

Instructional Technology Foundations and Theories of Learning

EDIT 704, Fall 2012
Thursday, 4:30—7:10 pm
Thompson Hall L019

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COURSE DESCRIPTION

This course reviews the practical and pedagogical issues related to the design and development of technological instruction. The course also investigates instructional design as a field and community of practice, as well as reviewing core learning theory constructs applicable to the design of instructional technology.

RELATIONSHIP OF EDIT 704 TO PROGRAM GOALS AND PROFESSIONAL ORGANIZATION

This course adheres to the following Instructional Technology Program Goals and Standards for Programs in Educational Communications and Instructional Technologies established by the Association of Educational Communication and Technologies (AECT) under the National Council for the Accreditation of Teacher Education (NCATE).

Standard 1 - Design

- 1.1.b Identify theories from which a variety of instructional design models are derived and the consequent implications.
- 1.1.2.a Demonstrate in-depth synthesis and evaluation of the theoretical constructs and research methodologies related to instructional design as applied in multiple contexts.
- 1.1.3.b Use the research, theoretical, and practitioner foundations of the field in the development of instructional materials.
- 1.1.4.a Conduct basic and applied research related to technology integration and implementation.
- 1.1.5.c Articulate the relationship within the discipline between theory, research, and practice as well as the interrelationships between people, processes, and devices.
- 1.3.a Identify multiple instructional strategy models and demonstrate appropriate contextualized application within practice and field experiences.

STUDENT OUTCOMES

By the end of this course, students will be able to demonstrate capabilities in the following areas:

- Identify the underlying principles for each of the learning paradigms/theories discussed in this course;
- Describe the general characteristics of each of the learning paradigms/theories and their impact on knowledge acquisition;
- Compare and contrast the three learning paradigms and their ensuing theories from a cognitive perspective;

- Identify descriptive and prescriptive learning theories;
- Describe the relationship between learning theory, instructional theory, and the practice of instructional design;
- Identify instructional theories, models, and strategies that are suited for each of the learning paradigms/theories;
- Identify instructional applications for each of the learning paradigms/theories discussed in this course;
- Describe the advantages and disadvantages of each of the learning paradigms/theories from an instructional perspective;
- Identify practical applications of each of the learning paradigms/theories in the field of Instructional Technology;
- Describe the implementation of each of the learning paradigms/theories from an Instructional Design perspective.

COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT STATEMENT OF EXPECTATIONS

All students must abide by the following:

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

For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See <http://gse.gmu.edu/>].

CAMPUS RESOURCES

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 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/>].

ACADEMIC INTEGRITY

GMU is an Honor Code university; please see the [Office for Academic Integrity](#) for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are

encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

DISABILITY ACCOMMODATIONS

If you have a documented learning disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with [Office for Disability Services](http://ods.gmu.edu) (SUB I, Rm. 4205; 993-2474; <http://ods.gmu.edu>) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.

PRIVACY

Students must use their MasonLIVE email account to receive important University information, including messages related to this class. See <http://masonlive.gmu.edu> for more information.

TECHNOLOGY POLICY

Cell phones, pagers, and other communicative devices are not allowed in this class. Please keep them stowed away and out of sight. Laptops or tablets (e.g. iPads) may be permitted for the purpose of taking notes only, but you must submit a request in writing (e-mail is fine) to do so. Engaging in activities not related to the course (e.g. gaming, email, chat, etc.) will result in a significant reduction in your participation grade.

CONTACT INFORMATION FOR AT LEAST TWO CLASSMATES

MY EXPECTATIONS

It is my philosophy that the best learning occurs when you, the learner, are the architect of your own learning activities. Common sense tells me the most relevant approach to learning in a graduate program occurs when learners direct their own learning. My experience, however, suggests this can be disconcerting for adult learners. I see my role as evolving from an “information giver” to a “facilitator of learning activities.” For this to occur, you as adult learners must take an active role in order to be a truly educated person.

