GEORGE MASON UNIVERSITY

GRADUATE SCHOOL OF EDUCATION

**SYLLABUS**

**EDSE 842: Applications of Research Methodology in Special Education**

Spring, 2009

**Professor** **Office Hours**

Tom Scruggs, Ph.D. Mondays, 2:00 - 4:00

University Professor Tuesdays, 4:00 – 7:00

or by appointment (jholmes)

**Time, Date & Room**  [tscruggs@gmu.ed](mailto:tscruggs@gmu.ed)

Tuesdays, 7:20-10:00p 2202 West Building

Innovation 326 32011

# Purpose

The purpose of this seminar is for students to develop their understanding of research methodology, and its application in special education research. Upon completion of the course, students should be able to:

1 Describe the strengths and limitations of single subject research designs in special education research.

2. Describe basic procedures involving single subject research designs.

3. Evaluate previous research that has employed single subject research methodology.

4. Design future special education research using single subject methodology.

5. Describe the strengths and limitations of qualitative research designs in special education research.

6. Evaluate previous research that has employed qualitative research methodology.

7. Design future special education research using qualitative methodology.

8. Describe the strengths and limitations of survey research designs in special education research.

9. Evaluate previous research that has employed survey research methodology.

10. Design future special education research using survey methodology.

11. Describe the strengths and limitations of group-experimental research designs in special education research.

12. Describe basic procedures involving group-experimental research designs.

13. Evaluate previous special education research that has employed group-experimental research methodology.

14. Design future special education research using group-experimental methodology.

##### **GSE Syllabus Statements of Expectations**

The Graduate School of Education (GSE) expects that all students abide by the following:

Students are expected to exhibit professional behavior and dispositions. See http://gse.gmu.edu for a listing of these dispositions.

Students must follow the guidelines of the University Honor Code. See <http://www.gmu.edu/catalog/apolicies/#TOC_H12> for the full honor code.

Students must agree to abide by the university policy for Responsible Use of Computing. See <http://www.gmu.edu/facstaff/policy/newpolicy/1301gen.html>

Students with disabilities who seek accommodations in a course must be registered with the GMU Disability Resource Center (DRC) and inform the instructor, in writing, at the beginning of the semester. See [www.gmu.edu/student/drc](http://www.gmu.edu/student/drc) or call 703-993-2474 to access the DRC.

# Requirements

1. Class attendance and participation in discussion and group activities.

2. Four written method sections, using single-subject, qualitative, survey, and group-experimental or quasi-experimental methodology. Five-page maximum for each proposal (not including title page, abstract, and references), APA (5th ed.) format (see sample manuscript). Subheadings should ordinarily include the following:

* Background literature (brief)
* Participants
* Data sources
* Materials
* Procedures
* Data analysis
* Anticipated results

