (1996). *Interpreting social behavioral research: A guide and workbook based on excerpts from journal articles*. Los Angeles, CA: Pyczak Publishing.
- Frankel, J.R. & Wallen, N.E. (2009). *How to design and evaluate research in education*. San Francisco, CA: McGraw-Hill..
- Fraenkel, J.F. (2006). *How to design and evaluate research in education (6th ed.)*. New York: McGraw-Hill.
- Gall, M. D., Borg, W.R., & Gall, J. P. (1996). *Educational Research: An Introduction*. White Plains, NY: Longman.
- Gall, J.P., Gall, M.D., & Borg, W.R. (2005). *Applying educational research (5th ed.)*. Boston, MA: Pearson.
- Gay, L. R. (1996). *Educational research: Competencies for analysis and application*. Englewood Cliffs, New Jersey: Merrill.
- Glesne, C. (2006). *Becoming qualitative researchers: An introduction (3rd ed.)*. Boston, MA: Pearson.
- Graziano, A.M. & Raulin, M.L. (2000). *Research methods: A process of inquiry*. Boston, MA: Allyn and Bacon.
- Haller, E. & Kleine, P. (2001). *Using educational research*. New York: Longman.
- Hendricks, C. (2006). *Improving schools through action research: A comprehensive guide for educators (4th ed.)*. Boston, MA: Pearson.
- Huck, S.W. (2004). *Reading statistics and research*. Boston, MA: Pearson.
- Johnson, B. & Christensen, L. (2000). *Educational research: Quantitative and qualitative approaches*. Boston, MA: Allyn and Bacon.
- Krathwohl, D.R. (2007). *Methods in educational social science research: An integrated*

- approach*. New York: Longman.
- Kubiszyn, T. & Borich, G. (1993). *Educational testing and measurement: Classroom application and practice*. Austin, TX: Harper Collins College Publishers.
- Leary, M.R. (2001). *Introduction to behavioral research methods*. Boston, MA: Allyn and Bacon.
- Lomand, T.C. (2006). *Social science research: A cross section of journal articles for discussion and evaluation*. Los Angeles, CA: Pyrczak Publishing.
- McMillan, J. & Schumacher, S. (2001). *Research in education*. New York, NY: Longman.
- McMillan, J.H., & Schumacher, S. (2006). *Research in education: Evidence-based inquiry*. Boston, MA: Pearson Education.
- Martella, R.C., Nelson, R. & Marchand-Martella, N. E. (1999). *Research methods: Learning to become a critical research consumer*. Boston: Allyn and Bacon
- Mertler, C.A. (2006). *Action research: Teachers as researchers in the classroom*. Thousand Oaks, CA: Sage.
- Miller, B. (2001). *Beyond statistics: A practical guide to data analysis*. Boston, MA: Allyn and Bacon.
- Patten, M. L. (1991). *Educational and psychological research: A cross section of journal articles for analysis and evaluation*. Los Angeles: Pyrczak.
- Patten, M. L. (1997). *Educational and psychological research: A cross section of journal articles for analysis and evaluation*. Los Angeles: Pyrczak.
- Patten, Mildred L. (1997). *Understanding research methods: An overview of the*

essentials. Los Angeles: Pyrczak.

Pyrczak, F. & Randall, B.R. (2007). *Writing empirical research reports: A basic guide for students of the social and behavioral sciences*. Los Angeles: Pyrczak

Shank, G.D. (2006). *Qualitative Research: A personal skills approach*. Upper Saddle River, NJ: Pearson.

Suter, W.N. (2006). *Introduction to educational research: A critical thinking approach*. Thousand Oaks, CA: Sage.

Szafran, R.F. (1994). *Social science research: A cross section of journal articles for discussion and evaluation*. Los Angeles: Pyrczak.

Vogt, W.P. (2007). *Quantitative research methods for professionals*. Boston, MA: Pearson.

Wiersma, W. (2000). *Research methods in education: An introduction*. Boston, MA: Allyn and Bacon.