REQUIRED READINGS

- Driscoll, M. (2005). *Psychology of Learning for Instruction, Third Edition*. Pearson: Boston, MA.
- Medsker, K. & Holdsworth, K. (2001). *Models and Strategies for Training Design*. International Society for Performance Improvement: Silver Spring, MD.
- Additional articles/readings are available on the class Blackboard site or from the instructor.

CLASS ATTENDANCE

Class attendance is required, and I expect that you will make every effort to be in class on time. Class participation and in-class assignments can be made up for **two** absences during the semester; additional absences cannot be made up. To make up attendance points, you must send an email requesting make up assignment within **one week** of the absence.

ASSIGNMENTS

Assignments are due in class on the day shown on the Course Schedule. Assignments may be turned in up to one week late with a 10% grade deduction. No late assignments will be accepted beyond one week after the due date. **Exception: The Classroom Teaching/Theorist Presentation and Abstract assignment must be completed as scheduled; no late credit will be given for this assignment.**

- **What I Believe Part 1 Essay** (100 pts)
- **Weekly Reflections** (200 pts, 20 pts each for 10 reflections)
- **Instructor Guide** (200 pts)
- **Classroom Teaching/Theorist Presentation and Abstract** (200 pts total, 100 pts for presentation, 100 for abstract)
- **Class Participation/In-class assignments** (150 pts)
- **What I Believe Part 2 Essay** (150 pts)

ASSIGNMENT DESCRIPTIONS

“What I Believe” Part One Essay

Using bullets, identify 15 notions, thoughts, and opinions you hold about adult learning and learning theory. These should be characteristics and/or behaviors of adult learners, or elements or characteristics of what you believe to be good instructional design. No references are required. The purpose of this assignment is for you to bring together in one place your personal beliefs.

Weekly Reflections

Throughout this course you will be encouraged to reflect on your thoughts, your actions, your teaching, the class, reading assignments, and the instructor. The purpose for this is to strengthen and reinforce learning. As Saphier and Gower point out "To summarize in your own words what you have learned in a given experience is a complex cognitive act; it causes search and retrieval of memory, organization of ideas, and summoning of language to recast the meaning in your own terms. It is

logical that this complex set of cognitive acts would create neural networks and deepen memory traces." (p. 254)

Reflection #1 is a series of structured questions, which you are asked to complete before the second class. The rest of the weekly reflections are a combination of topics you choose and topics assigned by the instructor. One former student called his reflections "rants." He used this weekly writing assignment to express opinions and even to daydream. I share this experience to demonstrate that reflections are NOT scholarly or academic work. Reflections are:

- A self-reflection of your own teaching
- A critique of an instructor in a class in which you are currently a student (e.g., What are your thoughts about the class? What was done well? What could have been done better? What would you have done differently?)
- Your reaction or analysis of the required reading
- They should be no less and no more than one page in length
- All reflections will be read and commented on by the instructor
- They will be returned to you at the beginning of the next class

Instructor Guide

Develop a curriculum based on the theories and strategies learned in class. Use the six major components of the behavior modeling methodology:

- Prescribed critical steps/behavior
- Credible model
- Skill practice exercises
- Specific feedback and social reinforcement
- Transfer strategies
- On-the-job reinforcement

Prepare a "package" (one- stop shopping) for an instructor to plan and deliver a lesson. At a minimum, identify the:

- Objective
- Materials and resources
- Clear instructions for all activities
- Instructor scripting (if appropriate)
- Sequence of instruction
- How learning will be assessed

In addition to the lesson, develop a one- to two-page explanation to include a brief synopsis of the learning theory and model/strategy used, and explanation for why the particular model/strategy is appropriate for the topic, and a short description of how the lesson reflects learning theory.