4. Midterm and final exams of methodological knowledge and skills.

# Evaluation (see rubrics)

1. Attendance/participation: 10 points

2. Method sections: 40 points (4 @ 10 points each)

3. Midterm 20 points

4. Final 30 points

100 points

Grading: 100-95: A; 94-90:A- ; 89-86: B+; 85-80: B; 79-70: C

#### Course Schedule

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| Week | Topic |
| Week 1, 1/27 | Introduction/Organization: Pretest; “How do you know?”; research traditions; common methodological concerns; nomothetic vs ideographic methods; causation; internal and external validity; dependent and independent variables; the problem of induction; number systems. |
| Week 2, 2/3 | *Single-subject research*: Designs and methodological concerns. Read Horner et al. (2005); Hughes et al. (2002); Marckel, Neef, and Ferreri (2006). |
| Week 3, 2/10 | *Single-subject research II.* Applications and issues; research synthesis. Read Hine and **Wolery (**2006); Kourea, Cartledge, and Musti-Rao (2007); Scruggs and Mastropieri (2001). |
| Week 4, 2/17 | *Single-subject research III.* Applications, randomization tests. Read Regan, Mastropieri, and Scruggs (2006); Scruggs, Mastropieri, and Regan (2005). Guest speaker: Dr. Kelley Regan. |
| Week 5, 2/24 | *Qualitative research designs*. Internal and external validity. Read Brantlinger, Jiminez, Klingner, Pugach, and Richardson (2005); Scruggs and Mastropieri (1995); Snell and Janney (2000). **Method section I due.** |
| Week 6, 3/3 | *Qualitative research designs II.* Applications, data analysis with *NVivo*. Read Berry (2006) (particularly pp. 499-514); Seo, Brownell, Bishop, & Dingle (2008); Harry, Klingner, and Hart (2005). |
| Week 7, 3/10 | *Qualitative research designs III.* Applications, synthesis. Read Buckley (2005) (particularly pp. 7-36); Scruggs, Mastropieri, and McDuffie (2007). **Midterm exam.** |
| Week 8, 3/17 | *Survey research*. Methods. Read Cutler and Graham (2008); Praisner (2003). **Method section II due.** |
| Week 9, 3/24 | *Survey research II.* Applications, synthesis. Read Repie (2005); Scruggs and Mastropieri (1996). Guest speaker: Dr. Mike Repie. |
| Week 10, 3/31 | *Group-experimental research.* Assumptions of ANOVA;threats to validity; random assignment. Read Gersten et al. (2005); Sullivan, Mastropieri, and Scruggs (1994). |
| Week 11, 4/7 | *Group-experimental research II.* Experimental and quasi-experimental designs. Read Gersten, Baker, Smith-Johnson, Dimino, and Peterson (2006); Glago, Mastropieri, and Scruggs (in press); Nougaret, Scruggs, and Mastropieri (2005). **Method section III due.** Guest speaker: Dr. Karen Glago. |
| Week 12, 4/14 | Make up; questions; discussion |
| Week 13, 4/21 | *Group-experimental research III.* Quasi-experimental designs: comparative designs for pre-existing groups. Read Cullinan, Osborne, and Epstein (2004); Neal, McCray, Webb-Johnson, and Bridgest (2003). |
| Week 14, 4/28 | *Group-experimental research IV.* Ceiling and floor effects; one within/one-between designs; multiple statistical tests; crossover designs. Read Mastropieri, Scruggs, Spencer, and Fontana (2003); Simpkins, Scruggs, and Mastropieri (in press). Guest presenter: Dr. Pam Simpkins. |
| Week 15, 5/5  (make up for 1/20) | *Group-experimental research V.* Unit of analysis; factorial designs; crossover designs. Read Mastropieri et al. (2006); Sáenz, Fuchs, and Fuchs (2005). |
| *Finals Week* 5/12 | **Method section IV due. Final exam due.** |

**Required Readings\***

Berry, R.A.W. (2006). Inclusion, power, and community: Teachers and students interpret the language of community in an inclusion classroom. *American Educational Research Journal, 43,* 489-529.

Brantlinger, E., Jiminez, R., Klingner, J., Pugach, M., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional Children, 71*, 195-207.

Buckley, C.Y. (2005). Establishing and maintaining collaborative relationships between regular and special education teachers in middle school social studies inclusive classrooms. In T.E. Scruggs & M.A. Mastropieri (Eds.), *Advances in learning and behavioral disabilities: Vol. 18. Cognition and learning in diverse settings* (pp. 161-208). Oxford, UK: Elsevier.

Calhoon, M.B., & Fuchs, L.S. (2003). The effects of peer-assisted learning strategies and curriculum-based measurement on the mathematics performance of secondary students with disabilities. *Remedial and Special Education, 24,* 235-245.

Cullinan, D., Osborne, S., & Epstein, M.H. (2004). Characteristics of emotional disturbance among female students. *Remedial and Special Education, 25*, 276-290.

Cutler, L., & Graham, S. (2008). Primary grade writing instruction: A national survey. *Journal of Educational Psychology, 100,* 907-919.

