

General Information

Time: Mondays, 4:30 PM – 7:10 PM

Location: Commerce II 100

Instructor: Dr. Nada Dabbagh

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Course Objective

This course provides students with the knowledge and skills for designing highly contextualized and engaging learning environments based on the principles of constructivism, situated cognition, open-ended learning, and learner-centered instruction. The readings expose students to current and emerging theoretical perspectives as evidenced by instructional design literature and applications. The focus is on grounded design or theory-based design, which differs from the systematic process of instructional design as discussed in EDIT/EDCI 705. However, many principles of systematic instructional design will be fundamental to understanding and implementing this approach. Additionally, the course emphasizes the design of online learning environments using a variety of constructivist-based pedagogical models. The course will be conducted through a mixture of lecture, in-class discussions, online discussions, and project-based collaborative learning activities.

Course Objectives

1. To develop an understanding of constructivism and situated cognition as a theory of learning.
2. To understand how constructivism and situated cognition serve as a foundation for a comprehensive view of learning and instruction.
3. To develop an applied understanding of the implications of constructivism and situated cognition for instructional design.
4. To be able to compare and contrast constructivist and objectivist approaches to learning and instruction.
5. To explore alternative constructivist perspectives and their implications for the design and evaluation of online learning environments.
6. To appreciate the importance of the linkage between theories of learning and instructional design practice.

Instructional Resources

Texts:

(1) Dabbagh, N., & Bannan-Ritland, B. (2005). *Online Learning: Concepts, Strategies, and Application*. Merrill Prentice Hall.

(2) Jonassen, D. H. & Land, S. M. (2000). *Theoretical Foundations of Learning Environments*. Erlbaum.

Additional readings will be in PDF format on the course website. You are encouraged to become a member of the **Association for Educational Communications and Technology** (AECT), a leading organization in the field of Educational Technology to access these readings and take advantage of other services. The URL is aect.org. The student membership fee is \$50. For this fee, you will have access to several membership services as well as print and electronic publications, including the **Handbook of Research for Educational Communications and Technology**, which will provide additional readings for this course. The course website through WebCT will also have a variety of instructional resources related to technology-supported constructivist and objectivist learning environments as well as samples of previous student projects to allow for comparing and contrasting theory-based instructional designs. To access WebCT, go to webct41.gmu.edu and use your GMU email userid and password to logon.

Learning Activities and Grading Policy

Compare and Contrast Assignment (C&C)

25% of grade

In groups of two, students will identify and compare and contrast two technology supported learning environments (or instructional applications) that are rooted in two opposing learning paradigms (one objectivist and the other constructivist). Students will demonstrate each of the learning environments to the class in a 15-20 minute oral presentation. Students should justify (using class readings/resources and additional resources) the theoretical principles of each learning environment and demonstrate contrasting and opposing characteristics of the selected applications. The presentation, characteristics of the applications, theoretical principles, and resources used, should be uploaded to WebCT. More detail about this assignment will be provided on the course website.

Online and In-Class Participation

20% of grade

This course will adopt a blended delivery approach. Not all classes will meet face-to-face allowing for both in-class and online discussions. Online discussions will center on the readings and will be facilitated by the instructor. Discussion questions will be posted before the discussion begins to allow students ample time to formulate responses. A rubric for evaluating participation in these online discussions is provided on the course website. Ten points will be allocated towards online discussion contributions and ten points will be allocated towards in-class participation, which includes discussion of readings and in-class group activities.

Case Study Assignment

25% of grade

In groups, students will review and create a written response to an instructional design case study. Each group will post their case solution to the course website and will critique another group's case solution through online discussion. Each group will amend their case solution based on the peer group critique. More detail about this assignment will be provided on the course website.

Designing A Constructivist Learning Environment

30% of grade

Each student will select an application/model of constructivism (see the modules of the course) and design and develop a learning environment for a specific audience and learning content based on the characteristics of the selected application. This final project should include the following elements:

- A short paper on the theoretical principles of constructivism and its implications on teaching and learning. The paper should also include a justification as to why the learning application/model that you have selected is based on constructivist principles (APA style is required).
- A design document which includes the parameters of the learning environment that you will be designing, specifying the learners, the learning outcomes, the content, the context in which you will anchor the instruction (i.e., the problem, scenario, or challenge), the learning activities that you will engage the learners in, and the evaluation or assessment criteria.
- A web-based prototype of the learning environment showing all instructional parameters and learning activities.
- A conclusion on how you can expand your prototype to other student populations and content areas.

Grades are based on the successful completion of course requirements and on the scope, quality and creativity of the assignments. To get an A in this course, students should demonstrate critical thinking skills through active synthesis of reading material, integration of prior knowledge and experience, and through problem-solving, argumentation, and reasoning skills.