Classroom Teaching/Theorist Presentation and Abstract

Students are asked to conduct scholarly research of a theory/theorist or “thinker” in learning theory. You will select your theorist from a sign-up sheet during our second class session. In a short presentation to the other learners in EDIT 704, provide an overview of the theory, similar or related theories, identify the contribution this “thinker” made to the field of learning theory, and identify four (4) particularly relevant points regarding teaching/learning of adults and the design of instruction for adults. Prepare for our learning community an abstract, one-page front and back, covering the same topics as the presentation. Bring enough copies to share with your fellow learners. Include your references.

“What I Believe” Part Two

In a more scholarly paper, re-visit your beliefs. Using those original 15 bullets, reject or validate your original thoughts and notions in the Part One paper. Now cite references in APA format to support the characteristics and behaviors of adult learners or effective practices in teaching adult learners. Use a minimum of six (6) professional literature sources, including the textbooks to reaffirm or modify your original 15 beliefs, citing a specific source for each belief.

GRADING SCALE

Your final grade will be based on the following scale:

A	930 – 1000 pts
A-	900 – 929 pts
B+	870 – 899 pts
B	820 – 869 pts
C	750 – 819 pts
F	749 pts or lower

An Incomplete (IN) is a rarely used grade that indicates a contract between instructor and student to complete class work after the end of the term. The University Catalog states, “The grade of IN may be given to a student who is passing a course but who may be unable to complete scheduled course work for a cause beyond reasonable control.”

PLAGIARISM

Plagiarism is the intentional or unintentional use of other’s ideas, words, data, figures, pictures, sequence of ideas, or arrangement of materials without clearly acknowledging the source (based on Mason Honor Code online at <http://mason.gmu.edu/~montecin/plagiarism.htm>). This statement is from the Honor Code:

B. Plagiarism encompasses the following:

- 1.** Presenting as one's own the words, the work, or the opinions of someone else without proper acknowledgment.
- 2.** Borrowing the sequence of ideas, the arrangement of material, or the pattern of thought of someone else without proper acknowledgment.

In this class, any plagiarized work will earn a “0” for the entire assignment. To discourage plagiarism, you may be required to turn in some assignments in both electronic and in hard copy versions so I have the option to use SafeAssign (GMU’s plagiarism prevention program).

COURSE SCHEDULE

Week	Date	Class Topics and Readings Due	Assignments Due
1	8/30	Introductions, Course Overview, Discussion of Assignments and Expectations	
2	9/6	Introduction to Learning Theories Learning Paradigms <ul style="list-style-type: none"> • Driscoll Chapter 1 Introduction to Theories of Learning • Ertmer, P.A. & Newby, T.J. (1993). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective 	Reflection #1
3	9/13	Radical Behaviorism <ul style="list-style-type: none"> • Driscoll Chapter 2 	Reflection #2
4	9/20	Behaviorist Models and Strategies <ul style="list-style-type: none"> • Medsker Chapter 1 Behavior Modification • Medsker Chapter 3 Behavior Modeling 	Classroom Teaching/Theorists Presentations: Sternberg Brookfield What I Believe Part 1 Reflection #3
5	9/27	Cognitive Information Processing <ul style="list-style-type: none"> • Driscoll Chapter 3 Cognitive Information Processing • Medsker Chapter 6 Mnemonics 	Reflection #4
6	10/4	Conditions of Learning <ul style="list-style-type: none"> • Driscoll Chapter 10 Gagne’s Theory of Instruction • Medsker, Chapter 15 ARCs Motivational Design 	Classroom Teaching/Theorists Presentations: Gagne Merrill Mager Reflection #5
7	10/11	Meaningful Events and Schema Theory <ul style="list-style-type: none"> • Driscoll Chapter 9 Motivation & Self Regulation in Learning • Medsker Chapter 4 Conditions of Learning 	Library Instruction
8	10/18	Situated Cognition <ul style="list-style-type: none"> • Driscoll Chapter 5 Situated Cognition • Medsker Chapter 10 Cognitive Inquiry 	Classroom Teaching/Theorists Presentations: Argyris Bloom

