

## **Advanced Research Methods Sample Syllabus**

### **Course Description**

This course provides students with an in-depth exploration of advanced research methodologies tailored to early childhood intervention. Students will develop the skills necessary to design, implement, and critically evaluate research that informs evidence-based practice and policy. The course highlights the importance of integrating diverse approaches to address complex questions in early childhood contexts.

### **Course Learning Objectives**

As a result of active participation and successful completion of course requirements, students will be able to:

1. Design rigorous research studies using quantitative, qualitative, and mixed-method approaches.
2. Apply advanced analytic techniques to interpret findings and inform decision-making.
3. Critically evaluate methodological choices for cultural responsiveness and ethical integrity.
4. Translate research into practical recommendations for early childhood intervention programs and policies.

### **Recommended Texts**

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.

Dillman, D., Smyth, J. & Christian, L. (2013). *Internet, mail, and mixed-mode surveys: The tailored design method* (4thed.). New York: Wiley.

Ledford, J. R., & Gast, D. L. (Eds.). (2018). *Single Case Research Methodology: Applications in Special Education and Behavioral Sciences*. Routledge.

### **Readings:**

Bal, A., & Trainor, A. A. (2016). Culturally responsive experimental intervention studies: The development of a rubric for paradigm expansion. *World Yearbook of Education 2017*, 237-277.

Corr, C., Snodgrass, M. R., Greene, J. C., Meadan, H., & Santos, R. M. (2019). Mixed Methods in Early Childhood Special Education Research: Purposes, Challenges, and Guidance. *Journal of Early Intervention*, 42(1), 20-30. <https://doi.org/10.1177/1053815119873096> (Original work published 2020)

Hanline, M. F., Eldridge, J. N., & Robbins, A. (2024). Meta-synthesis of qualitative studies: inclusion in the early childhood years. *Infants & Young Children*, 37(4), 294-315.

Kranski, T. A., & Steed, E. A. (2022). Practice-based coaching to improve culturally responsive practices in early childhood classrooms: A single-case experimental design. *Psychology in the Schools*, 59(8), 1587-1608.

Lane, J. D. (2022). Translating Research to Practice. *Young Exceptional Children*, 25(1), 59-60.

- Love, H. R., Fettig, A., & Steed, E. A. (2023). Putting the “Mix” in Mixed Methods: How to Integrate Quantitative and Qualitative Research in Early Childhood Special Education Research. *Topics in Early Childhood Special Education*, 43(3), 174-186. <https://doi.org/10.1177/02711214231199268> (Original work published 2023)
- Ryan, S., & Lobman, C. (2013). The potential of focus groups to inform early childhood policy and practice. In *Early childhood qualitative research* (pp. 63-74). Routledge.
- Sandall, S. R., Smith, B. J., Mclean, M. E., & Ramsey, A. B. (2002). Qualitative Research in Early Intervention/Early Childhood Special Education. *Journal of Early Intervention*, 25(2), 129-136. <https://doi.org/10.1177/105381510202500210> (Original work published 2002)
- Steed, E. A., & Stein, R. (2023). Initial evaluation practices: A survey of early childhood personnel. *Topics in Early Childhood Special Education*, 43(1), 30-45.
- Trivette, C. M., & Dunst, C. J. (2013). From research to practice in early childhood intervention: A translational framework and approach. In *Evidence-based practices* (Vol. 26, pp. 173-196). Emerald Group Publishing Limited.
- Wolery, M., & Bailey, D. B. (2002). Early Childhood Special Education Research. *Journal of Early Intervention*, 25(2), 88-99. <https://doi.org/10.1177/105381510202500204> (Original work published 2002)

### **Accommodations**

Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990 require the institution to provide academic adjustments or accommodations for students with documented disabilities. Students seeking academic adjustments or accommodations must self-identify with the Coordinator of Services for Students with Disabilities on the appropriate campus.

### **Attendance**

Since many of the classes involve activities, videotapes, discussion, etc., regular attendance is vital to gain maximum benefit. Because this is an 8 weeks course, each class member needs to make every effort to be in attendance at each class. Anyone who misses more than one class will lose 5 points for each class missed after the first absence. Significant tardiness or early departure beyond 15 minutes will count as an absence. If you know ahead of time you will not be in class, please contact the instructor the day before the class.

### **Communicating with the Instructor**

All correspondences from the instructor to the students by way of announcements, updates, assignments, and so forth, will be communicated via school email or online learning management system if not verbally in class. It is the student’s responsibility to ensure their university e-mail is corrected, provided, and valid. Failure to do so may result in missing important information that could negatively impact your grade. Please be mindful of professionalism.

