George Mason University
Graduate School of Education
Special Education

EDSE 590: Research Methods in Special Education

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Course Days: Tuesdays   1/5/10 – 3/2/10   **Course Time:**   4:30- 9:00 pm

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 theories and methods of educational measurement.
- 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. The program aligns with the standards for teacher licensure established by the Council for Exceptional Children, the major special education professional organization in the United States. As such the curriculum for the course includes competencies for teaching students with disabilities from preschool through grade 12. The CEC Standards are listed on the following web site: http://www.cec.sped.org/ps/perf_based_stds/common_core_4-21-01.html

Graduate School of Education Statements of Expectations

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

- Students are expected to demonstrate professional behavior and dispositions. See www.gse.gmu.edu for a listing of these professional dispositions.

- Students must follow the guidelines of the University Honor Code. See http://www.gmu.edu/catelog/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.

Nature of Course Delivery
Learning activities include the following:

- Class lecture, active discussions, and group activities
- Study and independent library research
- Applications with relevant hardware and software
- Application activities
- Class presentations of papers and research projects

Required Text

McMillan, J. (2007). *Educational research: Fundamentals for the consumer* (5th ed.). Boston, MA: AB Longman.

Other readings relevant to special education research applications will be assigned by the Instructor as indicated by the needs and interests of the class.

Recommended Textbook:

American Psychological Association (2009). *Publication manual of the American Psychological Association.* (6th ed.). Washington, DC: Author.

University Resources

George Mason Blackboard. Students are responsible for any information shared via blackboard and should check the site regularly. Important announcements, class materials, grades, and discussions will be posted on Bb. Each student is responsible for downloading class materials and bringing it to class.

George Mason University email. Students are responsible for any information shared electronically and should check their GMU email regularly. Email generated in Bb goes to your GMU email

account. If the Mason account is not your primary, you can forward Mason email to one you check with regularity. Login to mail.gmu.edu and select "Options" then "Settings," insert your forwarding address in the last box then select "Save." Please contact the ITU Support Center at http://itusupport.gmu.edu/ to activate accounts or trouble shoot difficulties in accessing your GMU email account.

George Mason Patriot Web: https://patriotweb.gmu.edu/ A self-service website for students, faculty, and staff of George Mason University. There is a wealth of useful links, information, and online forms on this website including program of studies details, application for graduation, request for transfer of credit, and internship application.

Advising contact information:
Please make sure that you are being advised on a regular basis as to your status and progress through your program. You may wish to contact Jancy Templeton, GMU Special Education Advisor, at jtemple1@gmu.edu or 703-993-2387. Please be prepared with your G number when you contact her.

Student Responsibilities

Absences: Understanding you are individuals with full and active lives, who have made the intellectual and financial commitment to regularly attend class, there may be an instance when you are not able to attend a scheduled class session. If this unlikely event should occur, it is your responsibility to make arrangements to obtain notes, handouts, and lecture details from another student. *There is no need to notify the instructor of your absence*. Students who are absent are held responsible for the material covered, assignments due, and may be assigned additional alternative activities. Be aware any points earned for in class activities during a time of absence cannot be earned nor made up.

In Class and During Class Expectations: Please be considerate with the use of electronic devices that produce sound or otherwise interfere with the learning of others (i.e., cell phones, lap tops, etc.). You may be asked to turn off devices that are disruptive to the learning environment.

Academic Integrity. Students in this course are expected to exhibit academic integrity at all times. Be aware that plagiarism is presenting someone else's work as your own. **Whether the act is deliberate or unintentional is irrelevant.** You must take great care to give credit to an author when you borrow either exact words or ideas. Generally, if you use 4 or more words in a row you should use quotation marks and a proper citation. Remember that plagiarism is a very serious offense and can result in dismissal from the University. Evidence of plagiarism or any other form of cheating in this class may result in a zero on that assignment and a report of the incident to the registrar. The instructor reserves the right to submit your work to SafeAssign, a plagiarism detection service, for an integrity assessment as needed. For a description, visit http://www.irc.gmu.edu/safeassign/index.html

APA Formatting & Style: APA 6th edition is the standard format for any written work in the College of Education. If you are unfamiliar with APA, it would benefit you to purchase the Publication Manual of the American Psychological Association (6th ed.) or to access one of the internet sites that provides a summary of this information. All work produced outside of class must be typed

unless otherwise noted. The website below is offered as a companion to the APA style manual. However, it should not be considered a substitute for directly consulting the APA manual, 6th edition for standard of procedures for applying APA style.
http://www.psywww.com/resource/apacrib.htm

Late Work: Assignments submitted on time or early are eligible to earn full points. Points will be deducted for work submitted late. This includes any items that are not submitted upon request due to class absence or tardiness. Late assignments will be penalized 1 point per day with escalated penalties for repeat occurrences.

