



Graduate School of Education

Program: Doctoral Studies in Education

Special Education Program

Fall Semester, 2009

SYLLABUS

Course title: **EDSE 841: *Intervention Research in Special Education***

Meeting: Innovation Hall, Room 336
Mondays 4:30 – 7:10

Instructor: **Frederick J. Brigham, Ph.D.**

Office: 2204 West Hall (Inside 2200, Ph.D. in Education Suite)

Phone: 703 993 1667 (email is the better way to contact me) My voice mail has a recurring problem. We are working on it.

Email: fbrigham@gmu.edu

Hours: 1:00 – 4:00 Wednesday afternoons. Other times may be available by appointment. I teach off campus on Thursday afternoons so I am never available on Thursdays. Please notify me if you are coming, even during office hours, if at all possible.

Course Description:

This course is intended to provide advanced graduate students with opportunities for in-depth study, analysis and discussion of original intervention research in special education. Emphasis will be placed on analyzing research methodology, coding original intervention research, analyzing results, synthesizing findings, formulating future research questions relevant to individuals with disabilities, and gaining an understanding of the submission process for conferences and publications.

Objectives/Competencies

Learners will be able to:

1. Describe various methodologies used in special education intervention research.
2. Demonstrate how to analyze, critique, and synthesize special education intervention research.
3. Write syntheses of special education intervention research.
4. Describe issues surrounding special education intervention research.
5. Discuss the publication process, including addressing various target audiences and target journals.

Learning Activities

Learning activities include the following:

1. Class lecture, discussion, and participation.
2. Videotapes and other relevant media presentations.
3. Study and independent library research.
4. Applications with relevant hardware and software, including SPSS.
5. Application activities, including in class and out of class evaluation and analysis of intervention research.
6. Student presentations of projects.

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 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://mail.gmu.edu> and click on Responsible Use of Computing at the bottom of the screen.

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 or call 703-993-2474 to access the DRC.

Evaluation and Points by Activity

Students will be evaluated on class preparedness, class participation, individual presentations, and written products as described separately next.

1. Class attendance and class participation as demonstrated by completing and handing in weekly class activities and participating in the regularly project presentation updates throughout the semester. (15 points). Excessive absences will result in no class participation points and withdrawal from class.
2. Selection of 1 of 2 options: Option 1: Individual intervention research review paper; or Option 2: Research intervention application project (note this must also go through GMU HSRB for approval). Topics need to be approved and specific guidelines will be distributed throughout the semester for turning in components as work is progressing. It is anticipated that at minimum the project will result in an integrative review that is suitable for submission to a conference as a presentation and potentially for a review by a relevant professional journal. Pending time limits all projects may also result in the design, implementation, evaluation, and write-up of an investigation (or at least the initial design stages of one). Papers will be prepared in APA format. Papers will be posted on BB and hard copies turned in. Late projects will be penalized. (35 points)
3. Project Updates will be presented by students during a minimum of 2 points throughout the semester (10 points). It is recommended that students prepare a one page handout listing progress to date each time.
4. Final poster and presentation of results. Posters and handouts will be posted on BB. (20 points)
5. Exam. A take home exam will be distributed in class and students will post copies on BB turn in hard copies. (20 points)

Grading Criteria

A = 95-100%
 A- = 94-90%
 B = 80-89%
 C = 70-79%
 F = <60%

Class Materials

Class Blackboard site to obtain copies of class materials, readings in pdf formats, and links to relevant sites.

Assignments and Scoring Rubrics

Class Participation and Attendance Policy (15 points): Because of the importance of lecture and discussion to your total learning experience, I wish to encourage you to both attend and participate in class regularly. Attendance, punctuality, preparation, and active contribution to small and large group efforts are essential. These elements of your behavior will reflect the professional attitude implied in the course goals and will account for 10% of your course grade. Students who must miss a class must notify the instructor (preferably in advance) and are responsible for completing all assignments and readings for the next class. We will be occasionally completing assignments that will contribute to the 15 points (e.g., the Intervention researcher assignment).

