

EDLDR/EDTHP/HI ED 585
Research Design
Spring 2011: Thursdays, 6-9pm
403 Rackley Building

Co-Instructors

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Office Hours: Mondays (1:30-2:30pm) and Wednesdays (2-3pm)

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[To sign up for office hours during the 3-5pm slot, contact Sally Kelly at sjk4@psu.edu or 865-6347. Contact Dr. Oseguera, if you need an appointment outside of those slots.]

Prerequisites

In this class we will be discussing research design as it applied to quantitative and qualitative research as it is practiced within educational research and social science research more broadly. The prerequisites for this course assume that students have completed coursework in *graduate-level statistics through basic multivariate analysis*, as well as *at least one graduate level course in qualitative methods*. If you have not yet completed this coursework, you should discuss the implications of this (and the appropriateness of you taking the course) with the instructors.

Course Description

This course introduces students to key principles underlying research design. We introduce students to four validity criteria (statistical conclusion validity, internal validity, construct validity, and external validity) that can be used to evaluate research. While discussing each type, we present specific tools that can be employed to promote validity. Throughout the semester, students are asked to evaluate past research papers employing these validity criteria. This course also covers important parts of the research process, such as the development of research questions and the procurement of data. The course primarily focuses on design from a quantitative perspective, but at multiple points, we will use this perspective to consider issues related to qualitative research and discuss validity perspectives emanating from qualitative research.

Requirements on which the Grade in the Course will be Based:

- 20% - Attendance and participation in class

- 10% - Paper #1: Research questions
- 30% - Papers #2-#4: Evaluations of Research: Specific Validity
- 40% - Final Paper: Methodological Literature Review

Paper #1: Research question paper (2-4 pages)

The first paper will ask students to state a research question and describe why it is important. The initial draft of this paper is due on January 27th. The instructors will return these papers with feedback on February 3rd, and students will be required to submit a revised draft on February 10th.

Papers #2-#4: Validity papers (2-4 pages each)

For certain validity types (construct validity, internal validity, and external validity), students will be required to identify an article from the literature and examine that study according to the particular validity concept. Students are encouraged to select articles that align with their own research interests. On January 27th, we will provide further instructions for these papers.

Final Paper: Methodological literature review (15-20 pages)

The final paper involves a review and critique of the empirical research conducted in past studies in an area of interest. You are encouraged to identify gaps in the literature created by limitations in past research. On February 3rd, we will provide further instructions for these papers.

Assignments and Writing Style

All assignments should be completed following the guidelines for style and citation outlined in the APA manual – evaluation of proper formatting will be included in the grading of all assignments. All assignments should be typed in Times New Roman, 12 point font with one inch margins on all sides. Please do not use alternative fonts or sizes, or adjust the margins. References, tables, and figures will not be counted towards the page limits.

Course Readings

This course draws some of its readings from the three books listed below, which are available through the bookstore or other outlets. We will also use individual journal articles and book chapters, PDF copies of which are available on the ANGEL website for this course.

Krathwohl, David R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [This book may not be available at the bookstore. We will provide PDFs of chapters in early weeks, so you will not need to obtain the book until the February 3rd class.]

Maxwell, Joseph A. (2005). *Qualitative Research Design: An Interactive Approach*. Second Edition. Thousand Oaks, CA: Sage Publications.

Shadish, William R., Thomas D. Cook, and Donald T. Campbell. (2002). *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston: Houghton Mifflin Company.

We will be reading selections from certain books that contain a lot of great material outside of the assigned sections. You may wish to purchase some of these books (listed below) for your bookshelf.

Fowler, F.J. (2002). *Survey Research Methods*. Thousand Oaks, CA: Sage Publications.

Light, R., Singer, J., & Willet, J. (1990). *By Design: Planning Research on Higher Education*. Cambridge, MA: Harvard University Press.

Murnane, R. & Willett, J. (2011). *Methods Matter: Improving Causal Inference in Educational and Social Science Research*. New York: Oxford University Press.

White, P. (2008). *Developing Research Questions: A Guide for Social Scientists*. New York: Pgrave Macmillan.

Use of Laptops in Class

In past classes, we have found that a subset of students have spent considerable classtime checking e-mail, Facebook, and other websites during class discussions. These students inhibited their own learning as well as their neighbors who were often distracted by the website images. If the instructors observe such behavior in this class, laptop usage will be restricted.

Other Course Policies

The syllabus and course schedule is written so that you can plan ahead and take the necessary measures to ensure that you are able to complete the required course assignments on time. If you find that an unexpected circumstance prevents you from completing an assignment on time, please alert the instructors *as soon as possible*. Otherwise, late work will be penalized by ½ a letter grade if it is turned in within two days of the due date, by a full letter grade if it is turned in 3-7 days late, and a failing grade if it is turned in more than 7 days late.

