Course Description

MEDD8933 Identifying Evidence-based Practices in School Settings: Experimental Research Method and Design

Course description

This elective will provide an opportunity to understand experimental research design and methodologies related to identifying evidence-based best practices, particularly in educational school settings. The elective will overview the definitions, benchmarks, and guidelines of evidence-based practices set by professional organisations and institutions. The course will focus on evaluating research designs and methodologies that use experiments to draw causal inferences. The course will also focus on applying such research design's logic, rationale, and theories to exemplary educational research cases. Students will evaluate how exemplary studies meet the benchmarks and guidelines and discuss the challenges and limitations of such research designs. Given the instructor's expertise, examples offered by the instructor would be in the areas of early childhood and English language and literacy learning. Still, students are welcome to expand the topic beyond these areas.

Course objectives

This course is designed to help students understand the concept of evidence-based practices in educational research. Students will practice understanding and evaluating experimental research designs and methodologies to test the effects of educational practices. Students will obtain knowledge of designing research to draw causal inferences in educational research.

Course learning outcomes (CLOs)	**Aligned programme learning outcomes (PLOs)**
1. Have an understanding of evidence-based practices in educational research	PLOs 1, 2, 5
2. Understand how to design and conduct experimental research and methodologies to test the effects of educational practices	PLOs, 2, 5
3. Critically evaluate the strengths and limitations of varieties of experimental research designs and methodologies in educational settings	PLOs 2, 3
4. Communicate on course content and major topics with peer students via in-class discussions and presentations	PLOs 3-5

Course assessment methods

- Individual journal reviews
- Presentation
- Class participations

Course content and topics

- Importance of evidence-based practices
- Casual inferences and logical fallacies
- Defining and setting standards for evidence-based practices
- From professional organizations such as What Works Clearinghouse, APA, AERA
- Using the scientific method in educational research
- Research questions, correlations, and causal inferences
- Statistical conclusion validity and internal validity
- Construct validity and external validity
- Using quasi-experimental designs to identify evidence-based practices
- Theory and practices of random assignment in school contexts
- Review sample studies and evaluate their RCT design
- Practicalities of conducting research in schools, issues of implementation and fidelity
- Research, policy, and evidence-based practices

Required / recommended readings and online materials
Key text book: Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference.* Houghton Mifflin. American Psychological Association (2010). *Publication manual of the American Psychological Association* (7th ed.).
Other additional course information
Advanced Research Methods (ARM) course