

George Mason University
College of Education and Human Development
Learning Technologies Design Research (LTDR) PhD Specialization

EDIT803.001– Introduction to Design-Based Research
3 Credits, Spring 2020
Mondays 4:30-7:10 PM Thompson Hall L003 – Fairfax Campus

Faculty

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Prerequisites/Corequisites

EDIT801 or permission of instructor.

University Catalog Course Description

Provides an introduction to systematic cycles of design-based research in education. Applicable to all content domains to explore cycles of research within design, development and implementation of educational and training interventions.

Course Overview

This course will provide students with an introduction to design-based research. Design-based research is a research approach that systematically investigates teaching, learning and/or training phenomena through multiple cycles of design, development, evaluation and implementation of educational interventions (which may consist of curriculum/training interventions, systemic school programs, informal or formal teaching-learning strategies and materials, technology-based products and systems, etc.). This course will examine the history of this research approach along with related current literature, commentary and research.

Course Delivery Method

This course will be conducted in a blended, face-to-face and online manner via the Blackboard learning management system (LMS) housed in the MyMason portal. You will log in to the Blackboard (Bb) course site (mymason.gmu.edu) using your Mason email userid and password. The course site will be available on the first day of class. **The course will meet face-to-face, 4:30 PM – 7:10 PM, on the following Mondays: 01/27, 02/03, 02/17, 03/02, 03/16 (tentative), 03/30, 04/13, 05/04.**

This class meets in a classroom that is not equipped with individual workstations and all students are required to “bring your own device” (BYOD) to class. This is typically a personal laptop (Mac or Windows) or a tablet running Windows 8.1 or later versions.

Learner Outcomes or Objectives

This course is designed to enable students to do the following:

1. Understand design-based research as a viable research approach.
2. Investigate historical and current literature describing and evidencing design research.
3. Identify specific teaching/learning/training phenomena to explore through design research cycles.
4. Plan multiple cycles of design research to investigate teaching/learning/training phenomenon.
5. Write a literature review with corresponding research plan for a design research study.

Professional Standards (Instructional Design Competencies for the International Board of Standards for Training, Performance and Instruction)

Upon completion of this course, students will have met the following professional standards:

1. Communicate effectively in visual, oral and written form.
2. Apply research and theory to the discipline of instructional design.
3. Update and improve knowledge, skills and attitudes pertaining to the instructional design process & related fields.

Required Texts

McKenney, S. & Reeves, T. (2019). *Conducting educational design research (second edition)*. New York, N.Y.: Routledge.

Plomp, T., & Nieveen, N. (Eds.) (2013). *Educational design research - Part A: An introduction*. Netherlands Institute for Curriculum Development (SLO): Enschede, Netherlands. (Available on the course website).

Plomp, T., & Nieveen, N. (Eds.) (2013). *Educational design research - Part B: Illustrative cases*. Netherlands Institute for Curriculum Development (SLO): Enschede, Netherlands. (Available on the course website).

Selected required and optional readings will be posted by week on Blackboard.

Course Assignments

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, etc.)

Review and presentation of design research case examples (20%) – Each student will select a DBR (Design Based Research) case study that is relevant to their area/context of research and will provide a review of the case study in the form of a presentation in-class or online. The DBR case study can be selected from the *Plomp & Nieveen Educational Design Research (EDR) Part B: Illustrative Cases* book (available on the course website) or from an empirical design research journal, dissertation database, or course resources. The review will include a description of the context of the study, conceptual framework, nature and type of the design intervention (e.g., curriculum/training interventions, systemic school programs, informal or formal teaching-learning strategies and materials, technology-based products and systems, etc.), methodological approach of the design-based research (i.e. framework, cycles, data collection, etc.), and results, conclusions, and implications.

Each review (**there will be two such reviews**) is expected to provide the following:

- An in-class or online presentation of the DBR case – outlining related literature, research questions, research cycles, methods, analysis, results and conclusions
- A statement of how what was learned in the review of the case relates to the individual's area of interest in design research

More detail, as well as examples, is on the course website.

Literature review or synthesis (30%) - Each student will identify a teaching, learning or training phenomenon to thoroughly investigate by examining related literature and provide theoretical grounding for their own potential design research study involving initial or iterative development, evaluation or implementation of an intervention (i.e. curriculum, program, course, system or strategy). Each literature review will adhere to the following parameters:

- Examination of at least 10 current, related research and conceptual journal articles
- 5-10 page synthesis of the journal articles to represent current state of research in this area and identified gap for a design research study
- Adherence to APA citation standards

Research Plan (40%) - Each student will write a research plan articulating specific potential phases of an iterative design research program of study related to an identified phenomenon and intervention. This research plan will be written in a manner similar to a grant or dissertation proposal containing the following elements:

- Statement of the problem
- Revision/Addition to existing literature review
- Generated theoretical conjectures and related potential research questions
- Articulated possible program of study including iterative cycles of integrated design and research aligned with specific design research phase(s)
- Alignment of initial learning targets, task analysis, intervention features and research questions
- Justification and rationale related to overall selection of methods, potential research questions for cycle and potential design implications to uncover

Jigsaw Feedback on Literature Review and Research Plan (10%) - Each student will read at least two other students' literature reviews and research plans to make suggestions and comments on substance, writing, research plan and implications, etc. This jigsaw feedback circle will require each student to be prepared to select, discuss and make constructive commentary on another's work. In this manner, all will benefit from multiple perspectives on the potential implementation of a design research study which will provide a reviewed plan for future doctoral courses. The jigsaw review will consist of:

- Each small group of three will read at least two other drafts of literature review
- Each student will switch drafts and come together to discuss at each of the three rounds
- Commentary, editing and suggestions will be conducted in one week
- Polished final drafts will be turned in on the due date for Literature Review and at the end of the course for the research plan.

Course Performance Evaluation

Requirements	Percentage
Review and Presentation of First and Second Design Research Case Examples	20%
Literature Review or Synthesis	30%
Design Research Plan	40%
Jigsaw Feedback on Literature Review and Design Research Plan	10%

Grading Scale

Your final grade will be based on the following scale:

A+ = 97-100; A = 94-96; A - = 90-93; B+ = 86-89; B = 83-85; B- = 80-82; C = 70-79; F = <70

Course Expectations

- Course Week: Our course week will begin on the day that our face-to-face meetings take place (**Monday**) and finish on **Sunday**.
- Log-in Frequency: Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials **at least 3-4 times per week**. In addition, students must attend all **face to face meetings** listed above.
- Participation: Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.
- Technical Competence: Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues: Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- Workload: Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates* listed in the **Class Schedule (timeline)** section of this syllabus. **It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.**
- Netiquette: The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your words.* Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.

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/>

Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times. See <https://cehd.gmu.edu/students/policies-procedures/>

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 <http://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 Tk20 should be directed to tk20help@gmu.edu or <https://cehd.gmu.edu/api/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursessupport.gmu.edu/>
- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see <http://writingcenter.gmu.edu/>)
- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (see <http://caps.gmu.edu/>)
- The George Mason University Office of Student Support staff helps students negotiate life situations by connecting them with appropriate campus and off-campus resources. Students in need of these services may contact the office by phone (703-993-5376). Concerned students, faculty and staff may also make a referral to express concern for the safety or well-being of a Mason student or the community by going to <http://studentsupport.gmu.edu/>, and the OSS staff will follow up with the student.

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

As a faculty member, I am designated as a “Responsible Employee,” and must report all disclosures of sexual assault, 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 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/>