Theories of Learning and Leadership with Technology
EDCI 788Q
Benjamin 2121
Thursdays 4:15 – 7:00 PM

Instructor: Tamara L. Clegg (Tammy)
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Twitter: @TammyUMD
Office Hours: By Appointment

Required Textbooks: There are no required textbooks to be purchased. We will be reading a series of research articles, book chapters, and web articles for this course.

Required Technology: While no technology is officially required, you will be asked to use the following technologies, online communities, and websites throughout the course:
- Twitter (if you are opposed to creating an account on Twitter, you can bring your tweets printed out to class)
- ELMS (we will be using Canvas to distribute course information, turn in assignments, and receive grades)
- Pinterest (We will be using social media sites like Twitter and Pinterest to share ideas about course readings and course projects. On Pinterest, we will create a course account that you can post to and from so there is no need to create your own account.)
- YouTube (We may also explore the use of a YouTube channel for sharing ideas and prototypes as well as providing feedback to other classes that we will be collaborating with)
- Laptops – In general it will be beneficial to bring your laptop to class if you have one. However, this is not required.

Prerequisites: N/A

Method for communication with students outside the classroom:
Email, Twitter (hashtag TBD), Pinterest, Course Canvas site

Course Description
In this course, students will learn about the impact technology has on how people learn, and how people use technology effectively to facilitate learning. Students will explore theories of designing technology for effective teaching and learning, and examine the challenges of implementing technology in education systems.

Course Goals
- To gain an understanding of how learning technologies are informed by theories and approaches to learning
- To develop a design perspective of new and innovative ways to use technology for learning
- To develop an understanding of research regarding learning technologies
- To develop an understanding of the challenges of implementing technology in education systems
- To identify and motivate a key issue in learning technologies research
- To deepen knowledge of research on a key learning technology issue
- To synthesize a body of research on a key learning technology issue
- To think critically about learning technologies research and its implications
- To gain experience in presenting projects in oral and written forms

Course Attendance Policy
Regular attendance and participation in this class is the best way to grasp the concepts and principles being discussed. However, in the event that a class must be missed due to an illness, the policy in this class is as follows:

1. For every medically necessary absence from class (lecture, recitation, or lab), a reasonable effort should be made to notify the instructor in advance of the class. When returning to class, students must bring a note identifying the date of and reason for the absence, and acknowledging that the information in the note is accurate.
2. If a student is absent more than 2 times, the instructor may require documentation signed by a health care professional.
3. If a student is absent on days when assignments are due [or other events as specified in the syllabus] he or she is required to notify the instructor in advance, and upon returning to class, bring documentation of the illness, signed by a health care professional.

Assignments and Grading
All assignments must be submitted via Canvas. Each assignment has a page on Canvas that will allow digital uploads. Assignments must be turned in by 2pm on the day they are due. Late assignments will be deducted 5 points after 2pm, and an additional 10 points each day they are late (up to 5 days).

Grading

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<th>Assignment Category</th>
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<tr>
<td>Class Participation</td>
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<tr>
<td>Short Assignments</td>
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<tr>
<td>Paper Outline &amp; Bib.</td>
<td>20%</td>
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<tr>
<td>Final Paper</td>
<td>40%</td>
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<td>Total</td>
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Class Participation
Each class is critical to your learning experience. Your energy in contributing to class discussions, small-group exercises, and on-going research will be important. Therefore,
coming to class prepared (e.g., reading all course readings, working on project research, etc.) will be necessary to receiving full credit for class participation. Included in this grade will be any reading materials or contributions you are asked to make in preparation for the discussion of the readings (e.g., tweets, bringing in example web page designs, etc.).

Assignments

Short Assignment 1: Learning Technology Literature Review Topic
Due: February 20, 2014

In this assignment, you should determine a topic relating to learning technologies and learning technologies research that you want to focus on for your literature review. You should consider topics of interest to you and topics that will be helpful in your research moving forward (e.g., topics related to your thesis). In this assignment you should define your learning technologies topic and provide an appropriate context for your literature review. This writing will be quite useful for the introduction of your literature review. Specifically, you should submit a written report (i.e., paragraphs, not lists) where you describe the following:

- What will your topic be?
- Why is this topic important? Establish your reason (or point of view) for reviewing the literature
- Explain the criteria to be used in analyzing and comparing literature
  - What will be the boundaries/scope of your project (i.e., what topics, methods, or types of studies will be included in your review and what will not)?
  - How will you go about identifying relevant articles (and articles that are not relevant)?

Short Assignment 2: Synthesis Grid
Due: March 13, 2014

In this assignment, you should identify key themes from the literature on your topic that you will use to organize the body of your literature review. Create a table with a column for each theme and a row for each article. Begin filling in the table, listing in each row what that article says with respect to the theme in that column. You should fill in the table for at least 10 articles. Articles for the literature must be peer reviewed, and should be either empirical, review, methodological, or theoretical in nature. This synthesis assignment will serve as an opportunity for us to review the types of articles you are selecting prior to your paper outline and final draft. I will only grade that you have completed this assignment, but we will discuss it and work with it in class.

