

**GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
GRADUATE SCHOOL OF EDUCATION**

EDCI 559: Research and Assessment in Elementary Education (3 credits)

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Course Description

- A. **Prerequisites:** Admission into GMU Elementary Education Graduate program; capstone course for degree and must be taken last in sequence.
- B. This course is designed to help teacher candidates understand various research paradigms utilizing research literature and systematic evidence to improve teacher practice, and to further their skills at assessment of learning outcomes. Course emphasizes linking research and practice and making instructional decisions based on systematically collected data.

Nature of Course Delivery

This course includes multiple instructional strategies. Individual session formats vary and may include lecture, small group/large group discussion, hands-on, interactive work, student presentations, and cooperative learning. Practical applications of theory are explored in group activities.

Standards

- A. **National Board for Professional Teaching Standards:**
 - Proposition 1: Teachers are committed to students and learning
 - Proposition 3: Teachers are responsible for managing and monitoring student learning
 - Proposition 4: Teachers think systematically about their practice and learn from their experience.
- B. **National Technology Standards:**
 - Standard IV: Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.
 - Standard V: Teachers use technology to enhance their productivity and professional practice.
- C. **The Virginia State Technology Standards for Instructional Personnel:**
 - 1. Instructional personnel shall be able to demonstrate effective use of a computer system and utilize computer software.
 - 2. Instructional personnel shall be able to apply knowledge of terms associated with educational computing and technology.

3. Instructional personnel shall be able to apply computer productivity tools for professional use.
4. Instructional personnel shall be able to use electronic technologies to access and exchange information.

Learning Outcomes

A. Students will be able to:

1. Articulate the role of systematic evidence in the improvement of teaching and learning.
2. Use educational research literature as a basis for reflecting on and improving their teaching practice.
3. Make explicit linkages between research and assessment practice.
4. Distinguish between the purposes and methods of theoretical, applied, and action research as well as quantitative and qualitative research.
5. Explain the fundamentals of validity and reliability, and articulate the potential threats to validity within various research paradigms.
6. Critique the quality of research studies within various paradigms.
7. Describe the purpose and cycle of action research, specifically in relationship to assessment of their learners.
8. Design appropriate and authentic assessments and analyze student data.
9. Design an action research study based on research and student assessments.
10. Use technology to assist in locating, using, conducting research, and analyzing data.

B. Outcomes and Standards

Learning Outcomes	NBPTS Propositions	NETS Standards
1	1, 3	V
2	1, 3, 4	IV & V
3	1, 3, 4	IV & V
4	4	V
5	4	V
6	4	V
7	1, 3, 4	IV & V
8	1, 3	IV & V
9	4	IV & V
10	4	V

Texts

A. Required Texts

Jones, W. P., & Kottler, J A. (2006). *Understanding research: Becoming a competent and critical consumer*. Upper Saddle River, NJ: Pearson.

Mills, G. E. (2011). *Action research: A guide for the teacher researcher (4th ed.)*. Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

B. Strongly Recommended

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

Course Requirements

A. Assignments

Assignment	Points
Action Research Proposal Components 1. Rationale and research question 2. Literature review/Matrix 3. Context and Intervention 4. Data Collection Plan/Student Assessment 5. Data Analysis Plan	30
Final Action Research Proposal (PBA)	30
Action Research Proposal Presentation	6
Quantitative Data Assignment	12
Qualitative Data Assignment	12
Chapter Discussion/Class Participation	10
Total	100

Action Research Proposal

This is the major assignment for this class and is the Performance Based Assessment (PBA) for the course. The final written proposal will include the five components plus a short reflection. See attached rubric.

Action Research Proposal Presentation

The presentation will be based on the written proposal. Students will prepare a one-page summary for distribution to peers. Students may present using PowerPoint, poster, or in some other creative manner. Scoring criteria to be determined in class.