Excessive absences or tardiness will result in a reduction of your participation grade.

All College of Education policies (<http://www.ed.psu.edu/educ/current-students/academic-integrity/>) regarding academic integrity apply to this course.

All Penn State graduate school policies (<http://bulletins.psu.edu/bulletins/whitebook/>) apply to this course.

We welcome students with disabilities into the course. If you have a disability-related need for reasonable academic adjustments in this course, contact the Office for Disability Services (116 Boucke Building, 863-1807, www.equity.psu.edu/ods/). Please notify us as early in the semester as possible regarding the need for reasonable academic adjustments.

The information contained in the course syllabus may be subject to change with reasonable advance notice, as deemed appropriate by the instructors.

Class Schedule and Assigned Readings

January 13 th : Introduction to Class
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Shadish, Cook, & Campbell, chapter 2 (pp. 33-42)

Murnane, R. & Willett, J. (2011). *Methods Matter: Improving Causal Inference in Educational and Social Science Research*. New York: Oxford University Press. (pp. 3-10)

Schneider, B., Carnoy, M., Kilpatrick, J., Schmidt, W., & Shavelson, R. (2007). *Estimating Causal Effects: Using Experimental and Observational Designs*. Washington, DC: American Educational Research Association. (pp. 1-7)

January 20 th : Developing a Research Question

Maxwell, chapters 1-4.

Booth, W., Colomb, G., & Williams, J. (2003). *The Craft of Research*. Chicago: The University of Chicago Press. [Chapter 3 (“From Topics to Questions”) and Chapter 4 (“From Questions to Problems”)].

Creswell, J. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 2nd edition. Thousand Oaks, CA: Sage Publications. [Chapter 6: Research Questions and Hypotheses.]

White, P. (2008). *Developing Research Questions: A Guide for Social Scientists*. New York: Praeger Macmillan. (pp. 5-31 & 89-97)

Additional Reading

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 5: Creating Research Problems].

January 27 th : Statistical Conclusion Validity
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[Initial draft of Paper #1 (Research Question) due.]

Shadish, Cook, & Campbell, chapter 2 (pp. 42-53)

Abelson, R. (1995). *Statistics as Principled Argument*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc. (pp. 1-16)

Thompson, B. (2004). The “significance” crisis in psychology and education. *Journal of Socio-Economics*, 33, 607-613.

Wooldridge, J. (2004). Statistical significance is okay, too: comment on “size matters”. *Journal of Socio-Economics*, 33, 577-579. [Excerpt]

Ziliak, S. & McCloskey, D. (2008). *The Cult of Statistical Significance: How the Standard Errors Costs us Jobs, Justice, and Lives*. Ann Arbor: University of Michigan Press. (pp. 1-16 & 23-31)

Additional Reading

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 17, 19, & 20]. [Note: You were likely already introduced to this material when taking the statistics courses that serve as the prerequisites for this course.]

February 3 rd : Introduction to Construct Validity

Shadish, Cook, & Campbell, chapter 3 (pp. 64-82)

Borsboom, D., Mellenbergh, G., & van Heerden, J. (2004). The concept of validity. *Psychological Review*, 111(4), 1061-1071

Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. *American Psychologist*, 50(9), 741-749.

Additional Reading

Messick, S. (1989). Validity. In R.L. Linn (Ed.), *Educational Measurement. Third Edition*. (pp. 13-104). New York: American Council on Education/Macmillan.

Standards for Educational and Psychological Measurement. (1999). Washington, D.C.: American Educational Research Association, American Psychological Association, and National Council on Measurement in Education.

February 10 th : Construct Validity II

[Revised draft of Paper #1 (Research Question) due.]

Fowler, F.J. (2002). *Survey Research Methods*. Thousand Oaks, CA: Sage Publications. [Chapter 5. Designing Questions to Be Good Measures]

Hurtado, S. (2003) *Preparing College Students for a Diverse Democracy: Final Report to the U.S. Department of Education*, OERI, Field Initiated Studies Program.

Ann Arbor, MI: Center for the Study of Higher and Postsecondary Education. [Read Introduction, Sections II, III, and Appendix A. Note: Appendix B to be distributed in class.]

Light, R., Singer, J., & Willet, J. (1990). *By Design: Planning Research on Higher Education*. Cambridge, MA: Harvard University Press. (pp. 161-185)

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 18: Measurement, Testing, and Observation]

February 17th: Introduction to Internal Validity

[Paper #2 (Construct Validity) Due]

Shadish, Cook, & Campbell, chapter 1 (pp. 1-12)

Shadish, Cook, & Campbell, chapter 1 (pp. 12-18) [See reading guide for more details.]