			Bruner Reflection #6
9	10/25	Interactional Theories of Cognitive Development <ul style="list-style-type: none"> • Driscoll Chapter 7 Interactional Theories of Cognitive Development 	Classroom Teaching/Theorists Presentations: Vygotsky Perry Reflection #7
10	11/1	Constructivism <ul style="list-style-type: none"> • Driscoll Chapter 11 Constructivism • Medsker Chapter 11 Constructivism 	Classroom Teaching/Theorists Presentations: Gardner Piaget Reflection #8
11	11/8	Learning and Memory <ul style="list-style-type: none"> • Driscoll Chapter 8 Biological Bases of Learning and Memory 	Classroom Teaching/Theorists Presentations: Knowles Dewey Instructor Guide
12	11/15	Adult Learning Theory Part 1 <ul style="list-style-type: none"> • Medsker Chapter 16 Adult Learning 	Reflection #9 Mezirow
	11/22	NO CLASS – HAPPY THANKSGIVING!	
13	11/29	Adult Learning Theory Part 2	What I Believe Part 2
14	12/6	Conclusion, Affirmations and Evaluation: Putting Theory into Practice	Reflection #10

Grading Rubric for the Instructor Guide

Levels/Criteria	Exceeds Expectations	Meets Expectations	Does Not Meet Expectations	Score/Level
<p>Purpose and Learning Objectives</p>	<p>All key elements of the purpose and learning objectives are included and effectively described, and align with the characteristics of behaviorism</p> <ul style="list-style-type: none"> • Pedagogical model is identified • Authentic learning problem is described and aligns with the characteristics of the selected pedagogical model • Target audience is described • General knowledge domain or topic of instruction is described • Complex learning outcomes are presented • Learning activities are described • Assessment is described • Objectives prepared for each major task • Objectives are appropriate and measurable • Instructional strategy addresses each objective 	<p>Most key elements of the purpose and learning objectives are included and effectively described OR the purpose and learning objectives are covered, but the alignment across the elements is not clear</p> <ul style="list-style-type: none"> • Pedagogical model is identified • Authentic learning problem is described and aligns with the characteristics of the selected pedagogical model • Target audience is described • General knowledge domain or topic of instruction is described • Complex learning outcomes are presented • Learning activities are described • Assessment is described • Objectives prepared for each major task • Objectives are appropriate and measurable • Instructional strategy addresses each objective 	<p>Key elements of the purpose and learning objectives are missing OR the purpose and learning objectives are not described effectively or do not align with behaviorism</p> <ul style="list-style-type: none"> • Pedagogical model is identified • Authentic learning problem is described and aligns with the characteristics of the selected pedagogical model • Target audience is described • General knowledge domain or topic of instruction is described • Complex learning outcomes are presented • Learning activities are described • Assessment is described • Objectives prepared for each major task • Objectives are appropriate and measurable • Instructional strategy addresses each objective 	
<p>Meaningful Organization of Topics</p>	<p>All key elements of the guide are meaningful and organized in a substantive way</p> <ul style="list-style-type: none"> • Key sections are included • Rules of grammar, spelling, usage and punctuation are adhered to 	<p>Most key elements of the guide are meaningful and organized OR all key elements are covered but not substantively</p> <ul style="list-style-type: none"> • Key sections are included • Rules of grammar, spelling, usage and punctuation are adhered to 	<p>Several elements of the paper are missing, not supported substantively, or not adhered to</p> <ul style="list-style-type: none"> • Key sections are included • Rules of grammar, spelling, usage and punctuation are adhered to 	