Rubric for Participation and Attendance

Exemplary (14-15 points): The student attends all classes, is on time, is prepared and follows outlined procedures in case of absence, the student actively participates and supports the members of the learning group and the members of the class.

Adequate (12-13 points): The student attends all classes, is on time, is prepared and follows outlined procedures in case of absence; the student makes active contributions to the learning group and class.

Marginal (11-12 points): The student is on time, prepared for class, and participates in group and class discussions. The student attends all classes and if an absence occurs, the procedure outlined in this section of the syllabus is followed.

Inadequate (10 or less points): The student is late for class. Absences are not documented by following the procedures outlined in this section of the syllabus. The student is not prepared for class and does not actively participate in discussions. May fail to exhibit professional behavior and dispositions. Excessive absences can result in additional penalties and potential withdrawal from class.

Option 1 (35 points): Individual Intervention Research Review Paper

Research Project Option 1. Individual Research Review. An integrative review paper must be completed. You may select to complete a traditional or integrative research review paper of a selected intervention area. Have your topic approved prior to beginning. You should also prepare materials based on the paper to present to the class.

1. Select an area of interest in special education.
2. Complete a literature search of Psych Info and other relevant databases to identify relevant original research articles (check for other relevant data bases).
3. Obtain and read original research articles.
4. Develop some type of coding system to organize your articles
5. Organize and analyze the information from the articles.
6. Write the paper using the *American Psychological Association Publication Manual* (5th edition) guidelines:
 - Title Page
 - Abstract
 - Introduction and Purpose
 - Method (literature search procedures)
 - Results (this is the section that will vary according to your specific articles)
 - Overall characteristics of the studies (number of articles, types of students, ages, grades, disability areas, general descriptions of interventions, overall length of interventions, interveners, overall findings; and quality of studies
 - Discussion – Summary and Conclusions
 - References

There will be numerous opportunities to discuss this project and to work on your papers throughout the semester.

Scoring Rubric

Exemplary paper (33-35 points): Appropriate topic, good literature search procedures, good overall characteristics of the data set, thorough and thoughtful review of previous research. Good writing style, free of mechanical or stylistic errors, appropriate use of APA format throughout.

Adequate paper (30-32 points): Good overall paper, lacking in one or two of the criteria for an exemplary paper. Not entirely reflective or thoughtful, or minor writing style errors may be present.

Marginal paper (27-29 points): Overall, acceptable but with one or more significant problems. Contains some useful information, but may have substantial problems with evaluation, writing style, or review of relevant literature.

Inadequate paper (24-26 points): Paper with substantial problems in important areas such as writing, evaluation of research, overall thoughtfulness. Paper contains little to no information of value to special education practice.

Unacceptable/no paper (less than 24 points): Paper with little to no value relative to the assignment, or no paper turned in at all. May describe a literature of no value or relevance, or that was not approved for this assignment.

Option 2 (35 points) Intervention Research Application Project

The research application project is designed to provide experience in designing, implementing, and evaluating a research application project in special education. Be sure to have your research question and design approved before beginning to implement it as Mastropieri can assist you with the design components and GMU and district human subjects' approval. It is recommended that the following format be followed:

Questions of the Research Application Project:

Sample questions: Does teaching using an activities-based approach to instruction facilitate learning and attitudes toward school and learning more than using a textbook approach with students classified as learning disabled (LD) and seriously emotionally disturbed (SED)? Does the use of social stories with children with autism reduce inappropriate behavior? What do general education teachers know about how to teach students with disabilities?

Background Literature:

Provide a brief description of the background literature that indicates a need for your question.

Design of the Project:

This section will be based upon your question. Sample design: Two groups of students with LD and ED will participate in the instruction. One group will be taught information using the activities-oriented approach and the other group will be taught the same information using the textbook approach. Time-on-task will be held equivalent across the teaching methods and all students will be given the same pre- and post- tests.