Components of Action Research Proposal

- Part One: Rationale and research question (6 points)
- Part Two: Literature review (6 points)
- Part Three: Context and Intervention – description of the school, community, classroom and student population and description of instructional intervention (6 points)
- Part Four: Data Collection and Student Assessment Plan: specific plan on the data you will collect to answer your research question, and formative and summative student assessments designed to gather those data (6 points)

- Part Five: Data Analysis Plan – describe how you would analyze them, if you collected them (6 points)

Quantitative Data Collection and Report

Groups of students will develop a short survey instrument with 10-12 questions, collect data from at least 15 people each, analyze the data using basic statistics, and write a short report. This does not have to be related to the focus of your Action Research Proposal. (See scoring rubric.)

Qualitative Data Collection and Report

Individually, students will collect qualitative data through interviews, observation, or a focus group; code and interpret the data; and write a short report. This does not have to be related to the focus of your Action Research Proposal. (See scoring rubric.)

Class participation and leadership of chapter discussion

Students, in pairs or small groups, will devise an active learning plan to engage class members in a discussion of the research chapters. Chapters will be determined at the start of the course. Students are expected to attend class and participate in small and large group discussions. Students will be evaluated on their level of class participation. Attention will be paid to the level of interaction in discussions of the readings, group work, and other learning activities. Readings must be completed before class and drafts of assignments must be provided to your learning team on time to facilitate effective feedback discussions. Attendance, punctuality, preparation and engagement are essential.

Written work must be submitted on time. Points will be deducted for not doing so, unless previous arrangements have been made.

B. Final Grading Scale

94-100 = A
90-93 = A-
86-89 = B+
80-85 = B
70-79 = C
Below 70 = F

COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT STATEMENT OF EXPECTATIONS:

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

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

Students must agree to abide by the university policy for Responsible Use of Computing. See <http://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.

University and Elementary Program Policies

Attendance. This is an advanced graduate level course, therefore the quality of work, attendance, and informed participation are expected to be of the highest caliber. Unless it is an emergency situation, no absences are excused. Should you need to miss a class, it is your responsibility to inform the instructor ahead of time, turn in your assignments, collect any notes/assignments from a colleague, and do your utmost to remain current in the class. (See GMU Catalog, page 32.)

Late Assignments. Points will be deducted from late assignments without the prior consent of the instructor.

Quality of Written Work. Written work should be word-processed in 12-point font. Legibility, organizational clarity, and standard English usage and mechanics are expected. Unacceptable work may be returned for editing prior to grading. Quotations, paraphrases, and references must appear in proper APA format. If you require special assistance, see the instructor.

Cell Phones. The university has a policy that requests students to turn off pagers and cell phones before class begins. One cell phone will remain on in class that is registered with the Mason Alert System.

Honor Code. To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of George Mason University and with the desire for greater academic and personal achievement, George Mason University has set forth a code of honor that includes policies on cheating and attempted cheating, lack of participation in group work, plagiarism, lying and stealing. Detailed information on these policies is available in the GMU Student Handbook.

Individuals with Disabilities. The university is committed to complying with the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 by providing reasonable accommodations for applicants for admission, students, applicants for employment, employees, and visitors who are disabled. Students requiring specific accommodations for a disability should contact the Disability Resource Center at 993-2474, or the University Equity Office at 993-8730.

EDCI 559 Course Schedule Spring 2010

Date	Topics and Activities	Readings	Due
8/30	Introduction to Action Research Syllabus		
9/6	Labor Day No class meeting		
9/13	Action Research Component 1: Rationale and Research Question	Mills, Ch. 1, 9 & Appendix A Jones, Ch. 1 Mills, Ch. 3 Jones, Ch. 2	Bring Component 1 Organizer
9/20	Peer Review of 1 Component 2: Literature Review Component 3: Context and Intervention	Mills, Ch. 3: pp. 44-60 Jones, Ch. 3	Bring Component 1
9/27	Library Search Fenwick Instructional Classroom	Jones, App. A, B, C	Bring Component 1 Revised
10/4	Peer Review of 3 Survey Research	Jones, Ch. 4	Bring Component 3 (Context)
10/11	Work on Lit Review No class meeting		
10/18	Survey Group Meetings No class meeting; room available		Email survey to Dr. Castle before 10/25
10/25	Peer Review of 2 Component 4: Data Collection	Mills, Chs. 4, 5	Bring Component 2
11/1	Peer Review of 3 (Intervention) Component 5: Data Analysis, Quantitative	Mills, Ch. 6 & App. B, C Jones, Ch. 5	Bring Component 3 (Intervention)