Students with Disabilities: www.gmu.edu/student/drc Students with disabilities who seek accommodations in a course must be registered with the GMU Office of Disability Services (ODS) and inform the instructor, in writing, at the beginning of the semester. See the website or call 703-993-2474 to access the ODS.

Evidence-based Practice and Task Stream: This course will incorporate the evidence-based practices (EBPs) relevant to norm-referenced assessments, curriculum-based assessments, and classroom testing and grading. These EBPs are indicated with an asterisk (*) in this syllabus. Evidence for the selected research-based practices is informed by meta-analysis, literature reviews/synthesis, the technical assistance networks which provide web-based resources, and the national organizations whose mission is to support students with disabilities. We address both promising and emerging practices in the field of special education. This course will provide opportunities for students to take an active, decision-making role to thoughtfully select, modify, apply, and evaluate EBPs in order to improve outcomes for students with disabilities.

 Each course in the program has an identified signature assignment. A signature assignment is a specific assignment, presentation, or project that best demonstrates one or more CEC standard(s) connected to the course. A signature assignment is evaluated in two manners. The first is for a grade based on the instructor's grading rubric. The second is for GSE program evaluation. Each student must add the identified signature assignment for each course into the TaskStream portfolio system. Additionally, students completing the portfolio courses will build their portfolios electronically via TaskStream https://www.taskstream.com/pub/

Students must retain electronic copies of all graded course products to document their progress in the Special Education program. Products from these classes are likely to become part of your individual performance based assessment portfolio (EDSE 791 & 792).

 The required signature assignment for this course must be submitted electronically to Mason's NCATE management system, TaskStream. Instructions for submitting work to TaskStream will be provided to you. Failure to submit the assignment to TaskStream may result in reporting the course grade as an Incomplete (IN). The electronic submission to TaskStream is likely to be in addition to the version you submit to your instructor for a graded evaluation.

Evaluation and Points by Activity

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

5 points: **Class Attendance and Participation**
Attendance during lecture presentations, completion of weekly class activities, and participation in class discussions, and lecture presentations. Points missed due to absences cannot be made up. **Excessive absences can result in additional penalties and potential withdrawal from class.**

10 points: **CITI Module Completion**
Completion of GMU **Mandatory** Training for Persons Conducting Research Using Human Subjects that is accessed at http://www.citiprogram.org. Seven learner modules in the Basic Course are required prior to conducting any research at Mason using human subjects. In addition, if the information in any of the optional modules relates to your research, you are required to complete the appropriate module. Copy certification of completion document and paste on a Word document, and submit on Digital Drop Box in Bb.

10 points: **Article Critique**
A professional review of a research article is required. The critique will be **no more** five pages in length, applying APA formatting and writing, with the first page being the cover page and the second page being the abstract. The article will be individually selected by each student and is related to the research topic they have selected for research evaluation. Submit a copy of the selected article for the critique.

15 points: **HSRB Application Form**
The research application project is designed to provide experience with the following GMU requirements for conducting research with human subjects:
By Federal Policy ALL research activities involving human participants that are directed by a GMU faculty member, staff member, or student or involve GMU faculty, staff, or students as participants, must be reported to the Office of Sponsored Programs for review. The Human Subjects Review Board (HSRB) serves as the GMU institutional review board (IRB). As specified in the Code of Federal Regulations, 45 CFR 46, Protection of Human Subjects, certain categories of human subjects research may be classified as exempt from further IRB review. The Office of Sponsored Programs will determine if an activity is exempt or not exempt from further HSRB review. You may not begin research involving human participants until you receive written notification from this office.
Completion of a GMU Human Subjects Application Form that is available on website:
http://www.gmu.edu/research/ORSP/HumanFormsAndInstructions.html

20 points: **Final Exam**
A take home final exam will be given. This exam is open notes and textbook, but you may not collaborate with colleagues, the Internet, or any other source. Ally and Bacon Companion Website http://www.ablongman.com/mcmillan5e is a source for practice exams and chapter outlines.

10 points: **Paper Presentation**
Final presentation of results of the research project or literature review paper. All work must be submitted on Digital Drop Box on the class Blackboard site by the due date.
1. Make a brief (10-15 minute) PowerPoint presentation that summarizes your written research project or literature review. Be prepared to answer questions about your project.
2. Prepare visual materials use in your presentation – use power point slides, and copies of charts, graphs and photos.
      3. Prepare a one-page summary hand-out for classmates.