Method:

Participants: Use the following maker variables as guidelines to describe the participants in your applied project. Initially complete one of these for each student and then compute the averages and ranges and report that data. Staple your individual data sheets to your report.

Student Identification # _____
 School Name _____ Size _____ Setting _____ (urban, suburban, metropolitan, rural)
 Special education classification _____
 Grade in school _____
 Date of birth (month, day, year) _____
 Sex (Male or female) _____
 Race/ethnicity: Caucasian, African-American, Hispanic-American, Asian-American, other
 Socioeconomic status: (free lunch, reduced lunch, neither) _____ (high, medium, low)
 Years classified as special education student _____
 Amount of time per day in special education setting _____
 Classes mainstreamed or inclusive instruction _____
 IQ Full scale IQ _____, Verbal IQ _____, Performance IQ _____
 Achievement scores (specify test name and try to obtain standard scores, but report whether grade equivalent, percentiles, or other, too)

Reading achievement Test name
 Math achievement Test name
 Language achievement Test name
 Spelling achievement Test name
 Behavioral indices Test name

Teacher report of study skills and classroom behavior:

Materials for both conditions: Carefully describe all of the instructional materials that were used in your project. Attach copies of the precise materials used in each teaching condition, including any teacher materials and student materials.

Testing materials: Carefully describe all of the testing materials that were used. Include copies of the pretest, and all posttests. Remember these measures will be used to describe whether or not your methods were "EFFECTIVE." Append copies of the students' completed measures. You may want to include a pretest of content, a posttest of content, attitude measures (e.g., I really enjoyed social studies when activities were used in class 1 2 3 4 5), and you may want to include a measure of student involvement during class (e.g., audio or videotape students doing activities and text activities and compute engaged time on task).

Procedure: Carefully describe in a step by step fashion what you did in each instructional method. Be sure to describe how you incorporated the teacher effectiveness variables. Use the subheading Both methods to describe procedures that were common to both methods. Use the subheadings (for example) Activities Method or Textbook Method to describe what was specific to those instructional conditions.

Testing procedures: Describe how the tests were administered. For example, were directions read aloud to the class and students worked independently, or were students given the exams individually, etc.

Scoring procedures: Describe how the tests were scored. For example, if tests consisted of multiple choice items, scoring is usually straight forward, however, if short answer items were used, then what was the scoring criteria? Was partial credit given, if so, explain how those decisions were made. Also, if you were attempting to score an active participation score during instruction, how was that assessed?

Data Sources:

Provide a listing of all of the sources of data you obtained. We will use this list to help determine the appropriate data analyses procedures.

Results:

Describe the all of the testing results. You can present individual scores (use the same ID#s used in the demographic data sheets) and then compute a column average (we may learn several statistical tests that you will be able to use for analyzing your data)..

| ID# | Testing Scores (and demographic data) | | |
|----------|---------------------------------------|----------|------------------------------------------------------------------|
| | Pretest | Posttest | Posttest-Pretest Attitude Engagement Demographic data (IQ, etc.) |
| Method A | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| Mean | | | .. |
| Method B | | | |
| 11 | | | |
| 12 | | | |
| 13 | | | |
| Mean | | | |

Discussion:

Provide a discussion of your findings. The first few sentences can provide summary accounts of the findings. For example, method A clearly facilitates the performance over method B, as every student in method A received 10 points higher on the same test. Or there were no differences between the method on the pre and posttests, however, all students were engaged more in class during method A and reported liking the instruction more than students in method B. Or, the activity-approach appeared to work best with students classified as LD and ED, but not mental retardation, as all students with LD and ED scored higher in method A, whereas, students with mental retardation performed similarly in both methods. You may also see difference by grade levels. For example, it may be that your intervention worked with all of your 3rd graders, but not with your 2nd graders.

Provide some insights as to why you might have obtained the findings. Provide a summary paragraph describing what you learned from the application project and how you could implement projects like this in your teaching to determine which methods work best with your students.