11/8	Peer Feedback of 4 Writing: APA format	Mills, Ch. 7, 8 Jones, Ch. 6,7	Bring Component 4
11/15	Component 5: Data Analysis, Qualitative Qualitative Assignment		Due: Survey Assignment
11/22	Protocols Qualitative Data Analysis		Bring Protocol
11/29	Peer Review of Component 5 Ethics	Mills, Ch. 2	Bring Component 5
12/6	Qualitative Project presentations		Due: Qualitative Assignment
12/13	Action Research Proposal Presentations		Due: Action Research Proposal Paper

EDCI 559: Supplemental Materials

Rubric for Quantitative Project

Criteria	No Evidence (0 Points)	Developing (1 Point)	Accomplished (2 Points)
Survey	Survey consists of less than seven questions. The majority of the questions are unclear and/or do not relate to a common theme. Majority of the questions are not appropriate for quantitative analysis. Survey is completed by less than 12 people.	Survey consists of 7-9 questions. The majority of the questions is clear and relate to a common theme. Majority of the questions are appropriate for quantitative analysis. Survey is completed by 12-15 people.	Survey consists of 10-12 questions. Questions are clear and related to a theme. All questions are appropriate for quantitative analysis. Survey is completed by more than 15 people.
Demographics	One or no demographic questions are included. Demographic data are not appropriate for the survey topic.	At least two demographic questions are included. Demographic data are appropriate for the survey topic.	At least three demographic questions are included. These are used to help categorize people. Demographic data are appropriate for the survey topic.
Data Analysis	Data analysis is not appropriate for the survey. The analysis provided does not make sense. Data are not broken down by demographics.	Data analysis is appropriate for the survey. Means are reported. Data are not broken down by demographics.	Data analysis is appropriate for the survey. Data are broken down by demographics.
Results	Results are not presented appropriately. Data are presented inaccurately. Results are difficult to understand. Results are not tied back to the data. Results are not interpreted accurately.	The majority of the results are presented appropriately. Data are presented accurately, but not in also in table form. Results are fairly easy to understand. Some of the results are tied back to the data. Results are partially interpreted accurately.	Results are presented appropriately. Data are presented in tables according to APA style. Results are clear and easy to understand. Results are tied back to the data. Results are interpreted accurately.
Implications	Implications from the data are inadequately discussed. It is not clear the author is	Implications from the data are adequately discussed. It is clear the author is able to	Implications from the data are well-developed and fully discussed. The implications are

	able to interpret the findings. The implications are not tied back to the results.	interpret the findings. However, the implications are not tied back to the results.	connected back to the results of the data analysis.
Grammar/Format/Standards of Writing	Poor sentence structure, language usages, standards of grammar are under developed or refined. Sentences and paragraphs do not flow together. Punctuation is not consistently correct.	Most of the writing conventions are demonstrated. Some of the sentences and paragraphs are awkward. Some misused punctuation is evident.	Excellent grammar, punctuation, and writing conventions. Sentences and paragraphs flow well together. Logical arguments are made.

