EDSE 841: Intervention Research in Special Education

Instructor: Margo A. Mastropieri, Ph.D.
Time: 4:30 – 7:10, Thursdays
Location: GMU, Robinson A, Room 251
Phone: (GMU) 703-993-4136 (h) 703-830-4894
Email: mmastrop@gmu.edu
Office Hours: Robinson B, room 441, Thursdays 2 – 4, after class, and by appointment.

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 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. (10 points).
2. Class project consisting of evaluating, analyzing and synthesizing intervention research in special education. It is anticipated that this project will result in a class manuscript suitable for presentation and publication. Weekly assignments and regular individual class updates are required. (30 points).
3. Selection of 1 of 2 options: Option 1 A research review paper; or Option 2: Written research application project, (see attached directions); 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 both 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. Late projects will be penalized. (30 points)
4. Final poster presentation of results of the research project or literature review paper. (10 points)*
5. Exam. A take home exam will be distributed in class. (20 points)
* Refer to attached "Assignment Sheet" for more detailed descriptions of all assignments, scoring criteria and rubrics.

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

Class Materials
http://blackboard.gmu.edu link to EDSE 841 to obtain copies of class materials, readings in pdf formats, and links to relevant sites.
http://library@gmu.edu: This is the George Mason University electronic reserve web site. You can access additional readings. Select Mastropieri as instructor, EDSE 841 as class and type the password: apple (all lower case, no spaces). Additional readings may be added.

Assignments and Scoring Rubrics

Class Participation and Attendance Policy (10 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.

Rubric for Participation and Attendance
Exemplary (9-10 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 (8 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 (7 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 (6 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.

**Class Coding and Data Analysis Project (30 Points): Replication and Extension of Lessen et al. (1989)**

1. Completion of a revised coding sheet (we will work on this in class): but studies will have to measure academic, or social/emotional dependent measures in order to be coded. (I have eliminated mental retardation, but could be convinced to add it)
2. Completion of coding of various relevant journals
   - Generic Special Education Journals:
   - Exceptional Children
   - Journal of Special Education
   - Remedial and Special Education
   - Education and Treatment of Children
   - Learning Disabilities Journals
   - Learning Disability Quarterly
   - Journal of Learning Disabilities
   - Learning Disability Research and Practice
   - Behavioral Disabilities Journals
   - Behavioral Disorders
   - Journal of Emotional and Behavioral Disabilities
3. Individual responsibilities will involve coding specific journals using our coding instrument according to a time line and inputting data into our class SPSS file. We will analyze our findings, work on writing up the results as a class and hopefully be able to present and publish our class findings.

**Scoring Rubric: Class Coding and Data Analysis Project (30 Points):**

**Exemplary work (26-30 points):** Appropriate, thorough and thoughtful completion of coding in timely fashion – we will provide dates for ongoing work in class. Appropriate inputting of SPSS data in class file; Good execution of data analyses using SPSS.

**Adequate work (22-25 points):** Good overall work, lacking in one or two of the criteria for an exemplary work. Not entirely timely with completion of assignments.

**Marginal paper (18-21 points):** Overall, acceptable but with one or more significant problems. Contains some useful information, but may have substantial problems with coding or completion of coding or data inputting and analyses of project.

**Inadequate work (1-17 points):** Substantial problems in important coding, data inputting and/or data analyses areas

**Unacceptable/no work (0 points):** assignments no value whatsoever relative to the assignment, or no assignments turned in at all.
Research Project Option (30 points) 1: Individual Intervention Research Review

Research Project Option 1: Individual Intervention Research Review. An integrative review paper on an intervention in special education must be completed, turned in by 12/2 and presented to the class. You may select to complete a traditional research review paper of a selected intervention area. Have your topic approved prior to beginning.

1. Select an area of interest in some intervention area 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 databases).
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)
   - Findings (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;
   - Discussion – Summary and Conclusions
   - References

Scoring Rubric

Exemplary paper (26-30 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 (22-25 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 (18-21 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 (1-17 points): Paper with substantial problems in important areas such as writing, evaluation of research, overall thoughtfulness. Contains little or no information of value to special education practice.

Unacceptable/no paper (0 points): Paper with no value whatsoever 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: Research Application Project (30 points)

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 by Mastropieri before beginning to implement it as Mastropieri can assist you with the design components and human subjects’ approval. It is recommended that the following format be followed:

Questions of the Research Application Project:

Questions will vary depending on the design and topic. 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? How do teachers adapt to an online IEP system?
**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.

**Dependent measures** (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 straightforward, 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 will learn/review several statistical tests that you will be able to use for analyzing your data).

Scores (and demographic data)

<table>
<thead>
<tr>
<th>ID#</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Posttest-Pretest</th>
<th>Attitude</th>
<th>Engagement</th>
<th>Demographic data (IQ, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Method A
1
2
3
4
5
6
Mean

Method B
11
12
13
14
15
16
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 (26-30 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 (22-25 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 (18-21 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 (1-17 points): Paper with substantial problems in important areas such as writing, implementation of intervention, and evaluation of results, overall thoughtfulness. Contains little or no information of value to special education practice.

Unacceptable/no paper (0 points): Paper with no value whatsoever relative to the assignment, or no paper turned in at all. May describe a project of no value that was not approved for this assignment.