Gersten, R., Baker, S.K., Smith-Johnson, J., Dimino, J., & Peterson, A. (2006). Eyes on the prize: Teaching complex historical content to middle school students with learning disabilities. *Exceptional Children, 72,* 264-280.

Gersten, R., Fuchs, L.S., Compton, D., Coyne, M., Greenwood, C., & Innocenti, M.S. (2005). Quality indicators for group experimental and quasi-experimental research in special education. *Exceptional Children, 71*, 149-164.

Glago, K., Mastropieri, M.A., & Scruggs, T.E. (in press). Improving problem solving of elementary students with mild disabilities. *Remedial and Special Education.*

Harry, B., Klingner, J.K., & Hart, J. (2005). African American families under fire: Ethnographic views of family strengths. *Remedial and Special Education, 26*, 101-112.

Hine, J. F., & **Wolery, M. (**2006). Using point-of-view video modeling to teach play to preschoolers with autism. *Topics in Early Childhood Special Education*, *26*, 83-93.

Horner, R.H., Carr, E.G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children, 71,* 165-179.

Hughes, C.A., Ruhl, K.L., Schumaker, J.B., & Deshler, D.D. (2002). Effects of instruction in an assignment completion strategy on the homework performance of students with learning disabilities in general education classes. *Learning Disabilities Research and Practice, 17,* 1-18.

Kourea, L., Cartledge, G., & Musti-Rao, S. (2007). Improving the reading skills of urban elementary students through total class peer tutoring. *Remedial and Special Education, 28,* 95-107.

Marckel, J.M., Neef, N.A., & Ferreri, S.J. (2006). A preliminary analysis of teaching improvisation with the picture exchange communication system to children with autism. *Journal of Applied Behavior Analysis, 39,* 109-115.

Mastropieri, M.A., Scruggs, T.E., Norland, J., Berkeley, S., McDuffie, K., Tornquist, E. H., & Conners, N. (2006). Differentiated curriculum enhancement in inclusive middle school science: Effects on classroom and high-stakes tests. *Journal of Special Education, 40*, 130-137.

Mastropieri, M.A, Scruggs, T.E, Spencer, V., & Fontana, J. (2003). Promoting success in high school world history: Peer tutoring versus guided notes. *Learning Disabilities Research & Practice,* *18*, 52-65.

Neal, L.I., McCray, A.D., Webb-Johnson, G., & Bridgest, S.T. (2003). The effects of African American movement styles on teachers’ perceptions and reactions. *Journal of Special Education, 37*, 49-57.

Nougaret, A., Scruggs, T.E., & Mastropieri, M.A. (2005). The impact of licensure status on the pedagogical competence of first year special education teachers*. Exceptional Children, 71,* 217-229*.*

Praisner, C.L. (2003). [Attitudes of elementary principals toward the inclusion of students with disabilities](http://mutex.gmu.edu:2068/pqdweb?index=4&did=276826561&SrchMode=3&sid=22&Fmt=4&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1125588124&clientId=31810&aid=7)*. Exceptional Children, 69,* 135-145.

Regan, K.S., Mastropieri, M.A., & Scruggs, T.E. (2005). Promoting expressive writing among students with emotional and behavioral disturbance via dialogue journals. *Behavioral Disorders, 31*, 33-50.

Sáenz, L.M., Fuchs, L.S., & Fuchs, D. (2005). Peer-assisted learning strategies for English language learners with learning disabilities. *Exceptional Children, 71*, 231-247.

Scruggs, T.E., & Mastropieri, M.A. (1995). Science and mental retardation: An analysis of curriculum features and learner characteristics. *Science Education, 79*, 251-271.

Scruggs, T.E., & Mastropieri, M.A. (1996). Teacher perceptions of mainstreaming/ inclusion, 1958-1995: A research synthesis. *Exceptional Children, 63*, 59-74.

Scruggs, T.E., & Mastropieri, M.A. (2001). How to summarize single-participant research: Ideas and applications. *Exceptionality, 9,* 227-245.