Score: ___/12

Rubric for Qualitative Project

Criteria	No Evidence (0 Points)	Developing (1 Point)	Accomplished (2 Points)
Protocol	The protocol used to collect data is not adequately described. A copy of the interview questions or procedures is not included. The protocol is not appropriate for the research question.	The protocol used to collect data is adequately described, but lacks details. A copy of the interview questions or procedures is not included. The protocol is appropriate for the research question.	The protocol used to collect data is adequately described in details. This could be the questions used for the interview or the procedures used for the observation. A copy of the interview questions or procedures is included. The protocol is appropriate for the research question.
Participants	The participants used for the study are not adequately described. Either they are not described or the description is very vague and it is difficult to get a sense of who they were.	The participants used for the study are adequately described. There is information about gender, age, and race, but the description lacks additional details.	The participants used for the study are adequately described. There is a rich description of the subjects and it is easy to form a picture of them.
Data Analysis	Data analysis is not appropriate for the protocol and/or research questions. The analysis used is either not explained or lacks details enough to have a sense of what was done to obtain the results. Themes are not identified.	Data analysis is appropriate for the protocol and research questions. The analysis used is explained, but lacks details. Themes are identified, but not categorized.	Data analysis is appropriate for the protocol and research questions. The analysis used is thoroughly explained. Themes are identified and categorized.
Results	Results are not presented appropriately. Data are presented inaccurately. Results are difficult to understand. Results are not tied back to the data. Results are not interpreted accurately.	The majority of the results are presented appropriately. Results are fairly easy to understand. Some of the results are tied back to the data. Results are partially interpreted accurately.	Results are presented appropriately. Results are clear and easy to understand. Results are tied back to the data. Results are interpreted accurately.
Implications and reflection	Implications from the data are inadequately discussed. It is not clear the author is able to interpret the findings. The implications are not tied back to the results. The reflection does not describe what the student learned from this project. There are	Implications from the data are adequately discussed. It is clear the author is able to interpret the findings. However, the implications are not tied back to the results. The reflection describes what the student learned from this project. There	Implications from the data are well-developed and fully discussed. The implications are connected back to the results of the data analysis. The reflection describes what the student learned from this project. There are two or more suggestions as to what could be done differently or

	no suggestions as to what could be done differently or what could be improved. There is no evidence that the student has an emerging understanding of the complexity of research.	is one suggestion as to what could be done differently or what could be improved. There is some evidence that the student has an emerging understanding of the complexity of research.	what could be improved. There is ample evidence that the student has a firm understanding of the complexity of education research.
Grammar/Format/Standards of Writing	Poor sentence structure, language usages, standards of grammar are under developed or refined. Sentences and paragraphs do not flow together. Punctuation is not consistently correct.	Most of the writing conventions are demonstrated. Some of the sentences and paragraphs are awkward. Some misused punctuation is evident.	Excellent grammar, punctuation, and writing conventions. Sentences and paragraphs flow well together. Logical arguments are made.

Score: ____ 12

COURSE EDCI 559

PBA Rubric: Final Action Research Proposal

Name: _____

Date: _____

CRITERIA	No Evidence (Not Met) 1	Beginning (Limited evidence) 2	Developing (Clear evidence) 3	Accomplished (Clear, convincing, substantial evidence) 4	SCORE
Introduction					/4
Describes the problem					
Clear research question stated					
Significance of problem addressed					

Literature Review					/4
Research studies are used					
Analysis of literature is evident					
Synthesis of literature is evident					
Context and Intervention Provided					/4
Setting described					
Population identified					
Intervention thoroughly described					
Research Design					/4
Design of study matches goals					
Formative and Summative Assessments included					
Data sources appropriate					
Analysis of Data					/4
Appropriate analysis for data collected described					
Implications from data proposal					

References					/4
Full citations for all sources mentioned					
Use of APA style for formatting					
All listed references are used in the paper					
Most references are from scholarly sources (at least 10 are scholarly)					
Overall Style					/4
Clear, concise writing					
Grammar and punctuation					
Multiple levels of headings used to organize ideas					
Subtotal					/28
Reflection					/2
Total					/30

EDCI 559—Research and Assessment

Fall 2010

Action Research Plan Format

I. Introduction

A. Rationale: Why did you plan this particular action research study?

This section gives background on how the action research question/topic came to be, why it is important to you, (i.e., worth inquiring about), and how it is related to improving your teaching practice. It should address the following questions:

- How and why did this issue surface?
- What was happening that needed improving?
- How did the issue get focused into a research question?
- What aspects of your teaching practice were you trying to change?
- Why is this question important?
- How will the results improve your teaching?
- What is the purpose of the study?