### **Course Outline**

The following schedule is subject to change. For any course syllabuses posted prior to the beginning of the semester, the course instructor reserves the right to make changes prior to or during the semester. The course instructor will notify students, via e-mail or verbal

announcements when changes are made in the requirements and/or grading of this course. ***The course instructor reserves the right to revise the schedule/assignments if needed.***

Week	Topics	Reading	Activities
1	Foundations of Advanced Research Design in Early Childhood Intervention	Wolery & Bailey (2002)	<b>Discussion Prompt:</b> How do the authors define the unique characteristics and challenges of conducting research in early childhood special education?; In what ways do these challenges influence the choice of research design (e.g., SCRD, surveys, qualitative methods)?; Considering current trends in research (e.g., mixed methods, participatory approaches), how can we address the tension between rigor and relevance in early childhood intervention studies?
2	Conducting International and Cross-Cultural Research	Bal & Trainor (2016); Kranski & Steed (2021)	<b>Discussion Prompt:</b> How does Kranski & Steed’s use of single-case design align with or challenge traditional notions of rigor in cross-cultural research?; How can researchers balance fidelity to intervention protocols with adaptations needed for cultural relevance?
3	Survey Methods for Early Childhood Research	Steed & Stein (2023)	<b>Survey Design Project</b>
4	Qualitative Visual Methods	Sandall et al., (2002); Hanline et al., (2024)	<b>Discussion Prompt:</b> What unique insights does qualitative research provide about inclusion in

			early childhood settings that quantitative methods might miss?; Reflect on your own research interests: How might you integrate qualitative approaches (e.g., interviews, visual methods, focus groups) to address issues of inclusion and cultural responsiveness?
5	Focus Groups to Inform Practice and Policy	Ryan & Lobman (2013)	<b>In-Class Activity:</b> Designing and Simulating a Focus Group for Policy Insights Groups of students will select a policy-relevant topic related to early childhood intervention, such as: Family engagement in inclusive classrooms; Access to culturally responsive services; Barriers to early intervention for multilingual families Groups will write a clear research question for their focus group and share out to receive feedback from the larger group.
6	Single-Case Research Design (SCRD)	Odom & Strain (2002); Ledford & Gast (2018) Ch 1, 4-6	<b>SCRD Design Project</b>
7	Integrating Mixed Methods and Participatory Approaches	Corr et al., (2019); Love et al. (2023)	Discussion Prompt: What unique advantages do mixed-methods designs offer for studying early childhood intervention compared to single-method approaches? Corr et al. identify

			challenges in integrating qualitative and quantitative data. Which of these challenges do you think are most critical, and how might researchers overcome them?
8	Translating Research into Practice and Policy	Lane (2022); Trivette & Dunst (2013)	<b>Presentation</b>

### Major Assignments

#### 1. Survey Design Project

- a. Identify the Research Purpose
  - i. Define a clear research question related to early childhood intervention (e.g., family engagement, access to services, cultural responsiveness).
  - ii. Explain why a survey is the most appropriate method for this question.
- b. Develop a Conceptual Framework
  - i. Create a brief concept map showing key constructs (e.g., family satisfaction, barriers to participation, cultural considerations).
  - ii. Identify relationships among constructs.
- c. Design the Survey Instrument
  - i. Draft 10–15 questions using Dillman’s principles for clarity, simplicity, and neutrality.
  - ii. Include a mix of question types (Likert scale, multiple choice, open-ended).
  - iii. Ensure questions are culturally and linguistically appropriate (consider translation or adaptation needs).
- d. Select the Survey Mode and Sampling Strategy
  - i. Justify your choice of mode (internet, mail, mixed-mode) based on your target population.
  - ii. Describe your sampling plan and calculate an estimated sample size using practical guidelines from Dillman.
- e. Address Reliability and Validity
  - i. Discuss strategies for ensuring reliability and validity (e.g., pretesting, linguistic equivalence).
  - ii. Explain how you will minimize social desirability bias.
- f. Plan for Implementation and Response Rate Maximization
  - i. Outline steps for increasing response rates (e.g., Dillman’s “five contacts” method, incentives).
  - ii. Include a timeline for survey administration.
- g. Ethical and Cultural Considerations

- i. Describe how you will obtain informed consent and protect confidentiality.
- ii. Explain how cultural reciprocity will be integrated into your survey process.

## **2. Research Proposal Using SCRCD**

- a. Students will develop a comprehensive research proposal applying single-case research methodology to address a critical question in early childhood intervention or early childhood special education.
- b. The proposal should begin by identifying a relevant research problem, providing a brief literature review, and clearly stating research questions and hypotheses. Students will then design the study by selecting an appropriate single-case design (e.g., multiple baseline, alternating treatments, withdrawal) and justifying their choice, describing participants, settings, dependent and independent variables, and outlining procedures for fidelity and social validity. The proposal must include a detailed plan for data collection and analysis, specifying baseline and intervention phases, visual analysis procedures, and strategies for ensuring internal and external validity. Ethical and practical considerations, including informed consent, cultural responsiveness, and feasibility, should also be addressed.
- c. Final product is an 8–10 page proposal, a sample graph template for data display, and a reference list of at least eight scholarly sources in APA format.