Scoring Rubric

Exemplary paper (33-35 points): Appropriate topic, thorough and thoughtful review of previous research, appropriate and clearly described implementation procedures, careful measurement and evaluation of results, thorough and appropriate discussion of implications of findings. Good writing style, free of mechanical or stylistic errors, appropriate use of APA format throughout.

Adequate paper (30-32 points): Good overall paper, lacking in one or two of the criteria for an exemplary paper. Not entirely reflective or thoughtful, or minor writing style errors may be present.

Marginal paper (27-29 points): Overall, acceptable but with one or more significant problems. Contains some useful information, but may have substantial problems with evaluation, writing style, or implementation of project.

Inadequate paper (24-26 points): Paper with substantial problems in important areas such as writing, implementation of intervention, evaluation of results, overall thoughtfulness. Contains little or no information of value to special education practice.

Unacceptable/no paper (less than 24 points): Paper with little to no value relative to the assignment, or no paper turned in at all. Paper may describe a project of no value or that was not approved for this assignment.

Class Presentations: Assignments and Updates; Research Application Projects and Research Review Paper Presentation Component Directions**Class Updates:**

1. Be prepared to present an overview of what you have done to date.
2. Prepare relevant audio-visual materials
3. Explain clearly what you have done, what questions remain and what issues or barriers you have encountered.

End of Semester Projects

1. Be prepared to present a poster and oral summary of your written research project.
2. Prepare audio visual materials use in your poster presentation
3. Be prepared to explain clearly what you did
4. Prepare a one page summary for classmates.

Research Application Project Poster Outline

Prepare an overview of your paper using the following guidelines :

1. Title of research
2. Purpose of research
3. Background Review including statement of need
4. Method, including sample, materials, and procedures
5. Data Sources
6. Data analyses
7. Results
8. Discussion and implications

Intervention Research Review Paper Poster Presentation Outline

Prepare an overview of your paper using the following guidelines:

1. Title of paper
2. Description of the Paper's Topic
3. Literature Search Procedures
4. Overall Results of the Literature Search (# of research articles, names of journals, years of publication)
5. Overall Characteristics of the Data Set (total number of students, ages, grade levels, types of disability areas, types of strategies overall)
6. Major categories of areas [for example, Strategies and Descriptions of each (five studies on word problem solving for elementary students with ED; 5 on problem solving for secondary level students with LD) – this section will probably be the longest set of subheadings in your paper]
7. Address quality indices of original studies
8. Summary and Conclusions

Scoring Rubric: Poster Presentations: Scoring Criteria (20 points)

Exemplary presentation (18-20 points): Poster clearly describes major elements of the proposal; poster reflects clarity, organization, knowledge and interest in the content being presented; reflects a high level of preparation; makes effective use of visual format and presents an interesting, attractive appearance; describes very clearly the methods under consideration; poster and discussion keep the audience engaged; provide information of interest and value to audience. Presenter is able to answer basic audience questions about the proposal with poise, clarity, and thoughtfulness.

Adequate presentation (16-19 points): Good overall poster presentation, but may be lacking in one or two of the criteria specified in exemplary response. May seem a little less polished or prepared, may be vague in some places, or may fail to completely answer audience questions.

Marginal presentation (13-15 points): Poster presentation provides relevant information, but demonstrates only a limited understanding of the topic or project. Style, organization, or visual elements may be less than adequate. Responses to audience questions may reflect lack of understanding of relevant research methods.

Inadequate presentation (10-12 points): Weak overall presentation that reflects very little knowledge of topic or project. May appear very poorly prepared, or may not have followed directions. Style or visual elements may be inadequate or lacking.

Unacceptable/no presentation (less than 10 points): Completely unsatisfactory presentation, with no reasonable reference to topic or project; or no presentation made.