B. Research Question: What do you want to know?

This section states the research question(s).

- Is the question clear and concise?
- Is it doable; is the study a manageable size?
- Are the variables identified (IV: the intervention and DV: what you expect to see changes in)?

II. Reconnaissance/Review of Literature: What did the research literature tell you about the topic?

This section explains the research you reviewed, theories you examined, and other data you may have generated as the background/foundation for your study.

- What theoretical positions provide the foundation for your work?
- What empirical data/evidence is there in support of your study?
- Were there documents, artifacts, pilots, or interviews that informed your work?
- What did you learn about your topic that informed your study?
- How does your literature review lead the reader to understand your work?
- Are primary research articles included?
- Does the literature review help define or clarify the problem?

- Does it summarize previous studies to inform the reader of the state of current research?
- Does it identify relationships, contradictions, and gaps in the literature?
- What next steps does the literature suggest that is relevant to your topic?

III. Context and Intervention

A. Context: Where will the action research take place and who will be the participants?

This section describes demographics of the school and your classroom context. It should include the following information:

- School location and nature of local community
- School size
- Student demographics (e.g., languages spoken; percentages of students receiving special services, such as Special Education, gifted, English as a Second Language; ratio of male to female; percentage of students on free/reduced lunch; socio-economic level; degree of transience; parents' level of education and involvement in school)
- Special programs offered at the school (e.g., EXCEL, Title I, after-school care, before-after school enrichment)
- School culture (e.g., communication among teachers, instructional orientation)
- Relationship between school population and community (e.g., does the school draw its students from the surrounding neighborhoods? Is it a magnet school? Is there a business partnership?)
- Classroom context (e.g., how many students, gender, ethnicity, parent involvement, your teaching style, physical arrangement of classroom)
- Participants (may be the same as classroom context; if a subset, describe)

B. Intervention: What change in teaching practice will be implemented?

This section describes the intervention or change in practice that will be implemented in the classroom.

- Is the intervention described clearly and in sufficient detail for the reader to understand and be able to picture it?
- How is it different from previous practice?

IV. Methodology

Data Collection: What data will be collected?

This section describes the data that will be collected.

- What are the formative and summative assessments?

- What are the primary data sources: Is there a student pre-assessment? What is it? How and when will these data be collected?
- Is there a student post-assessment? What is it? How and when will these data be collected?
- What other student assessments, if any, will be conducted/collected?
- What other baseline data, if any, will be collected?
- What are the secondary or supporting data sources? What additional documentation will be conducted/collected? (e.g., field notes, videotape, surveys, interviews, student products)
- Length of the inquiry; over what length of time will the data be collected?
- How will you document “you” as the teacher?

V. Data Analysis

How will the data be analyzed?

This section describes how the data will be analyzed.

- How will the *student pre- and post-assessments* be compared? How will the scores be recorded? If student data require coding, how will this be done? How will differences be calculated and displayed (e.g., subtraction, percentages)? What descriptive numbers will be used (e.g., mean, median, mode, percentages)?
- How will any *additional student data* be analyzed?
- What quantitative (basically numerical) methods or qualitative (basically language-based) methods will be used?
- How will any *documentation* be analyzed? What quantitative (basically numerical) methods or qualitative (basically language-based) methods will be used?
- What will each analysis tell you in relation to the research question? What are the implications?

VI. Reflection

This section discusses planning and learnings related to your professional practice. It should address the following questions:

- Do you plan to conduct this action research?
- What do you hope will be the importance of the findings?
- What personal learnings did you acquire from the action research planning process?
- How will action research contribute to you as a professional?