

**GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
PHD IN EDUCATION PROGRAM**

**EDRS 823, Section 001:
ADVANCED RESEARCH METHODS IN SINGLE SUBJECT & SINGLE CASE
DESIGN
3 credits Fall 2022
Tuesday 4:30-7:00pm; Finley 114**

INSTRUCTOR INFORMATION

Name: Anna (Anya) Evmenova, Ph.D.
Office hours: by appointment
Office location: Finley Building, Room 201A
Phone: 703 993-5256
Email: aevmenov@gmu.edu

PREREQUISITES: EDRS 810, 811, 812

COURSE DESCRIPTION

823 Advanced Research Methods in Single Subject/Case Design (3:3:0): Prepares students to conduct research using single subject design and single case study design. Provides understanding of the salient features as well as the advantages and disadvantages of these research methodologies. Students critique and analyze published research using these methodologies. Provides opportunities to apply these methodologies to research questions related to current student interests.

COURSE DELIVERY METHOD

This course will be delivered face-to-face (or synchronously online if needed) format. Course materials will be provided via Blackboard Learning Management system (LMS) housed in the MyMason portal. You will log in to the Blackboard (Bb) course site using your Mason username and password. The course site will be available on August 22nd, 2022.

Learning activities include the following:

1. Class lecture, discussions, and guest speakers
2. Videos and other relevant media presentations
3. Study and independent library research
4. Online resources and applications with relevant software
5. Application activities, including in-class evaluation of research and materials
6. Written research study using the American Psychological Association format

LEARNER OUTCOMES

By the end of the course students will be able to:

1. Discuss the basic concepts, strengths and limitations of single subject/case research designs

2. Discuss interobserver agreement/reliability, fidelity of implementation, validity, visual analysis, and statistical tests involving single subject/case research designs
3. Evaluate previous research that has employed single subject/case research method
4. Design and implement a research study using single subject/case method

REQUIRED TEXT

Ledford, J. R. & Gast, D. L. (2018). *Single subject research methodology: Applications in special education and behavioral sciences* (3rd ed.). Routledge.

Additional readings will be provided by the instructor and will be posted on Blackboard each week.

RECOMMENDED TEXTS

Kratochwill, T. R., & Levin, J. R. (Eds.). (2014). *Single-case intervention research: Methodological and statistical advances*. American Psychological Association.

Kennedy, C. H. (2005). *Single case designs for educational research*. Pearson.

Kazdin, A. (2020). *Single-case research designs: Methods for clinical and applied settings* (3rd ed.). Oxford University Press.

Alberto, P. A., Troutman, A. C., & Axe, J. (2021). *Applied behavior analysis for teachers* (10th ed.). Pearson.

COURSE PERFORMANCE EVALUATION

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, VIA, hard copy). Late assignments will result in a reduction in points. In-depth reading, study, and work on course requirements require outside class time. Students are expected to allot approximately three hours for class study and preparation for *each* credit hour weekly in addition to papers and assignments.

Course Assignments & Point Distribution

Reflections: 10 Points

In order to facilitate the reflection on the course readings, class discussions and activities, students will be asked to maintain a personal journal. The reflections throughout the semester will help students make important considerations for the design and implementation of their single-subject/case research studies. Additional details and rubrics will be provided.

Blackboard Activities: 30 Points

Students will be required to participate in six class blackboard activities (5 points each) for topics throughout the course. Students will be expected to make their original submissions as well as post feedback and comments to their peers. The tentative list of blackboard activities as follows. Additional details will be provided.

Blackboard 1: History of Single-subject/case/Case Design

Blackboard 2: Behaviors and Measures

Blackboard 3: Logic Model

Blackboard 4: Method Outline

Blackboard 5: Graphing

Blackboard 6: Data Analysis

Short Presentation of the Article Critique: 10 Points

Students will choose a recent (less than 5 years old) peer reviewed single-subject/case design research study to summarize and discuss. The presentation will describe the following components of a published single-subject/case study:

1. Purpose and Research Questions (1)
2. Method: participants, setting, dependent and independent variables, research design, interobserver agreement, fidelity of implementation, social validity (1)
3. Setting (1)
4. Method (1)
5. Results (1)
6. Commentary on the Issue (using quality indicators) should reflect strengths (2)
7. Commentary on the Issue (using quality indicators) should reflect limitations (2)
8. Implication for practice (1)

Total points=10

The list of issues that students may choose to focus on:

- (1) Measures & Operational Definitions
- (2) Interobserver Agreement/Fidelity of Treatment/Procedural Reliability
- (3) Validity: Internal, External, and Social
- (4) Visual Analysis
- (5) Statistical Analysis

A schedule with presentation dates is provided within the course schedule. The details, examples, and rubrics will be provided.

Research Project: 40 points

The research project is designed to provide experience designing and analyzing single-subject/case/case studies. Students will be able to choose between two options.

Option 1: Pilot Study (preferred)

Students will design, implement, and write-up a pilot study of their choice using a single-subject/case/case design. The final research report will include introduction; purpose statement and research questions; brief description of the background literature; detailed description of the method (participants, setting, independent variables, materials, dependent variables, research design, data collection procedures, interobserver agreement, procedural reliability, social validity data analysis); results of both visual and statistical analysis; discussion and implications; as well as the final reflection. Additional details, outlines, and rubrics will be provided.

Option 2: Research Synthesis

Students will conduct and write-up a review of single-subject/case/case design studies on the topic of their choice. The final research report will include introduction; research questions; logic model; detailed description of the method (search terms, inclusion/exclusion criteria, coding); results including the detailed analysis of participants, settings, independent and dependent variables, research designs, interobserver agreement, procedural reliability, social validity, visual and statistical analyses; discussion and implications; as well as the final reflection. Additional details and outlines will be provided.