## **3. Presentation**

- a. Students will create and deliver a professional presentation that demonstrates how research findings in early childhood intervention can be effectively translated into practice
- b. Based on the students' survey and SCRCD design assignments, use Trivette & Dunst's framework to outline steps for moving from research to implementation. Include a discussion of barriers and facilitators to adoption in real-world settings.
- c. Then create a practical implementation plan with actionable steps for teachers, administrators or family partners. Remember to address cultural and linguistic diversity, feasibility and sustainability.
- d. Presentation should be 12-15 minutes long.

## **1. Discussion Group Participation**

- a. To prepare for the discussion sessions, students will be required to complete the readings leading up to the discussion session. Students will be asked to respond to the discussion prompt by Friday evening and give substantive feedback to 2 (or more) classmates by Sunday evening. Submit the discussion questions by 5 pm the day before the discussion. Students receive x points for timely and in-depth discussion responses. Evidence of integrating reading and applying theory to practice is necessary to receive full points. Students will receive x point based on the quality of feedback given to peers.

## **Course Grading**

Assignments are due by 11:59pm on the indicated date. Late assignments without previous written approval of the instructor will incur a 50% penalty for the first time and lost all points

beyond. This instructor and learners are required to adhere to the University's Academic Integrity policy. Any plagiarism will not be tolerated and referred to the Academic Integrity Office. And the learners will be given an "F" in the course and be recommended to the Student Conduct Office.

Learners will be evaluated based upon the assignments described below. The plus/minus grading system and scale is as follows:

Letter Grade	Grade Range
A	93 and above
A-	90-92
B+	88-89
B	83-87
B-	80-82
C+	78-79
C	73-77
C-	70-72
D	60-69
F	59 and below

### Course Grading Systems

Component	Weight for final grade
Survey Design	30%
SRCD Research Proposal	30%
Discussions	10% (including responding to other peer's posts)
Presentation	30%

### Resources

Resources to supplement the Syllabus:

- [IRIS Evidence-based Practice Summaries](#)
- [What Works Clearinghouse](#)
- [National Professional Development Center on Autism Spectrum Disorder](#)
- [National Center on Intensive Intervention](#)
- [Evidence-based Instructional Practices for Young Children with Autism and Other Disabilities](#)
- [Evidence Based Intervention](#)
- [Center for Early Literacy Learning \(CELL\)](#) - Research syntheses (no quality review or classification)
- [Early Childhood Technical Assistance Center](#) - Links to both EBP review sources and other reliable sources
- [The University of Kansas Life Plan Institute](#)
- [Vanderbilt University](#)
- [Early Childhood Technical Assistance Center](#)



- [Family-Guided Approaches to Collaborative Early Intervention Training Services \(FACETS\)](#)
- [Family Guided Routines Based Intervention](#)
- [Natural Environments](#)
- [Siskin Children's Institute](#) Early Intervention in Natural Environments
- [Embedded Instruction for Early Learning](#)
- [EPIC Intervention](#)
- [SS-OO-PP-RR Framework for Home Visiting](#)
- [CONNECT Module 1: Embedded Interventions](#)
- [Foundations: Routines Based Interventions: Supporting Families](#)
- [Embedded Instruction for Early Learning](#)
- [Milieu Teaching](#)
- [Natural Environments](#)
- [Vanderbilt KidTak](#)
- [Peer-Mediated Instruction and Intervention \(PMII\)](#)
- [Applied Behavior Analysis Programs](#)
- [Kansas University](#)
- [Kentucky Autism Training Center](#)

### Journals in EI/ECSE

Below are examples of journals that publish topics about EI/ECSE. Faculty may want to explain how to use articles to support practice and to examine current research. Clarify the difference between practitioner-based journals and research-based journals.

- *Child Development*
- *Journal of Early Intervention*
- *Journal of Pediatrics*
- *Journal of Intellectual & Developmental Disability*
- *Journal of Developmental and Physical Disabilities*
- *Journal of Pediatric Nursing*
- *International Journal of Early Childhood Special Education*
- *Pediatric Research*
- *Topics in Early Childhood Special Education*
- *Young Exceptional Children*



Creating Leaders in Intensive Interventions for Infants, Young Children and Their Families

This is a product of the ECiDC 2020 Consortium and was made possible by Cooperative Agreement #H325B170008 which is funded by the U.S. Department of Education, Office of Special Education Programs. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.