EDSE 590: Research Methods in Special Education

Instructor: Margo A. Mastropieri, Ph.D.
Assistant: Judy Ericksen
Section #: 001
Time: 4:30 – 7:10 p.m. Wednesday
Location: Robinson A, room 208
Phone: Mastropieri: 703-993-4136 Ericksen: Mmastrop@gmu.edu
Email: Mastropieri: mmastrop@gmu.edu Ericksen: Ericksen: TBA
Office Hours: Mastropieri: Robinson B, room 441, Wednesdays 2-4, after class, and by appointment.
Ericksen: TBA

Course Description

Describes fundamental concepts and practices in educational research in special education. Specific applications of educational research methods to problems in special education will be covered. Emphasis is on reviewing and critiquing special education research, and applied classroom research for teachers.

Student Outcomes

Upon completion of this course, students will be able to:

- Identify and understand different models of educational research suitable for different research purposes in special education
- Describe and discuss basic theories and methods of quantitative experimental and quasi-experimental research in special education
- Describe and discuss basic theories and methods of survey research in special education
- Describe and discuss basic theories and methods of single-subject research in special education
- Describe and discuss basic theories and methods of qualitative research in special education
- Describe and implement teacher applications of classroom research to address specific classroom problems.

Relationship of Courses to Program Goals and Professional Organizations

EDSE 590 is part of the George Mason University, Graduate School of Education, and Special Education Masters Degree Program

Nature of Course Delivery

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.
5. Application activities
6. Class presentations of papers and research projects.

Required Texts


Recommended (may want to use the library’s copy)


Other readings relevant to special education applications assigned by instructor.

Electronic reserves available on the George Mason University library website. Instructions and password will be distributed in class. http://oscr.gmu.edu/ or http://library.gmu.edu and follow links. Select Mastropieri as instructor and type “melody” as the password (no caps or “”). Then select EDSE 628, 553, or 841 and browse ereserves).

Class Companion Websites:

The class has a companion website on Blackboard: http://blackboard.gmu.edu. Log in and link to EDSE 590. You will be logged into Blackboard with your gmu.edu mail account. The syllabus, handouts, and web links will be posted there throughout the semester.

The textbook has a companion website: http://www.prenhall.com/creswell that can be accessed to find relevant class information, including the weekly on line quizzes for selected chapters that must be submitted prior to class time. You may print hard copies of the chapter tests and bring them to class if you experience difficulties sending the tests via email.

**NOTE:**
This syllabus may change according to class needs. If you need course adaptations or accommodations because of a disability or if you have emergency medical information to share with instructor or need special arrangements, please call and/or make an appointment with instructor as soon as possible.

**Evaluation and Points by Activity**

Students will be evaluated on the following (100 points total):

10 points: Class attendance and class participation as demonstrated by completing and handing in weekly class activities and participating in class discussions and in the project presentation updates discussions throughout the semester. Excessive absences can result in additional penalties and potential withdrawal from class.

40 points: Completion of 1 of 2 options: Option 1: Written research application project; or Option 2: A 20-page research review paper, (see attached directions). Late projects will be penalized.
10 points: Final presentation of results of the research project or literature review paper using a poster session format*

20 points: Selected chapter tests (all tests for each selected chapter) that are available on website [http://www.prenhall.com/creswell](http://www.prenhall.com/creswell) to be submitted prior to each class meeting to mmastrop@gmu.edu (20 points) **When submitting tests from the Prentice Hall website be sure to include your name and email address** or I will be unable to give you credit.

20 points: Two updated presentations on the status of your project will be given throughout the semester for a total of 20 points. Sample powerpoint slides will be provided on Blackboard.

**Bonus Points** There will be a Library of Congress trip scheduled during the semester. You have the opportunity to add bonus points to your score for participating.

This class will adhere to the George Mason University Honor Code. This can be accessed at: [http://www.gmu.edu/facstaff/handbook/aD.html](http://www.gmu.edu/facstaff/handbook/aD.html)

* Refer to attached “Assignment Sheet” for more detailed descriptions of all assignments, scoring criteria and rubrics.