Grade distribution is as follows: A + = 97 - 100 (exceeds expectations on all requirements); A = 93 - 96 (meets expectations, excellent performance); A- = 90 - 92 (meets expectations, very good performance); B+ = 86 - 89 (meets expectations, good performance); B = 83 - 85 (meets most expectations, good performance); B- = 80 - 82 (meets some expectations, average performance); C = 70 - 79 (notably below expectations).

Course Timeline <i>(subject to change)</i>

Module 1: Learning Paradigms and Instructional Design

Monday August 29, 2005

face-to-face class

- Intro to Course
- General Discussion on Learning Theories and epistemologies
- Post bios to WebCT

Readings to be completed by September 5

- Ertmer & Newby. (1993). Behaviorism, Cognitivism, Constructivism: Comparing Critical Features from an Instructional Design Perspective. (handout)
- Jonassen (1991). Objectivism versus Constructivism: Do We Need a New Philosophical Paradigm? (WebCT)
- Merrill (1996). Reclaiming the Discipline of Instructional Design. (WebCT)
- Jonassen (1996). There is No Need to Reclaim the Field of ID: It's Just Growing. (WebCT)

Monday September 5

LABOR DAY

NO CLASS

Tuesday September 6

online discussion #1

- Questions will be posted on Monday September 5 and will center on the above readings. The discussion will begin on Tuesday and end on Sunday the 11th at 5 pm. Be sure to check the rubric for online discussions.

Monday September 12

ASSIGN TEAMS FOR C&C

face-to-face class

Readings to be completed by September 19

- Duffy & Cunningham (1996). Constructivism: Implications for the design and delivery of instruction (WebCT)
- Chapter 1 (Jonassen & Land textbook)
- Chapter 1 (Dabbagh & Bannan-Ritland textbook)

Module 2: Situated Cognition, Anchored Instruction, Cognitive Apprenticeships

Monday September 19

face-to-face class

Readings to be completed by September 26

- Chapter 3 (Jonassen & Land textbook)
- Chapter 5 (Jonassen & Land textbook)
- Dennen – Cognitive Apprenticeship article (WebCT)

Module 3: Instructional Design for Online Learning

Monday September 26

face-to-face class

Readings to be completed by October 17

- Chapters 2, 4, & 5 (Dabbagh & Bannan-Ritland textbook)

Monday October 3

C&C PRESENTATIONS

face-to-face class

Tuesday October 11

C&C PRESENTATIONS

face-to-face class

- Note that we are meeting on Tuesday instead of Monday this week because of Columbus Day recess.

Monday October 17

face-to-face class

Readings to be completed by October 24

- Chapters 6 & 7 (Dabbagh & Bannan-Ritland textbook)

Monday October 24

ASSIGN TEAMS FOR CASE STUDY

face-to-face class

Module 4: Cognitive Flexibility Hypertexts, Case-Based Learning, and Goal-Based Scenarios

Readings to be completed by October 31

- Kim, Hannafin, & Thomas (2004). Case-Based Reasoning. (WebCT)
- Chapter 9 (Jonassen & Land textbook)
- Spiro?

Monday October 31

NO CLASS

online discussion #2

- Discussion begins Monday the 31st and ends Sunday November 6 @ 5 pm.

Module 5: Games, Simulations, and Computer-Based Microworlds

Readings to be completed by November 7

- Harper – Constructivist Simulations (WebCT)
- Gredler – Games and Simulations (WebCT)
- Rieber – Microworlds (WebCT)

Monday November 7

FINAL PROJECT PROPOSAL DUE

face-to-face class

Monday November 14

CASE STUDY RESPONSE DUE

NO CLASS

- Case study response should be posted to WebCT before class time on Monday November 14. Groups should spend class time reading and discussing the peer group response and preparing a critique. Case study online discussion critique begins on Wednesday November 16 and ends on Sunday November 20. Amendments to case study responses should be posted by Monday November 28.

Module 6: Virtual Learning Environments and Learning Communities

Readings to be completed by November 21

- Dede's papers (WebCT)
- Chapter 2 (Jonassen & Land textbook)
- Wenger??

Monday November 21

FEEDBACK ON FINAL PROJECT

face-to-face class

Module 7: Problem-Based Learning

Readings to be completed by November 28

- Dabbagh paper on PBL (WebCT)
- Barrows chapters on PBL (handout)

Monday November 28

LAST CLASS

face-to-face class

Monday December 5

NO CLASS

Monday December 12

FINAL PROJECT PRESENTATIONS

face-to-face class