Research Project Scoring Rubric

Unsatisfactory	Minimal	Good	Outstanding
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 to the research in single-subject/case design – 1-15 pts.	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 - 16-25 pts.	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 - 26-34 pts.	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 - 35-40 pts.

Research Poster/Presentation: 10 points

Students will prepare an overview of their research project 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, validity and reliability
5. Data analyses
6. Results
7. Discussion and implications

Evaluation in Summary

1. Reflections: 10 points
2. Blackboard activities (6): 30 points (5 points each)
3. Short presentation: 10 points
4. Research project: 40 points
5. Poster presentation: 10 points

Other Requirements

The class is structured so that lectures, class discussions, and activities are critical to total learning experience. Students are expected to both attend and participate in class regularly. This includes asking pertinent questions, contributing relevant comments and examples. Attendance, punctuality, preparation, and active contribution are essential.

Grading Criteria

96-100 points = A

90-95 points = A-

85-89 points = B

80-84 points = B-

70-79 points = C

<70 points = F

PROFESSIONAL DISPOSITIONS

See <https://cehd.gmu.edu/students/polices-procedures/>

CLASS SCHEDULE

Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

Date	Class Topic	Reading & Assignments are Due
Tuesday, August 23	1. Introduction, History, and General Issues in Single-subject/case Research	- Horner et al. (2005) - Ledford & Gast (2018): Chapter 1
Tuesday, August 30	2. Behavioral Assessment, Data Collection & Recordings <i>In-class activity: Progress report 1</i>	- Ledford & Gast (2018): Chapter 5 (pp. 97-117) + Appendixes - Additional readings provided by the instructor on Blackboard - Blackboard 1 - Reflection
Tuesday, September 6	3. Logic Model; Operational Definitions; Research Questions & Experimental Control	- Kennedy chapter 5 (will be provided) - Additional readings provided by the instructor on Blackboard - Blackboard 2

Tuesday, September 13	4. Single-subject/case Research Designs: Basic Designs	- Ledford & Gast (2018): Chapter 9 & Chapter 10 - Additional readings provided by the instructor on Blackboard - Blackboard 3 - Short Presentation 1
Tuesday, September 20	5. Single-subject/case Research Designs: More Designs	- Ledford & Gast (2018): Chapter 11 & Chapter 12 - Additional readings provided by the instructor on Blackboard - IRB applications (Ledford & Gast (2018: Chapter 2 if needed) - Reflection
Tuesday, September 27	6. Interobserver Agreement and Fidelity of Implementation/ Procedural Reliability <i>In-class activity: Progress report 2</i>	- Ledford & Gast (2018): Chapter 5 (pp. 117- 131) & Chapter 6 (133-141) - Additional readings provided by the instructor on Blackboard - Blackboard 4
Tuesday, October 4	7. Validity: Internal, External, Social	- Ledford & Gast (2018): Chapter 4 & Chapter 6 (141-156) - Additional readings provided by the instructor on Blackboard - Short Presentation 2 - Reflection
No Class – Tuesday October 11th (Monday classes meet on Tuesday)		
Tuesday, October 18	9. Visual Analysis <i>In-class activity: Progress report 3</i>	- Ledford & Gast (2018): Chapter 8 - Additional readings provided by the instructor on Blackboard - Short Presentation 3
Tuesday, October 25	10. Visual Analysis - Graphing	- Ledford & Gast (2018): Chapter 7 - Graphing directions - Additional readings provided by the instructor on Blackboard - Short Presentation 4 - Reflection

Tuesday, November 1	11. Single-subject/case Meta-analysis	- Ledford & Gast (2018): Chapter 14 - Additional readings provided by the instructor on Blackboard - Blackboard 5
No Class – Tuesday November 8 th – Independent Work Time (instructions will be provided by instructor)		
Tuesday, November 15	13. Statistical Analysis in Single-subject/case Research <i>In-class activity: Progress report 4</i>	- Ledford & Gast (2018): Chapter 13 - Additional readings provided by the instructor on Blackboard - Blackboard 6 - Short Presentation 5
Tuesday, November 22	ASYNCHRONOUS CLASS 14. Study Implementation and Update Switch Papers	- Ledford & Gast (2018): Chapter 3 - Additional readings provided by the instructor on Blackboard - Final Paper Draft - Exchange Papers for Feedback
Tuesday, November 29	15. Single-subject/case/Case Research Designs: Dissemination	- Vannest et al. (2018) - Additional readings provided by the instructor on Blackboard - Posters/Presentations - Reflection
Wednesday, December 7		- Final Paper Due via Blackboard

CORE VALUES COMMITMENT

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

GMU POLICIES AND RESOURCES FOR STUDENTS

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see <https://catalog.gmu.edu/policies/honor-code-system/>).

- Students must follow the university policy for Responsible Use of Computing (see <https://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <https://ds.gmu.edu/>).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to VIA should be directed to viahelp@gmu.edu or <https://cehd.gmu.edu/aero/assessments> . Questions or concerns regarding use of Blackboard should be directed to <https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

Notice of mandatory reporting of sexual assault, sexual harassment, interpersonal violence, and stalking:

As a faculty member, I am designated as a “Non-Confidential Employee,” and must report all disclosures of sexual assault, sexual harassment, interpersonal violence, and stalking to Mason’s Title IX Coordinator per [University Policy 1202](#). If you wish to speak with someone confidentially, please contact one of Mason’s confidential resources, such as [Student Support and Advocacy Center](#) (SSAC) at 703-380-1434 or [Counseling and Psychological Services](#) (CAPS) at 703-993-2380. You may also seek assistance or support measures from Mason’s Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu.

For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/students/> .