

<b>Course Information</b>	<p><b>ITLS 7300—Research in Instructional Technology and Learning Sciences<sup>1</sup></b></p> <p>Monday, 1:30 p.m. - 4:00 p.m.</p> <p>EDUC 282</p>
<b>Instructor Information</b>	<p>Instructor: David F. Feldon, Ph.D.</p> <p>Office: EDUC 201</p> <p>Phone: (435) 797-0556</p> <p>Office Hrs: By appointment</p> <p>E-mail: david.feldon@usu.edu</p>
<b>Required Texts</b>	<p>Required readings available via Canvas.</p>
<b>Purpose</b>	<p>This course is intended to engage doctoral and other advanced students in Instructional Technology and Learning Sciences in rigorous examination of methodological approaches, theoretical constructs, and topic areas that are of great historical import or are currently being seriously explored in the areas of Instructional Technology and Learning Sciences. It is also a space to work more on additional discipline-specific research skills.</p>
<b>Objectives</b>	<p>Students in this course will learn to:</p> <ol style="list-style-type: none"> <li>1. Identify theory or theoretical perspectives in a given research study</li> <li>2. Explain the epistemological underpinnings and approaches associated with relevant methodologies</li> <li>3. Describe current research and historical debates related to Instructional Technology or Learning Sciences and offer recommendations for promising directions for future research.</li> <li>4. Demonstrate relative improvement in their individual ability to conceptualize, describe, or present scholarly research</li> <li>5. Articulate their own theoretical framework, research questions, methods, and sampling strategies in the form of a written research proposal.</li> </ol>
<b>Expectations of Students</b>	<ul style="list-style-type: none"> <li>• Actively engage with the course material and find ways to make it relevant to your professional and academic needs and goals</li> <li>• Challenge statements that are confusing or with which you disagree</li> <li>• Engage in class dialogue with thoughtfulness, openness, and respect</li> <li>• Attend class having read and taken notes on the readings due</li> <li>• Work to develop your writing and speaking skills throughout the course</li> </ul>

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<sup>1</sup> The instructor reserves the right to modify the syllabus as needed during the course to meet students' learning needs.

<b>Expectations of Instructor</b>	<ul style="list-style-type: none"> <li>• Available during and outside of class time to address questions and concerns</li> <li>• Will respond to messages and emails within 48 hours</li> <li>• Provide clear explanations of research principles and methodologies</li> <li>• Conduct an intellectually challenging and rigorous course</li> </ul>
<b>Absences</b>	<p><b>If you find it absolutely necessary to be absent from class because of illness or an emergency, you are responsible to master <i>all</i> information presented during your absence. Do not ask the instructor to repeat important information—identify a classmate who will help you.</b></p> <p><b>It is important to understand that the purpose of the lectures is not to explain the readings.</b> While time will be spent on clarification, most of the material presented in class will serve as an extension of relevant ideas and issues. As such, attendance and participation in class will be necessary aspects of the learning process, in addition to the readings. Consequently, absences should be avoided to prevent you from falling behind and missing information for which you will be responsible.</p>
<b>Incompletes</b>	Please note that I only give incomplete grades in rare and exceptional cases.
<b>Administrative Issues</b>	All administrative issues will be handled according to established USU and CEHS policies.
<b>Special Needs</b>	Any student requiring accommodations based on a <b>disability</b> is required to register with the Office of Student Disability Services each semester. A letter of verification for approved recommendations can be obtained through OSD.
<b>Grading</b>	<p><b>Papers more than one week late will not be accepted</b> unless a student has experienced an extreme emergency (contact the instructor). A paper received from one day to seven days late will receive a one full letter grade reduction.</p> <p><b>Discussion facilitations cannot be made up.</b> Only in the most extreme individual circumstances will the instructor modify this policy.</p> <p>Keep in mind a course grade of “F” will be given to any student who submits a term paper that is not original (i.e. when any part of the paper is written by someone else, plagiarized and/or purchased).</p>

<b>Course Requirements</b>	<b><u>Percent of Grade</u></b>
<b>Class Participation and Minor Assignments</b>	10%
<b>Discussion Facilitation</b>	20%
<b>Article Critique</b>	20%
<b>Literature Review/Research Proposal</b>	50%