Exam (20 points):

A take home exam will be distributed before the end of the semester (e.g., 10-6-) and will be due 11-3. Throughout the entire semester we will be learning and implementing these steps to use to complete the exam. The exam will consist of the following:

1. Read, code, analyze, and synthesize a few of articles that will be given to you.
2. You will be asked to turn in copies of your coding instruments, your data analysis, and your written synthesis. This will also include any coding conventions developed, including the "quality of study" coding criteria.
3. Don't panic, the synthesis will not be expected to be similar in depth to your semester project. This will simply be an opportunity for you to demonstrate that we learned this process this semester!!

Scoring Rubric: Exam: Scoring Criteria (20 points)

Exemplary response (18-20 points): Included all components completed in exemplary fashion. Well-designed coding instrument used to code studies accurately. SPSS file accurate, data analyzed and interpreted well. Written responses in APA format.

Adequate response (15-17 points): All components present, but not in exemplary fashion. Missing one of the above components.

Marginal presentation (13-14 points): Components present, but inadequate information presented on majority of the components.

Inadequate presentation (10-12 points): Weak overall exam that reflects very little knowledge of project.

Unacceptable/no presentation (less than 10 points): Completely unsatisfactory presentation, with no reasonable reference to topic or project; or no presentation made.

Class Readings

Most ARTICLES are available on the Blackboard site or through GMU Library. Additional readings for key intervention researchers will be assigned throughout the semester.

Week 1:

Overview on Intervention Research

- Forness, S.R., Kavale, K.A., Blum, I.M., & Lloyd, J.L. (1997). Mega-analysis of meta-analyses: What works in special education and related services. *Teaching Exceptional Children*, 4-9.
- Lloyd, J. W., Forness, S. R., & Kavale, K. A. (1998). Some methods are more effective than others. *Intervention in School and Clinic*, 33(4), 195-200.
- Jackson, G.B. (1980). Methods for integrative reviews. *Review of Educational Research*, 50, 438-460.
- Lessen, E., Dudzinski, M, Karsh, K., & Van Acker, R. (1989). A survey of ten years of academic intervention research with learning disabled students: Implications for research and practice. *Learning Disabilities Focus*, 4, 106-122.
- Mastropieri, M.A., Berkeley, S., McDuffie, K., Graff, H., Marshak, L., Conners, N., Diamond, C.M., Simpkins, P., Bowdey, F. R., Fulcher, A., Scruggs, T.E., & Cuenca-Sanchez, Y. (in press). What is published in the field of special education? An analysis of 11 prominent journals. *Exceptional Children*.

Week 2:

Sample Intervention Research Studies

- Mastropieri, M. A., Scruggs, T. E., & Levin, J. R. (1985). Mnemonic strategy instruction with learning disabled adolescents. *Journal of Learning Disabilities*, 18, 94-100.
- 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.

Week 3:

Quality Indicators Readings

- Gersten, R., Fuchs, L., 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.
- Horner, R.H., Carr, E.G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single subject research to identify evidenced-based practice in special education. *Exceptional Children*, 71, 165-180.
- Odom, S.L., Brantlinger, E., Gersten, R., Horner, R.H., Thompson, B., & Harris, K.R. (2005). Research in special education: Scientific methods and evidence-based practices. *Exceptional Children*, 71, 137-148.

Week 4:

Evidence-Based Practice Determinations

- Baker, S. K., Chard, D. J., Ketterlin-Geller, L. R., Apichatabutra, C., & Doabler, C. (2009). Teaching writing to at-risk students: The quality of evidence for self-regulated strategy development. *Exceptional Children*, 75(3), 303.
- Browder, D., Ahlgrim-Dezell, L., Spooner, F., Mims, P. J., & Baker, J. N. (2009). Using time delay to teach literacy to students with severe developmental disabilities. *Exceptional Children*, 75(3), 343.
- Chard, D. J., Ketterlin-Geller, L. R., Baker, S. K., Doabler, C., & Apichatabutra, C. (2009). Repeated reading interventions for students with learning disabilities: Status of the evidence. *Exceptional Children*, 75(3), 263.
- Lane, K. L., Kalberg, J. R., & Shepcaro, J. C. (2009). An examination of the evidence base for function-based interventions for students with emotional and/or behavioral disorders attending middle and high schools. *Exceptional Children*, 75(3), 321.
- Montague, M., & Dietz, S. (2009). Evaluating the evidence base for cognitive strategy instruction and mathematical problem solving. *Exceptional Children*, 75(3), 285.
- Cook, B. G., Tankersley, M., & Landrum, T. J. (2009). Determining evidence-based practices in special education. *Exceptional Children*, 75(3), 365.