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

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

End of Semester Projects
1. Be prepared to present a poster and oral summary of your written research project.
2. Prepare audiovisual 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

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. Summary and Conclusions

Scoring Rubric: Poster Presentations: Scoring Criteria (10 points)

Exemplary presentation (10 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 (8-9 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 (6-7 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 (1-5 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 (0 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 a couple of weeks before the end of the semester and will be due December 13th. Throughout the entire semester we will be learning and implementing these steps. The final 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.
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 (20-15 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 response in APA format.

Adequate response (14-10 points): All components present, but not in exemplary fashion. Missing one of the above components.

Marginal presentation (9-5 points): Components present, but inadequate information presented on majority of the components.

Inadequate presentation (1-5 points): Weak overall exam that reflects very little knowledge of project.

Unacceptable/no presentation (0 points): Completely unsatisfactory presentation, with no reasonable reference to topic or project; or no presentation made.
Class Readings
Most are available on the Blackboard site or e-reserves under Mastropieri (under EDSE 841: password apple; EDSE 629 password: melody). Additional readings may be assigned throughout the semester based upon the final selection of review topics.


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<tr>
<th>Week – Class</th>
<th>Topics</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>1, 9/2</td>
<td>Class overview, assignments and discussion of topics. What is intervention research? Who conducts intervention research in special education? Select an intervention to investigate. What do we know about reviews of research? What do we know about various journals and the publication/presentation process? What is the most frequent type of research?</td>
<td>Read Lessen et al. (1989); Scruggs &amp; Mastropieri (1985); Formess et al (1997) and Skim Jackson (1980). Be prepared to provide a short description of intervention researchers in special education (select topics today – see tasks) Select one review of intervention research (bring copy &amp; be prepared to present that coded review in next week using Jackson’s criteria (purpose of review, target audience, analysis of the studies, the review procedures &amp; conclusions).</td>
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<tr>
<td>2, 9/9</td>
<td>Development of Coding instrument for class project; Analysis of review of research; Discussion of the coding process with respect to various research designs (quantitative, qualitative, N=1, case study).</td>
<td>Read Mastropieri, Scruggs, &amp; Levin (1986) for next week. (Experimental research design) Develop some type of coding sheet for that article and bring to class Be prepared to present your coding sheet to class.</td>
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<tr>
<td>3, 9/16</td>
<td>One early and one later study; Analysis of original research; Demonstration of the “method section”; What does it mean to conduct a line of research.</td>
<td>Continue on journal analyses and bring results to class – Try to bring a year’s worth of coding; Read and code Scruggs &amp; Mastropieri (1994) AERJ qualitative research article. Be prepared to present coding instrument in class.</td>
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<td>4, 9/23</td>
<td>Library for special session with Sarah Sheehan</td>
<td>Meet In the Johnson Center Instructional Lab - Bring your literature search ideas and disks, as she will help us get started on the lit search procedures!</td>
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<tr>
<td>5, 9/30</td>
<td>Continued analysis of individual studies. Continuing literature search procedures. Ancestry search procedures – examining recent journals!!! Keeping careful records and APA citation information.</td>
<td>Continue on journal analyses and bring results to class. Read and code an article. (from your literature reviews) Bring one coded article to class. Be prepared to present article via your coding Finalize topics – delimit appropriately; initial coding sheet due</td>
</tr>
<tr>
<td>6, 10/7</td>
<td>Discussion of coding outcome variables. Coding and analyzing the data.</td>
<td>Special readings from John Lloyd – to be announced and posted; Continue on journal analyses and bring results to class; Continued work on individual coding assignments.</td>
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<td>7, 10/14</td>
<td>Guest Presenter: John Lloyd</td>
<td>To be announced.</td>
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<tr>
<td>8, 10/21</td>
<td>Code and analyze a simple meta-analysis; Topic to be selected and completed in class; Covariation of data discussion. Interpretation. Innovation Hall, room 318;</td>
<td>Continue on journal analyses and bring results to class; SPSS data analysis procedures; Exam materials will be distributed</td>
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<tr>
<td>9, 10/28</td>
<td>Guest Presenter: Lou Danielson, Director of OSEP, USDOE</td>
<td>To be announced. (maybe meet in Innovation Hall, room 318). We will also work on our class coding project.</td>
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<tr>
<td>10, 11/4</td>
<td>Work independently on class and independent projects – no formal class meeting.</td>
<td>Mastropieri will be presenting at DLD in Orlando.</td>
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<tr>
<td>11, 11/11</td>
<td>Covariation of variables discussion continued</td>
<td>Discussion and examples for synthesizing research findings</td>
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<td>Date</td>
<td>Event</td>
<td>Notes</td>
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<tr>
<td>12, 11/18</td>
<td>Summary and Synthesis</td>
<td>Sample presentations</td>
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<tr>
<td>13, 11/25</td>
<td>No Class Meeting</td>
<td>Thanksgiving Break</td>
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<tr>
<td>14, 12/2</td>
<td>Formal Presentations of Projects</td>
<td>Papers and Formal Presentations of Projects Due</td>
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<tr>
<td>15, 12/9</td>
<td>Last Class</td>
<td>Semester celebration after turning in exams</td>
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<tr>
<td>16, 12/16</td>
<td>EXAM WEEK</td>
<td>Make-up; completion of class project results.</td>
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Discussion of what we know and don’t know from covariation; Design of the NEXT STUDY based on that Synthesizing the findings

Sample presentations

Synthesizing findings from our journal task from the semester

Celebration – Look What We Did this Semester!!!

Celebration – Look What We Did this Semester!!!