Levels/Criteria	Exceeds Expectations	Meets Expectations	Does Not Meet Expectations	Score/Level
	<ul style="list-style-type: none"> • APA style is applied correctly and consistently across all areas of the paper • Class readings are synthesized effectively to support the points made in the paper • Appropriate use of references • Page length is adhered to • Paper presents a substantiated introduction to behaviorism and its implication for teaching and learning • Paper presents a substantiated description of the behaviorist pedagogical model, including its principles, characteristics, theoretical grounding, and application 	<p>to</p> <ul style="list-style-type: none"> • APA style is applied correctly and consistently across all areas of the paper • Class readings are synthesized effectively to support the points made in the paper • Appropriate use of references • Page length is adhered to • Paper presents a substantiated introduction to behaviorism and its implication for teaching and learning • Paper presents a substantiated description of the behaviorist pedagogical model, including its principles, characteristics, theoretical grounding, and application 	<ul style="list-style-type: none"> • APA style is applied correctly and consistently across all areas of the paper • Class readings are synthesized effectively to support the points made in the paper • Appropriate use of references • Page length is adhered to • Paper presents a substantiated introduction to behaviorism and its implication for teaching and learning • Paper presents a substantiated description of the behaviorist pedagogical model, including its principles, characteristics, theoretical grounding, and application 	
<p>Instructor and/or Student Guidelines</p>	<p>All key elements of the guide are provided and adhered to</p> <ul style="list-style-type: none"> • Background / introduction • Six major components of behavior modeling • Critical steps and behaviors prescribed • Skills practice is specified • Feedback and social reinforcement specified • Transfer strategy articulated • On-the-job reinforcement identified • Instruction timing, materials, resources, visuals and scripting (if appropriate) are set 	<p>Most key elements of the guide are provided and adhered to</p> <ul style="list-style-type: none"> • Background / introduction • Six major components of behavior modeling • Critical steps and behaviors prescribed • Skills practice is specified • Feedback and social reinforcement specified • Transfer strategy articulated • On-the-job reinforcement identified • Instruction timing, materials, resources, visuals and scripting (if 	<p>Several key elements of the guide are missing OR not adhered to</p> <ul style="list-style-type: none"> • Background / introduction • Six major components of behavior modeling • Critical steps and behaviors prescribed • Skills practice is specified • Feedback and social reinforcement specified • Transfer strategy articulated • On-the-job reinforcement identified • Instruction timing, materials, resources, visuals and scripting (if 	

Levels/Criteria	Exceeds Expectations	Meets Expectations	Does Not Meet Expectations	Score/Level
	<p>forth</p> <ul style="list-style-type: none"> • Writing style appropriate for the primary “reader” 	<p>appropriate) are set forth</p> <ul style="list-style-type: none"> • Writing style appropriate for the primary “reader” 	<p>appropriate) are set forth</p> <ul style="list-style-type: none"> • Writing style appropriate for the primary “reader” 	
Supporting Materials	<p>Supporting materials use appropriate technologies to demonstrate all aspects of the guide that are applicable or available to the learner and the facilitator</p> <ul style="list-style-type: none"> • Clear demonstration of the behaviorist instructional approach depicted in the selected pedagogical model • Anchoring scenario or learning challenge clearly demonstrated in the guide • Explicit demonstration of the instructional strategies, learning activities, and assessment outlined in the guide • Selected media are innovative, yet appropriate for the chosen strategies 	<p>Most aspects of the supporting materials use appropriate technologies OR all aspects of the guide are included but not effectively demonstrated</p> <ul style="list-style-type: none"> • Clear demonstration of the behaviorist instructional approach depicted in the selected pedagogical model • Anchoring scenario or learning challenge clearly demonstrated in the guide • Explicit demonstration of the instructional strategies, learning activities, and assessment outlined in the guide • Selected media are innovative, yet appropriate for the chosen strategies 	<p>Several aspects of the supporting materials are missing OR are not demonstrated effectively and consistently</p> <ul style="list-style-type: none"> • Clear demonstration of the behaviorist instructional approach depicted in the selected pedagogical model • Anchoring scenario or learning challenge clearly demonstrated in the guide • Explicit demonstration of the instructional strategies, learning activities, and assessment outlined in the guide • Selected media are innovative, yet appropriate for the chosen strategies 	
Layout	<p>The layout of the guide is clear, easy to follow and flows in a logical sequence way</p> <ul style="list-style-type: none"> • Photographs, icons and clip art follow a theme and are appropriate • Text is easy to read, spaced and is aligned; backgrounds enhance layout • Two-page explanation is included and describes how the lesson reflects learning theory 	<p>Most aspects of the layout of the guide are clear, easy to follow and flow in a logical way</p> <ul style="list-style-type: none"> • Photographs, icons and clip art follow a theme and are appropriate • Text is easy to read, spaced and is aligned; backgrounds enhance layout • Two-page explanation is included and describes how the lesson reflects learning theory 	<p>Several aspects of the layout of the guide are NOT clear, incomplete or lacks enough detail for someone else to deliver</p> <ul style="list-style-type: none"> • Photographs, icons and clip art follow a theme and are appropriate • Text is easy to read, spaced and is aligned; backgrounds enhance layout • Two-page explanation is included and describes how the lesson reflects learning theory 	