Week 5:

- Chard, D. J., Vaughn, S., & Tyler, B.-J. (2002). A synthesis of research on effective interventions for building reading fluency with elementary students with learning disabilities. *Journal of Learning Disabilities*, 35(5), 386-406.
- Gersten, R., Fuchs, L. S., Williams, J. P., & Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. *Review of Educational Research*, 71(2), 279-321.
- Scruggs, T.E., Mastropieri, M.A., Berkeley, S., & Graetz, J. (in press). Do special education interventions improve learning of secondary content? A meta-analysis. *Remedial and Special Education*.

Week 6:

Lane, K. L., Harris, K.R., Graham, S., Weisenbach, J.L., Brindle, M., & Morphy, P. (2008). The effects of self-regulated strategy development on the writing performance of second-grade students with behavioral and writing difficulties. *Journal of Special Education, 41*, 234-253.

Week 7:

Torgesen, J. K., Alexander, A. W., Wagner, R. K., Rashotte, C. A., Voeller, K., Conway, T. (2001). Intensive remedial instruction for children with severe reading disabilities: Immediate and long-term outcomes from two instructional approaches. *Journal of Learning Disabilities, 34*, 33-58.

Week 8:

Mostert Articles on Meta-Analysis

Mostert, M.P. (2004). Face validity of meta-analyses in emotional or behavioral disorders. *Behavioral Disorders, 29*, 89-118.

Mostert, M.P. (2003). Meta-analyses in mental retardation. *Education and Training in Developmental Disabilities, 38*, 229-249.

Mostert, M.P. (2001). Characteristics of meta-analyses reported in mental retardation, learning disabilities, and emotional and behavioral disorders. *Exceptionality, 9*, 199-225.

Sample Intervention Research Studies

Fulk, B. J. M., Mastropieri, M. A., & Scruggs, T. E. (1992). Mnemonic generalization training with learning disabled adolescents. *Learning Disabilities Research and Practice, 7*, 2-10.

Malone, L. D., & Mastropieri, M. A. (1992). Reading comprehension instruction: Summarization and self-monitoring training for students with learning disabilities. *Exceptional Children, 58*, 270-279.

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 and Practice, 18*, 52-65.

Mastropieri, M. A., Scruggs, T. E., & Levin, J. R. (1985). Mnemonic strategy instruction with learning disabled adolescents. *Journal of Learning Disabilities, 18*, 94-100.

Mastropieri, M.A., Scruggs, T.E., Mantzicopoulos, P.Y., Sturgeon, A., Goodwin, L., & Chung, S. (1998). "A place where living things affect and depend on each other": Qualitative and quantitative outcomes associated with inclusive science teaching. *Science Education, 82*, 163-179.

Mastropieri, M. A., Scruggs, T. E., Whittaker, M. E. S. & Bakken, J. P. (1994). Applications of mnemonic strategies with students with mental disabilities. *Remedial and Special Education, 15*(1), 34-43.

Mastropieri, M. A., Scruggs, T. E., Bakken, J. P., & Brigham, F. J. (1992). A complex mnemonic strategy for teaching states and capitals: Comparing forward and backward associations. *Learning Disabilities Research and Practice, 7*, 96-103.