**Assignments**

**Discussion Facilitation:**

On a date selected during the first class meeting, you and a partner will choose one class to **take the lead on discussion facilitation** for all assigned readings. The purpose of the assignment is not to provide a summary. Instead, you must understand the collective readings at a deep level to identify the central issues and controversies and formulate driving questions to serve as the focus of the discussion for that day. The instructor will provide support as necessary both prior to and during the facilitation to ensure a successful interaction for the class as a whole. Credit is given on the basis of evident preparation and comprehension of core issues in the readings discussed, not on the success of the class interaction itself. Credit/No Credit.

**Critique:**

Select a published empirical study in your area of interest and critique it applying concepts from the course. The critique will be 2-3 pages, single-spaced. The article critiqued must be included with the critique submission. The critique will also be delivered as a formal presentation in class. Graded.

**Literature Review/Research Proposal:**

A research proposal or literature review of **approximately 12 single-spaced pages** in length (excluding references) will be required in this course. This is a departure from APA format, but please make the adjustment. You can choose any empirical research topic within the realm of instructional technology or learning sciences for your proposal that is appropriate to serious academic inquiry. If you are doing a research proposal, the paper will entail a literature review sufficient to justify the research questions/hypotheses and variables identified. The topic/research question+methodology selected **must be approved by the instructor in an email**. See the course schedule for approval timeline. Graded.

**Structure of  
the Paper**

**When you have selected your research question and method, send a one paragraph description of the paper you are proposing to write to [david.feldon@usu.edu](mailto:david.feldon@usu.edu). I will review your proposal and get back to you with either approval or a suggested revision (I do not want to control your interest, only to keep you out of trouble). Do not start your review until I have returned e-mail with my approval of your topic. Keep this e-mail and submit a copy of it with your paper.**

**Grading**

**Papers more than one week late will not be accepted** unless a student has experienced an extreme emergency (contact the instructor). A paper received from one day to seven days late will receive a one full letter grade reduction.

**Presentations cannot be made up.** Only in the most extreme individual circumstances will the instructor modify this policy.

Any case involving academic dishonesty or any other violation of the Honor Code will be referred to the University for further action.

<b>Date</b>	<b>Topic</b>	<b>Assignment Due</b>
January 7	Introduction Course Expectations Course Structure Method vs. Methodology	
January 14	Theories vs. theories	Berliner (2002); Feldon (2012); Maxwell (2004); Nuthall (2005)
January 21	MLK Jr. Day—No Class	
January 28	Conceptual Frameworks Operational Definitions and Framing Research Questions	Ravitch & Riggan (2012, chs. 1-3)
February 4	Situated Learning vs. Cognition  Facilitator:	Anderson, Reder, & Simon (1996); Greeno (1997)
February 11	Technology and Learning  Facilitator:	Clark (1994); Clark & Estes (1998); Kozma (1994a,b)
February 18	Presidents' Day—No Class	
February 25	Constructivism vs. Instructivism  Facilitator:	Kirschner, Sweller, & Clark (2006) +rebuttals ; Schwartz & Bransford (1998)
March 4	Emergent Missions in the Learning Sciences  Facilitator: Critique:	Philip, Bang, & Jackson (2018) McKenney (2018)  Email research question and general methodological approach for paper.
March 11	Spring Break—No Class	
March 18	Design-Based Research  Facilitator: Critique:	The Journal of Learning Sciences Special Issue (Barab & Squire, 2004; Collins et al., 2004; Fishman et al., 2004; diSessa & Cobb, 2004; Dede, 2004; Kelly, 2004)
March 25	Video methodology  Facilitator: Critique:	Derry, Pea, Barron, Engle, Erickson, et al. (2010)
April 1	Interviews and Observations  Facilitator: Critique:	diSessa (2007); diSessa & Sherin (1998); Hallden, Haglund, & Stromdahl (2007)
April 8	AERA—No Class	
April 15	Roundtable paper presentations	Roundtable paper presentations
April 22	NO CLASS—FINAL PAPERS DUE	Final Paper due via email by midnight

**Required  
References**

**Readings**

Readings will be posted to course Canvas site and available in PDF format for download.