Scruggs, T.E., Mastropieri, M.A., & McDuffie, K.A. (2007). Co-teaching in inclusive classrooms: A meta-synthesis of qualitative research. *Exceptional Children, 73*, 392-416*.*

Scruggs, T.E., Mastropieri, M.A., & Regan, K. (2006). Statistical analysis for single subject research designs. In T.E. Scruggs & M.A. Mastropieri (Eds.), *Advances in learning and behavioral disabilities: Vol. 19. Applications of research methodology* (pp. 33-54). Oxford, UK: Elsevier.

Seo, S., Brownell, M. T., Bishop, A. G., & Dingle, M. (2008). An examination of beginning special education teachers’ classroom practices that engage elementary students with learning disabilities in reading instruction. *Exceptional Children, 75*, 97-122.

Simpkins, P.M., Mastropieri, M.A., & Scruggs, T.E. (in press). Differentiated curriculum enhancements in inclusive 5th grade science classes. *Remedial and Special Education.*

**Skinner, D., Bailey, D.B., Jr., Correa, V., & Rodriguez, P. (1999).** [Narrating self and disability: Latino mothers' construction of identities vis-a-vis their child with special needs.](http://mutex.gmu.edu:2294/itx/retrieve.do?contentSet=IAC-Documents&resultListType=RESULT_LIST&qrySerId=Locale%28en%2CUS%2C%29%3AFQE%3D%28JN%2CNone%2C22%29%22Exceptional+Children%22%3AAnd%3ALQE%3D%28DA%2CNone%2C8%2919990622%24&sgHitCountType=None&inPS=true&sort=DateDescend&searchType=PublicationSearchForm&tabID=T002&prodId=EAIM&searchId=R3&currentPosition=4&userGroupName=viva_gmu&docId=A55124404&docType=IAC) [*Exceptional Children,*](http://mutex.gmu.edu:2294/itx/publicationSearch.do?queryType=PH&inPS=true&type=getIssues&prodId=EAIM&currentPosition=0&userGroupName=viva_gmu&searchTerm=Exceptional+Children&index=JX&tabID=T002&contentSet=IAC-Documents)*65*, 481–495.

Snell, M.E., & Janney, R.E. (2000). Teachers’ problem-solving about children with moderate and severe disabilities in elementary classrooms. *Exceptional Children, 66,* 472-490.

Repie, M.S. (2005). A school mental health issues survey from the perspectives of general and special education teachers, school counselors, and school psychologists. *Education & Treatment of Children, 28,* 279-298.

Sullivan, G.S., Mastropieri, M.A., & Scruggs, T.E. (1995). Reasoning and remembering: Coaching thinking with students with learning disabilities. *Journal of Special Education, 29*, 310-322.

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\*Most articles are available on-line. Read PDF versions whenever possible. For each research article, be prepared in class to discuss each of the following:

* What was the **purpose** of the investigation?
* What were the **research questions**?
* Who were the **participants**?
* What were the **data sources**?
* What **materials** were employed?
* What were the **research procedures**?
* What were **data analysis** procedures?
* What **conclusions** were drawn?
* What were the **limitations** of the investigation?
* How could you **replicate and extend** this study (e.g., for your dissertation)?

For non-research, methodological papers, be prepared in class each of the following:

* What is the **purpose** of the article?
* What are the **major points** under each subheading?
* How can the article be **summarized**?
* How is this article **useful** in planning/designing research?

**Recommended Resources**

American Psychological Association (2001). *Publication manual* (5th ed). Washington,

DC: Author.

Creswell, J.W. (2008). Research design: Qualitative, quantitative, and mixed methods approaches. Thousand Oaks, CA: Sage.

Fowler, F.J. (2008). *Survey research methods* (4th ed.). Thousand Oaks, CA: Sage.