Shadish, Cook, & Campbell, chapter 2 (pp. 53-63)

Murnane, R. & Willett, J. (2011). *Methods Matter: Improving Causal Inference in Educational and Social Science Research*. New York: Oxford University Press. (pp. 26-38)

Additional Reading

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 7: Causal Inference and Internal Validity]

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 11: Showing Relationship Through Design]

February 24th: Internal Validity II

Shadish, Cook, & Campbell, selected portions of chapters 4 and 5. [See reading guide for more details.]

Maxwell, J. (2004). Using qualitative methods for causal explanation. *Field Methods*, 16(3), 243-264.

[Additional required readings may be announced.]

Additional Reading

Murnane, R. & Willett, J. (2011). *Methods Matter: Improving Causal Inference in Educational and Social Science Research*. New York: Oxford University Press. [Chapter 12: Dealing with Bias in Treatment Effects Estimated from Non-Experimental Data]

March 3rd: Internal Validity III

Shadish, Cook, & Campbell, selected portions of chapters 6, 7, & 8. [See reading guide for more details.]

Maxwell, J. (2004). Causal explanation, qualitative research, and scientific inquiry in education. *Educational Researcher*, 33(2), 3-11.

[Additional required readings may be announced.]

Additional Reading

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 21: Experimentation and Experimental Design]

Murnane, R. & Willett, J. (2011). *Methods Matter: Improving Causal Inference in Educational and Social Science Research*. New York: Oxford University Press. Chapters 4-11.

March 17th: Introduction to External Validity

[Paper #3 (Internal Validity) Due]

Shadish, Cook, & Campbell, chapter 1 (pp. 18-26)
Shadish, Cook, & Campbell, chapter 3 (pp. 83-102)

Berliner, D. C. (2002). Educational research: The hardest science of all. *Educational Researcher*, 31(8), 15-17

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 8: Sampling, Representation, and External Generality]

March 24th: Contrasting and Critiquing Validity Criteria

[Guest Speaker: Dorie Evensen]

Maxwell, chapter 6.

Shadish, Cook, & Campbell, chapter 1 (pp. 26-32)
Shadish, Cook, & Campbell, selected portions of chapter 14. [See reading guide for more details.]

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 16: Quality Considerations, Conclusions, and Reporting in Qualitative Research]

Maxwell, Joseph A. 1992. "Understanding and Validity in Qualitative Research." *Harvard Educational Review* 62: 279-300.

[Additional required readings may be announced.]

Additional Reading

Cheslock, J. & Rios-Agular, C. (in press). Multilevel analysis in higher education research: A multidisciplinary approach. In J. Smart (Ed.), *Higher Education: Handbook of Theory and Research*, Volume 26. Dordrecht, The Netherlands: Springer.

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 9: Optimizing Trade-Offs within Limits]

Lather, P. (1986). Issues of validity in openly ideological research: Between a rock and a soft place. *Interchange*, 17(4), 63-84.

Phillips, D.C. 1987. "Validity in qualitative research, Or, why the worry about warrant will not wane." *Education and Urban Society* 20: 9-24.

Wolcott, H. (1990). On seeking – and rejecting – validity in qualitative research. Eisner, E. & Peshkin, A. (Eds.), *Qualitative Inquiry in Education: The Continuing Debate*. (pp. 121-152) New York: Teachers College Press.

March 31 st : Data/Research Integrity
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[Paper #4 (External Validity) Due]

[Possible Guest Speaker]

Maxwell, chapter 5.

Fowler, F.J. (2002). *Survey Research Methods*. Thousand Oaks, CA: Sage Publications. [Chapter 6: Evaluating Survey Questions and Instruments & Chapter 7: Survey Interviewing]

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 10: Ethical Standards and Legal Constraints]

Patton. M. (2002). *Qualitative Research and Evaluation Methods*. 3rd Edition. Thousand Oaks, CA: Sage Publications. (Purposeful Sampling and Sample Size, pp. 230-246.)

Additional Reading

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 13: Fieldwork and Observation]

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 14: Interviewing]

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Chapter 24: Survey Research and Questionnaires]

April 7th: Research Evaluations #1

Readings TBA.

April 14th: Research Evaluations #2

Readings TBA.

April 21st: Research Evaluations #3

Readings TBA.

April 28th: The Practice of Research

[Guest Speaker: Patrick Terenzini]

Maxwell, chapter 7 and appendix.

Fraenkel, J., & Wallen, N. (2002). *How to Design and Evaluate Research in Education*. 5th Edition. Boston: McGraw-Hill. (pp. 602-607)

Smart, J. (2005). Attributes of exemplary research manuscripts employing quantitative analyses. *Research in Higher Education*. 46(4), 461-477

[Additional required readings may be announced.]

Additional Reading

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [Appendix A: Writing a Research Proposal]

May 5th: Final Paper Due

[Final Paper (Methodological Literature Review) Due by 12:00pm]