Scruggs, T. E., & Mastropieri, M. A. (1992). Classroom applications of mnemonic instruction: Acquisition, maintenance, and generalization. *Exceptional Children, 58*, 219-229.

Uberti, H.Z., Scruggs, T.E., & Mastropieri, M.A. (2003). Keywords make the difference! Mnemonic instruction in inclusive classrooms. *Teaching Exceptional Children, 35*(3), 56-61.

Sample Review Papers

Mastropieri, M. A., & Scruggs, T. E. (1992). Science for students with disabilities. *Review of Educational Research, 62*, 377-411.

Mastropieri, M.A., Bakken, J.P., & Scruggs, T.E. (1991). Mathematics instruction for individuals with mental retardation: A perspective and research synthesis. *Education and Training in Mental Retardation, 26*, 115-129.

Mastropieri, M.A., Scruggs, T.E., & Shiah, S. (1991). Mathematics instruction with learning disabled students: A review of research. *Learning Disabilities Research and Practice, 6*, 89-98.

Mastropieri, M. A., & Scruggs, T. E. (1992). Science for students with disabilities. *Review of Educational Research, 62*, 377-411.

Mastropieri, M.A., & Scruggs, T.E. (1998). Constructing more meaningful relationships in the classroom: Mnemonic research into practice. *Learning Disabilities Research & Practice, 13*(3), 138-145.

Mastropieri, M.A., & Scruggs, T.E. (1997). Best practices in promoting reading comprehension in students with learning disabilities. *Remedial and Special Education, 18*, 197-213.

Mastropieri, M.A., Scruggs, T.E., Bakken, J.P., & Whedon, C. (1996). Reading comprehension: A synthesis of research in learning disabilities. In T.E. Scruggs & M.A. Mastropieri (Eds.), *Advances in learning and behavioral disabilities: Intervention research* (vol. 10, Part B, pp. 201-227). Greenwich, CT: JAI.

Scruggs, T.E., & Mastropieri, M.A. (2000). The effectiveness of mnemonic instruction for students with learning and behavior problems: An update and research synthesis. *Journal of Behavioral Education, 10*, 163-173.

Scruggs, T.E. & Mastropieri, M.A. (1998). Summarizing single subject research: Issues and applications. *Behavior Modification, 22*(3) 221-242.

- Scruggs, T.E., & Mastropieri, M.A. (1996). Teacher perceptions of mainstreaming: A research synthesis. *Exceptional Children*, 63, 59-74.
- Scruggs, T.E., & Mastropieri, M.A. (1995). The first decade of the journal *Behavioral Disorders*: A quantitative evaluation. *Behavioral Disorders*, 11, 52-59.
- Scruggs, T.E., Mastropieri, M.A., Berkeley, S., & Graetz, J. (in press). Do special education interventions improve learning of secondary content? A meta-analysis. *Remedial and Special Education*.

Selected Key Intervention Researchers and Sample Intervention Study or Review

- Browder, D. M., Wakeman, S. Y., Spooner, F., Ahlgrim-DeLzell, L., & Algozzine, B. (2006). Research on reading instruction for individuals with significant cognitive disabilities. *Exceptional Children* 72(4), 392–408.
- Fagella-Luby, M., Deshler, D. D., & Schumaker, J. S. (2007). Embedded learning strategy instruction: Story-structure pedagogy in heterogeneous secondary literature classes. *Learning Disability Quarterly*, 30, 131-147,
- Fuchs, D., Fuchs, L. S., Thompson, A., Al Otaiba, S., Yen, L., Yang, N. J., Braun, M., & O'Connor, R. E. (2001). Is reading important in reading-readiness programs: A randomized field trial with teachers as program implementers. *Journal of Educational Psychology*, 93(2), 251–267.
- Gersten, R., Fuchs, L. S., Williams, J. P., & Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. *Review of Educational Research*, 71(2), 279–321.
- Jitendra, A. K., Hoppes, M. K., & Xin, Y. P. (2000). Enhancing main idea comprehension for students with learning problems: The role of summarization strategy and self-monitoring instruction. *Journal of Special Education*, 34, 127–139.
- Lane, K. L., Harris, K.R., Graham, S., Weisenbach, J.L., Brindle, M., & Morphy, P. (2008). The effects of self-regulated strategy development on the writing performance of second-grade students with behavioral and writing difficulties. *Journal of Special Education*, 41, 234-253.
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Tentative Schedule