**Grading Criteria**

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

*It is recommended that students retain copies of all course products to document their progress through the GSE program. Products from this class can become part of your individual professional portfolio used in your portfolio classes that documents your satisfactory progress through the GSE program and the CEC performance based standards.*

**ASSIGNMENTS**

**Option 1: Research Application Project (40 points)**

The research application project is designed to provide experience in designing, implementing, and evaluating a research application project in special education. Any of the research designs covered are appropriate. 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. Complete hard and electronic copies of the project should be submitted by 4:30 pm on the due date. Throughout the semester you will provide 2 project updates during class based upon your project. Audiovisual materials that summarize each of the points covered for your presentations are required. It is recommended that the following format be followed for a group comparison project, similar procedures should be followed for other designs such as case studies, single subject research designs, survey research and qualitative research. Sample papers using a variety of designs will be posted on Blackboard.

**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)______________**
- **Gender (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:**

**b. 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.

**c. 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
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 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).

d. 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.

e. 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.

f. 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 may learn several statistical tests that you will be able to use for analyzing your data). Charts and graphic displays of the data will be beneficial.

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**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 (36-40 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.

**Adequate paper (32-35 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 (28-31 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 (1-27 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 (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.

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**Option 2: Library Research Literature Review (40 points)**

You may select to complete library research. You may select to complete a traditional research review paper of a selected intervention area. You will need to collect **20 original research studies** on a particular topic to include in your review paper. Two complete hard copies and one disk version of the
paper should be submitted on the due date. 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 ERIC and PsycINFO to identify relevant original research articles (check for other relevant data bases).
3. Obtain and read original research articles.
4. Organize the information from the articles.
5. 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, but it might be something like the following:
     - 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 (36-40 points):** Appropriate topic, thorough and thoughtful review of previous research. Good writing style, free of mechanical or stylistic errors, appropriate use of APA format.

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**Marginal paper (28-31 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 (1-27 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.

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**Project Update, Research Application Project and Research Paper Presentation Component Directions**

**Project Update Presentations**
1. Be prepared for a 3-5 minute maximum update of your project.
2. Prepare audiovisual materials use in your presentation – an overhead would be great (we will try to have the pc and PowerPoint available; please email your PowerPoint files by 9 am of your class presentation date.
3. Be prepared to explain clearly what you have done to date.
4. Describe your next steps.
5. Hand in a copy of your summary of your presentation (this can be your overhead or an emailed version of your slides)

Scoring Rubric: Presentations

Scoring Criteria (5 points)

Exemplary presentation (5 points): Keeps within the time limits; reflects poise, clarity, knowledge and interest in the content being presented; reflects a high level of preparation; make effective use of overheads, handouts, demonstrations; describes very clearly the treatment(s) under consideration; keeps the audience engaged; provides information of interest and value to audience.

Adequate presentation (4 points): Good overall 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 place, or may fail to completely engage the audience.

Marginal presentation (3 points): Presentation provides relevant information, but demonstrates only a limited understanding of the topic or project. Style, handouts, or visual aids may be less than inadequate.

Inadequate presentation (1-2 points): Weak overall presentation that reflects very little knowledge of topic or project. May appear very poorly prepared, or may not have followed directions. Handouts or visual aids 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.

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Poster Session of Final Projects
1. Be prepared to present a 5-minute oral summary of your written research project or literature review as you stand next to your poster that should highlight your project. Be prepared to answer questions about your project.
2. Prepare visual materials use in your presentation – use a poster board, power point slides, and copies of charts, graphs and photos. Refer to the photo under course documents on Blackboard for samples of posters and the AERA Poster Session Guidelines document on Blackboard.
3. Be prepared to explain clearly what you did.
4. Prepare a one-page summary for classmates.
5. Hand in 1 electronic copy of your presentation materials and your one-page summary handout.
Research Application Project Poster
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 (include charts or graphs)
8. Discussion and implications