# Gravetter, F.J., & Wallnau, L.B. (2008). *Statistics for the behavioral sciences*. Florence, KY: Cengage/Wadsworth.

# Green, S.B., & Salkind, N.J. (2007). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (5th Ed.) Upper Saddle River, NJ: Prentice Hall.

Kennedy, C.H. (2005). *Single-case designs for educational research.* Boston: Allyn & Bacon.

Shadish, W.R., Cook, T.D., & Campbell, D.T. (2002). *Quasi-experimentation: Design and analysis issues for field settings*. Boston: Houghton Mifflin.

Siegel, S., & Castellan, N.J. (1988). *Nonparametric statistics for the behavioral sciences* (2nd ed.). New York: McGraw-Hill.

Todman, J.B., & Dugard, P. (2000). *Single-case and small-n experimental designs: A practical guide to randomization tests*. Mahwah, NJ: Erlbaum.

Yin, R.K. (1993). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage.

**RUBRIC FOR MID-TERM (10 items) AND FINAL (15 items) EXAMINATIONS (50) points total)**

For each test item:

**Exemplary response** (2 points): Provides direct and thorough response to question, defines relevant terms, provides specific examples or instances of the concepts being discussed. Answer is directly reflective of lecture, readings, activities, or assignments, or other material of direct relevance to class.

**Adequate response** (1.5 point): Provides direct and relevant response to question, provides accurate information directly relevant to class readings, notes, or activities. May provide less information, less elaboration, or a less thoughtful overall response than an exemplary response:

**Marginal response** (1 point): Provides some relevant information, but does not demonstrate overall a clear or complete understanding of the relevant concepts:

**Inadequate response** (.5 - 0 points): Weak response that does not appear to reflect course content or activities. May include inaccurate information:

**METHOD SECTION ASSIGNMENT (4 @ 10 points)**

This course requires students to write a four research method sections employing single subject, qualitative, survey, and group-experimental/quasi-experimental research methodology (5 pages maximum, not including title page, abstract, and references). It should employ APA format (see sample paper on pp 306-320 of the APA manual) and contain sections similar to the following:

Introduction, brief literature review (1 page)

Purpose

Research questions

Method (4 pages)

Participants and setting

Research design

Data sources; dependent variables

Materials

Procedures (proposed methods for data collection)

Data analysis

Anticipated results (where relevant)

**RUBRIC FOR METHOD SECTION ASSIGNMENTS**

**Exemplary paper (10 points):** Appropriate topic, clearly and directly written, thorough description of participants, data sources, and procedures. Good writing style, free of mechanical or stylistic errors, appropriate and correct use of APA format.

**Adequate paper (9-8 points):** Good overall paper, lacking in one or two of the criteria for an exemplary paper. Not entirely clear and thorough, and/or minor writing style or APA format errors may be present.

**Marginal paper (7 points):** Overall, acceptable but with one or more significant problems. Contains some useful information, but may have substantial problems with evaluation, writing style or APA format, or unclear or inappropriate description of methodology.

**Inadequate paper (1-6 points):** Paper with substantial problems in important areas such as writing, description of participants, data sources, procedures, data analysis, or overall thoughtfulness. Contains little or no information of value to field of education.

**Unacceptable/no paper (0 points):** Paper with no value whatsoever relative to the assignment, or no paper turned in at all.

# RUBRIC FOR PARTICIPATION AND ATTENDANCE (10 points)

**Exemplary (10 points):** The student attends all classes, is on time, is prepared and actively participates and supports the members of the learning group and the members of the class. Asks good questions; speaks up when concepts are not clearly understood.

**Adequate (9-8):** The student attends all classes, is on time, is prepared and follows outlined procedures in case of unavoidable absence; the student makes contributions to the learning group and class when prompted. May be occasionally unprepared or nonparticipatory.

**Marginal (7 points):** The student is absent from class, often not prepared, does not contribute actively to class discussion.

**Inadequate (6 or fewer points):** The student is often late or absent for class. The student is not prepared for class and does not actively participate in discussions. May fail to exhibit professional behavior and dispositions.