30 points: **Research Paper: Signature Assignment**
Completion of 1 of 2 options:
- **Option 1**: Research application project
- **Option 2**: A 20-page research review paper

Option 1: Research Application Project
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. Specific guidelines for the assignment will be provided. **Be sure to have your research question and design approved by the instructor PRIOR to beginning implementation**. A hard copy AND an electronic copy of the project should be submitted by 4:30 pm on the due date.

Option 2: Library Research Literature Review
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 (from journals or electronic journals). Specific guidelines will be provided. **Have your topic approved prior to beginning**. A hard copy AND an electronic copy of the project should be submitted by 4:30 pm on the due date.

Self-Monitoring Grade Sheet

	Class Activities & Participation	CITI Course	HSRB Forms	Article Critique	Final Exam	Research Paper	Research Presentation	*Total*
Earned								
Possible Points	5	10	15	10	20	30	10	100

* Late assignments will be penalized 1 point per day

Grading Criteria

The course letter grade will be determined by a point system in which the following thresholds will be used:

A	= *94-100 points*	B+	= *87-89*	C	= *70-79*
A-	= *90 - 93 points*	B	= *80-86*	F	= *< than 70*

HSRB Application Scoring Rubric

<u>Exemplary application (14-15 points):</u> Appropriate and clearly described answers to questions including: 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.

<u>Adequate application (12-13 points):</u> Good overall proposal, lacking in one or two of the criteria for an exemplary paper. Not entirely reflective or thoughtful, may be vague in some place, or minor writing style errors may be present.

<u>Marginal application (10-11 points):</u> 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.

<u>Inadequate application (1-9 points):</u> Proposal with substantial problems in important areas such as writing, implementation of intervention, evaluation of results, overall thoughtfulness. Does not adequately respond to questions.

<u>Unacceptable/no paper (0 points):</u> Completely unsatisfactory proposal; or no proposal made.

Exemplary application	Adequate application	Marginal application	Inadequate application	Unacceptable/no application
14-15	12-13	10-11	1-9	0

Article Critique Scoring Rubric

<u>Exemplary critique (10 points):</u> Article critique follows APA formatting with no errors. Sections include an introduction, method, procedures, results, and discussion. Under each section, salient points are addressed as indicated by the model provided in class. The critique is **no more** five pages in length, applying APA formatting and writing, with the first page being the cover page and the second page being the abstract. A copy of the article is included.

<u>Adequate presentation (8-9 points):</u> Article critique follows APA formatting with 1-3 minor errors. Most sections identified key points, but may be lacking in one or two of the main ideas. May not have clearly described all the elements listed above, went over the page length requirement, or did not provide a copy of the article.

<u>Marginal presentation (6-7 points):</u> Article critique may not follow all the APA formatting rules with 3-4 major errors. Critique may provide relevant information, but demonstrates only a limited understanding of some of the key elements. Style and organization may be less than adequate.

<u>Inadequate presentation (1-5 points):</u> Article critique may have 5 or more errors in APA formatting and provides very little knowledge of the elements of the article. Key elements were not addressed or points were not related to the article.

<u>Unacceptable/no presentation (0 points):</u> Completely unsatisfactory presentation, with no reasonable reference to topic or project; or no presentation made.

Exemplary presentation	Adequate presentation	Marginal presentation	Inadequate presentation	Unacceptable/no presentation
10	8-9	6-7	1-5	0

Research Application Rubric

Introduction (2 points) • Problem Clear • Purpose Clear (R? and Hyp) • Clearly stated variables (DV, IV)	/2
Review of Lit (5 points) • DV lit • IV lit • Other lit (if needed) • Logic is Clear	/5
METHOD (13 points) Participants (2) • Subjects • Sampling Method • Other Participants	/2
Setting (2) • School Context • Study Context	/2
Materials & Procedures (5) • Sub Plan Clarity • Step-by-step • Appendix links	/5
Research Design (2) • Actual design used • Why design was selected	/2
Data Analysis (2) • Descriptive • Inferential	/2
RESULTS (3) • Descriptive • Inferential • Table	/3
DISCUSSION (4) • Conclusions (address Hyp.) • Interpret results (link to lit) • Limitations • Recommendations	/4
APA Style/Form (3)	/3

Literature Review Scoring Rubric

Criteria and Qualities	30 pts
Introducing the idea: Problem statement The topic is introduced, and groundwork is laid as to the direction of the article.	/3
Body: Flow of the review The summary goes from general ideas to specific conclusions. Transitions tie sections together, as well as adjacent paragraphs.	/2
Coverage of content The appropriate content in consideration is covered in depth without being redundant. Sources are cited when specific statements are made. Significance to the research topic is well stated.	/5
Clarity of writing and writing technique Writing is clear, and succinct. The writer incorporates the active voice when appropriate and supports ideas with examples. No spelling, grammar, or punctuation errors are made.	/5
Conclusion: A synthesis of ideas and application to education The author was able to make succinct and precise conclusions based on the review. Insights into the problem are appropriate. Conclusions and the application to education are strongly supported in the review.	/10
Citations/References: Proper APA format Citation for the article did follow APA format and style.	/5

Presentation of Project Scoring Rubric

Exemplary presentation (10 points): Presentation clearly describes major elements of the project; 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; presentation keeps 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.