Anderson, J. R., Reder, L., & Simon, H. A. (1996). Situated learning and education. *Educational Researcher*, 25(4), 5-11.

Barab, S., & Squire, K. (2004). Design-based research: Putting a stake in the ground. *The Journal of the Learning Sciences*, 13(1), 1-14.

Berliner, D. (2002). Educational research: The hardest science of all. *Educational Researcher*, 31(8), 18-20.

Clark, R. E. (1994). Media will never influence learning. *Educational Technology Research and Development*, 42(2), 21-29.

Clark R. E. & Estes, F. (1998) Technology or Craft: What are we doing? *Educational Technology*, 38(5), 5-11.

Collins, A., Joseph, D., & Bielaczyc, K. (2004). Design research: Theoretical and methodological issues. *The Journal of the Learning Sciences*, 13(1), 15-42.

Dede, C. (2004). If design-based research is the answer, what is the question? A commentary on Collins, Joseph, and Bielaczyc; diSessa and Cobb; and Fishman, Marx, Blumenthal, Krajcik, and Soloway in the JLS special issue on design-based research. *The Journal of the Learning Sciences*, 13(1), 105-114.

Derry, S. J., Pea, R. D., Barron, B., Engle, R. A., Erickson, F., et al. (2010). Conducting video research in the learning sciences: Guidance on selection, analysis, technology, and ethics. *Journal of the Learning Sciences*, 19, 3-53.

diSessa, A. (2007). An interactional analysis of clinical interviewing. *Cognition & Instruction*, 25, 523-565.

diSessa, A. A., & Cobb, P. (2004). Ontological innovation and the role of theory in design experiments. *The Journal of the Learning Sciences*, 13(1), 77-103.

diSessa, A., & Sherin, B. (1998). What changes in conceptual change? *International Journal of Science Education*, 20, 1155-1191.

Feldon, D. F. (2012). Validity of learning. In N. Seel (Ed.), *Encyclopedia of the Sciences of Learning* (pp. 3381-3383). New York: Springer.

Fishman, B., Marx, R. W., Blumenfeld, P., Krajcik, J., & Soloway, E. (2004). Creating a framework for research on systemic technology innovations. *The Journal of the Learning Sciences, 13*(1), 43-76.

Greeno, J. G. (1997). On claims that answer the wrong questions. *Educational Researcher, 26*(1), 5-17.

Halldén, O., Haglund, L., & Strömdahl, H. (2007). Conceptions and contexts: On the interpretation of interview and observational data. *Educational Psychologist, 42*, 25-40.

Kelly, A. (2004). Design research in education: Yes, but is it methodological? *The Journal of the Learning Sciences, 13*(1), 115-128.

Kirschner, P., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist, 41*, 75-86.

Kozma, R. (1994a). Will media influence learning? Reframing the debate. *Educational Technology Research & Development, 42*(2), 7-19.

Kozma, R. (1994b). A reply: Media and methods. *Educational Technology Research & Development, 42*(3), 11-14.

Maxwell, J. (2004). Causal explanation, qualitative research, and scientific inquiry in education. *Educational Researcher, 33*(2), 3-11.

McKenney, S. (2018). How can the learning sciences (better) impact policy and practice? *Journal of the Learning Sciences, 27*, 1-7.

Nuthall, G. (2005). The cultural myths and realities of classroom teaching and learning: A personal journey. *Teachers College Record, 107*(5), 895-934.

Philip, T. M., Bang, M., & Jackson, K. (2018). Articulating the “how,” the “for what,” the “for whom,” and the “with whom” in concert: A call to broaden the benchmarks of our scholarship. *Cognition & Instruction, 36*, 83-88.

Ravitch, S. A., & Riggan, M. (2012). *Reason & rigor: How conceptual frameworks guide research*. Los Angeles, CA: SAGE.

Schwartz, D., & Bransford, J. (1998). A time for telling. *Cognition & Instruction, 16*, 475-523.