Research Paper Presentation Poster Outline
Prepare an overview of your paper using the following guidelines (no more than 10 minutes):
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.
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Tentative Class Schedule
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| Week 1; 1/21 | Class Introduction; Overview of research in special education; Blackboard and textbook website  
Why is Special Ed Research Important?  
Action Research. The teacher as a researcher. | For the next class: read website http://www.gmu.edu/pubs/osp/office of sponsored programs section on human subjects;  
For the next class: Submit on line quizzes from ch 18 to mmastrop@gmu.edu before next week’s class. (Action Research chapter);  
Begin to identify your topic. | Robinson A room 208 |
| Week 2; 1/28 | Guest Presenter Sandra Sanford, Compliance Office, Sponsored Programs:  
Protection of Human Subjects in Research: Guest Presenter for part of class; Drafting human subject proposals in class | Submit on line ch 1 & 2 quizzes to mmastrop@gmu.edu before next week’s class. | Robinson A room 208 |
| Week 3; 2/4 | Variables, research problems in special education, hypotheses: Discussion of possible topics of interest for your projects. | For the next class: bring your topics and literature search completed to date along with a disk to save your literature completed during class. | Robinson A room 208 |
| Week 4; 2/11 | Guest Presenter: Sarah Sheehan, GMU Librarian – Meet in Johnson Center Library  
2nd floor Instruction Room. Literature searching in the library and more. | For the next class: Submit on line quizzes from ch 3& 4 to mmastrop@gmu.edu before next week’s class. | Johnson Center Library – Instruction room 228 (2nd floor) ask at the information desk. |
<p>| Week 5; 2/18 | Methods for effective literature reviews. Practice coding an article in class – bring hard copy of articles from blackboard to class | For the next class: Submit on line quizzes from ch 5, 6, 11 to <a href="mailto:mmastrop@gmu.edu">mmastrop@gmu.edu</a> before next week’s class. | Thompson 114 (maybe IN 333) |
| Week 6; 2/25 | Selecting participants; sampling; ethical standards; participants in special education research Educational measurement; Quasi-experimental research and Group-experimental research. | For the next class: Submit on line quizzes from ch 13 to <a href="mailto:mmastrop@gmu.edu">mmastrop@gmu.edu</a> before next week’s class. | Thompson 114 (maybe IN 333) |
| Week 7; 3/3 | Survey research. – what is it? How can we develop and administer a good survey? | Readings will be posted on blackboard | Robinson A room 208 (maybe IN 333) |
| 3/10 | GMU Spring Break | | |
| Week 8; 3/17 | Single subject research – what is it? How can we implement this design? | For the next class: Submit on line quizzes from chs 7 &amp; 9 to <a href="mailto:mmastrop@gmu.edu">mmastrop@gmu.edu</a> before next week’s class. | Robinson A room 208 |
| Week 9; 3/24 | Qualitative research – what is it? How could we conduct a qualitative research study? | Bring disks and files from blackboard to pc lab for practice. | Robinson A room 208 |
| Week 10; 3/31 | Analyzing and interpreting data; Beginning to write up research reports. | | Robinson A room 208 (Maybe IN 333) |
| Week 11; 4/7 | Analyzing and interpreting data; Beginning to write up research reports. <strong>Maybe Library of Congress field Trip</strong> | | Robinson A room 208 |
| Week 12; 4/14 | Drawing conclusions from special education research and writing research reports for publication MAM @ CEC | Work on papers and presentations | Robinson A room 208 |
| Week 13; 4/21 | So what have we learned about research in special education? Summary and conclusions | Work on papers and presentations | Robinson A room 208 |
| Week 14; 4/28 | Student Presentations and Class Poster Session | All papers and presentation materials are due at 4:30 pm | |
| Week 15; 5/5 | Exam week make-up session if necessary | | |</p>
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<tr>
<th>Class</th>
<th>Student Presentations – Sign-up for two 5 minute sessions to provide the class with an update of your project. Your sessions should be separated by at least three class sessions.</th>
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