Exemplary presentation	Adequate presentation	Marginal presentation	Inadequate presentation	Unacceptable/no presentation
10	8-9	6-7	1-5	0

TENTATIVE CLASS SCHEDULE

Date	Class Topic & Reading Assignments	Readings and Assignments Due

1/5/10
Class 1
	✦ Course overview
	   -Pre/Post test of research methods
	✦ Ways of knowing what we know
	✦ Why we do research in education
	✦ Correlation versus causation
	✦ Finding ideas to research
	   -Class Activity: Formulate research
	   topics/ABC Brainstorm
	   - Finding research articles: List of Special
	   Education Journals
		Activate GMU email account
		Tour class Blackboard site
		
		For next week:
		• McMillan - Chapter 1, 2, and 3
		• Bring a peer-reviewed research article to critique in class

1/12/10
Class 2
	✦ Stages of research
	✦ Key components of research designs:
	  Research questions, hypotheses, &
	  variables
	  - Class activity: writing RQ and H:
	✦ Overview of research designs
	✦ Components of a research article
	  - Article review- Boardman, Arguelles,
	   Vaughn, Hughes, & Klingner (2005)
	✦ Class activity: Journal article evaluation and critique
		For next week:
		• Complete CITI and Article Critique assignments

1/19/10 Class 3	**Blackboard Activities** ✦ Answer questions in the Discussions section of Blackboard ✦ Post your research topic, purpose, and research question ✦ Complete CITI Program Human Subjects Module	**CITI Assignment Due** **Article Critique Due** Submit CITI certification through Bb For next week: • McMillan - Chapter 5, 6, and 7
1/26/10 Class 4	✦ Pre/Post test ✦ Literature reviews and writing the introduction section ✦ Measures and measurements: Instruments and data collection ✦ Educational measures - Class activity with tests, questionnaires, & interviews ✦ Internal and External Validity ✦ Selecting subjects & criteria for participation ✦ Probability and non-probability sampling	For next week: • McMillan - Chapter 8, 9 • Read Horn, Snyder, Coverdale, Louie, & Roberts (2009) • Start on introduction section of paper

2/2/10
Class 5
	✦ Overview of Quantitative designs:
	  Experimental, Quasi, Non-experimental
	  - Class activity: Genres of Educational
		For next week:

	Research ✦ Practice surveys designs ✦ Overview of Qualitative designs ✦ Practice	• McMillan - Chapter 8, 9 (p. 227-234), and 11

2/9/10
Class 6
	✦ Overview of Single-subject designs
	   - Types of designs and criteria for establishing functional control
	✦ Mixed methods and Action research
	   - Class activity: Genres of Educational research
		For next week:
		• McMillan - Chapter 10
		• Read "Quality Indicators for Research in Sped Executive Summary"
		• Bring paper with Introduction and Method section

2/16/10
Class 7
	✦ Analyzing and interpreting Quantitative data
	   - Descriptive & Inferential statistics
	   - Recognizing statistical significance
	   - Class activity: Introduction to statistical analysis software
	✦ Analyzing and interpreting Qualitative data
	✦ APA practice activities
	✦ Peer editing workshop
		For next week:
		• McMillan - Chapter 12
		• Work on Results section

2/23/10
Class 8
	✦ Bringing meaning to data
	   - Connecting results back to the hypothesis
	✦ Conclusion and Discussion sections
	   - Interpretations and limitations
	   - Implications and recommendations
	✦ Ethics of educational research
	   - HSRB Class activity
		HSRB Assignment Due
		
		For next week:
		• Complete paper and submit to Taskstream on 3/2/10

3/2/10 Class 9	**PROJECT PRESENTATIONS** Research presentations with peer review Wrap up & celebrate	**PROJECT PRESENTATIONS PAPERS DUE** Project papers due and submitted to Taskstream **BEFORE** 4:30 PM

** Any changes to this or other class dates will be posted as an announcement on Blackboard prior to class. Syllabus is subject to change as needed.