Levels/Criteria	Exceeds Expectations	Meets Expectations	Does Not Meet Expectations	Score/Level
<p>Applied Strategy to Lesson Design</p>	<p>All key elements of the guide are included and pedagogically aligned</p> <ul style="list-style-type: none"> • Learning outcomes are representative of learning in constructivist learning environments • Instructional characteristics of the pedagogical model selected are identified and aligned with instructional strategies and learning outcomes • Learning activities are identified and aligned with the instructional strategies and learning outcomes • Assessment activities or criteria are identified and aligned with the instructional strategies and learning outcomes 	<p>Most key elements of the guide are included and pedagogically aligned OR all key elements of the design table are included but not pedagogically aligned</p> <ul style="list-style-type: none"> • Learning outcomes are representative of learning in constructivist learning environments • Instructional characteristics of the pedagogical model selected are identified and aligned with instructional strategies and learning outcomes • Learning activities are identified and aligned with the instructional strategies and learning outcomes • Assessment activities or criteria are identified and aligned with the instructional strategies and learning outcomes 	<p>Several elements of the guide are missing or not pedagogically aligned</p> <ul style="list-style-type: none"> • Learning outcomes are representative of learning in constructivist learning environments • Instructional characteristics of the pedagogical model selected are identified and aligned with instructional strategies and learning outcomes • Learning activities are identified and aligned with the instructional strategies and learning outcomes • Assessment activities or criteria are identified and aligned with the instructional strategies and learning outcomes 	
<p>Summarized Lesson and Explained Strategy</p>	<p>All key elements of the lesson were summarized; instructional strategy thoroughly explained</p> <ul style="list-style-type: none"> • Instructional product is complete and detailed enough for anyone to deliver the instruction • Guide contains all required content 	<p>Most key elements of the lesson were summarized; most of the instructional strategy thoroughly explained</p> <ul style="list-style-type: none"> • Instructional product is complete and detailed enough for anyone to deliver the instruction • Guide contains all required content 	<p>Several elements of the lesson were NOT summarized; instructional strategy lack thorough explanation</p> <ul style="list-style-type: none"> • Instructional product is complete and detailed enough for anyone to deliver the instruction • Guide contains all required content 	

Grading Rubric for Classroom Teaching/Theorist Presentation and Abstract

Student: _____

Presentation (100 points)	Points Earned	Comments
Describes Person	(10)	
Overview of Theory*	(10)	
What theories influenced?*	(10)	
Similar or related theories*	(10)	
Is a “theory”? Research based?*	(10)	
Contribution to field of adult ed	(10)	
Four relevant points re: teaching/ learning of adults*	(10)	
Your response to thinker/theory	(10)	
References – at least four 1 primary, 2 secondary, 1 web	(10)	
Presentation itself (10) 15 minutes (min)/20 minutes (max) Organized content and flow of ideas Poised delivery Use of visuals		
Abstract (100 points)		
No > one page, front and back	(15)	
Sufficient copies to share	(10)	
Major divisions indicated by *	(50)	
Language used; free of errors	(15)	
Student name	(10)	