| Week/ Date | Topics | Assignments |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1, 8/31 | Class overview, assignments and discussion of topics. What is intervention research? Who conducts intervention research in special education? | Read: Mastropieri, et al. (in press). <i>Exceptional Children</i> ; Forness et al. (1997). Only SKIM Jackson (1980) for key ideas |
| 9/07 | Labor Day | University Closed |
| 2, 9/14 | One early and one later intervention research study; Analysis of original research; Demonstration of the "method section"; What does it mean to conduct a line of research. | Read Mastropieri, Scruggs, & Levin (1985) and Mastropieri et al. (2006) <i>Journal of Special Education</i> Develop some type of coding sheet for that article and bring to class. Be prepared to present your coding sheet to class. |
| 3, 9/21 | Read and discuss quality indicators of research - develop our conventions for coding quality of studies | Read Gersten et al. (2005): Horner et al. (2005) and Odom et al. (2005) from <i>Exceptional Children</i> . Develop conventions for coding quality index. |
| 4, 9/28 | Analysis of reviews of research; Discussion of the coding process with respect to various research reviews (narrative, meta-analysis). | Read Mastropieri, M. A., & Scruggs, T. E. (1992) RER and Read Gersten et al. (2001) RER: and Scruggs et al. (in press) <i>Remedial and Special Education</i> Use criteria established by Jackson to examine reviews of literature and critique these 2 reviews. Start to develop coding sheets for analysis of individual studies to be included within reviews of research |
| 5, 10/05 | Continued analysis of individual studies. Continuing literature search procedures. Ancestry search procedures – examining recent journals!!! Keeping careful records and APA citation information. | Read and code Fagella-Luby, Deshler et al. (2007) <i>Learning Disability Quarterly</i> and Browder et al. (2006) <i>Exceptional Children</i> Bring one coded article to class. Be prepared to present article via your coding |
| 6, 10/13 (TUESDAY) | Student updates of progress to date Discussion of coding outcome variables. Coding and analyzing the data. | Student project update #1 Exam materials will be distributed Read and code Lane et al. (2008) <i>Journal of Special Education</i> |
| 7, 10/19 | Code and analyze a simple meta-analysis; Topic to be selected and completed in class; | Read and code Torgesen et al. (2001) <i>Journal of Learning Disabilities</i> SPSS data analysis procedures; Discussion and examples for synthesizing research findings |
| 8, 10/26 | Continuation of coding and SPSS | Skim Mostert articles on meta-analysis Class selection of articles from Intervention Researchers |
| 9, 11/02 | Co-variation of variables discussion. Synthesizing the findings Discussion of what we know and don't know. Design of the NEXT STUDY based on findings | Class selection of articles from Intervention Researchers Continue on article analysis |
| 10, 11/09 | Student updates of progress to date | EXAM due Student project update #2 |
| 11, 11/16 | Putting it together -- Writing the final paper using my spss output and notes | bring spss files, etc to class |

| Week/ Date | Topics | Assignments |
|---------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 12, 11/23 | Summary and Synthesis - How do I write my research synthesis or write up my study? | Writing up my findings |
| 13, 11/30 | No Formal Class Meeting | Continue with independent work on final projects and presentations |
| 14, 12/07 | Write up for submission to Professional Conferences | Papers due. Bring disk versions of papers and pcs and we will write proposals for submission to the upcoming CEC and AERA Conferences |
| 15, 12/14 | Celebration – Look What We Did this Semester!!! | Formal Poster Session of Projects Celebration – Look What We Did this Semester!!! |