Paper Outline and Annotated Bibliography
Due: April 10, 2014

In this assignment, you will choose the journal articles that you will use to write your paper. Write a summary of the main points for each article and why you think each article will help address your topic. At this point, you MUST have all of the citations that you are going to be using for the paper. You should include at least 15 articles in your review (at most 7 from articles we have read and discussed in class). **Articles for the literature must be peer reviewed, and should be either empirical, review, methodological, or theoretical in nature.** Thus, you must have planned on doing most of your literature searching and reading of journal articles BEFORE this assignment is due. Note that to produce a quality paper, you cannot simply select the first 15 articles that you find on your topic. Therefore, you must schedule enough time so that you can review sufficient literature in order to identify the articles most appropriate to your specific topic. After summarizing the articles that you have chosen for your review, you should prepare a paper outline that organizes the topics that you will include in your paper. Your synthesis grid should be helpful for that.

Your assignment should include:
- Your paper **title**
- Your paper **objectives**: In one paragraph, clearly state your objectives of the paper and give a brief description of the **topics** to be covered.
- Your paper **outline**: Provide the overall outline of the paper including the subheadings that you will use. Please read over the assignment for the final paper for an idea of the requirements you will need. In addition, you need to provide the citations that you plan to cite in each section (see example on the next page).
- Additionally, you should provide **summaries** of the 15 (or more) articles you will include in the literature review. For each of your articles, please answer the following questions:
  - What were the main research questions/objectives of this paper?
  - What were the results or answers to the research questions?
  - Why is this paper relevant to your overall topic? How does it inform your literature review?

**Final Paper: Learning Technologies Literature Review**

Due: May 8, 2014

For your final paper, you should present a polished, final report of your literature review on your learning technologies topic. This paper should be an iterative culmination of the previous short assignments, our discussions in class, and the feedback you’ve received thus far. Your paper should be double-spaced, 11-12pt font (and 10-12 pages). Your paper should include a review of **at least** 15 references. Articles for the literature must be peer reviewed, and should be either empirical, review, methodological, or theoretical in nature.
Specifically, your paper, should include the following three sections, where you specifically address the requirements below:

1) **Introduction:**
   - Define the topic to provide an appropriate context
   - Discuss the overall trends of what’s been published about a topic (conflicts in theories, methodologies, evidence, or conclusions; gaps in research; identify and discuss a single problem; discuss a new approach or perspective of interest)
   - Why is this topic important? Establish your reason (or point of view) for reviewing the literature
   - Explain the criteria to be used in analyzing and comparing literature, and the organization of the review (scope)

2) **Body:**
   - Group research studies and other types of literature (reviews, theoretical articles, case studies, etc.) according to common denominators such as qualitative versus quantitative approaches, conclusions of authors, specific purpose or objective, chronology, etc.
   - Be sure to **critically evaluate** each article. This means that you will not just provide a group of summarized articles, but in your synthesizing, you will think about the similarities between each article and others you’ve read, the limitations of the findings or of the study, ways in which it informs your topic, and gaps still remaining (or pieces that still need to be built upon).
   - Summarize individual studies or articles with as much or as little detail as each merits according to its comparative importance in the literature, remembering that space (length) denotes significance.
   - Provide the reader with strong "umbrella" sentences at beginnings of paragraphs, "signposts" throughout, and brief "so what" summary sentences at intermediate points in the review to aid in understanding comparisons and analyses.
   - Using relevant **headings**, the body should be composed of sections. If these sections were done effectively by individual team members, they take up each issue one at a time and discuss how the authors of the articles respond to that issue.
   - Don’t forget to introduce and close each section with a sentence **focused on the literature** (topic sentence and concluding sentence.)
   - Length of body: about 3 pages or more, single-spaced. (Length of each section will vary, but each typically contains several paragraphs.)

3) **Conclusion:**
   - Summarize major contributions of significant studies and articles to the body of knowledge under review, maintaining the focus established in the introduction.
   - Evaluate the current "state of the art" for the body of knowledge reviewed, pointing out major methodological flaws or gaps in research, inconsistencies in theory and findings, and areas or issues pertinent to future study.
- Conclude by providing some insight into the relationship between the central topic of the literature review and a larger area of study such as a discipline, a scientific endeavor, or a profession.

4) References:
- APA formatting
- **References and In-text Citations:** An APA-style References page, with all of the sources referred to in your literature review, must be included at the end of your essay. All quoting, paraphrasing, and summarizing must also follow APA guidelines. In your presentation and analysis of sources, avoid heavy reliance on quotations to present the ideas of others; excessive quoting can turn your literature review into a cacophony of different voices that frustrates the reader’s ability to find cohesion between the distinct ideas. In most cases, you are better off paraphrasing or summarizing, which you must do carefully to avoid plagiarism. Quote other authors sparingly and with purpose: to convey an idea that cannot be paraphrased without losing meaning or to convey the power of the original language.
- You must have least 15 citations, and I encourage you to include more. Articles for the literature must be peer reviewed, and should be either empirical, review, methodological, or theoretical in nature.

**Readings**
Readings are to be done by class time the week they are listed on the schedule. In most cases, you will be asked to tweet about each of the readings by class time the day we are discussing that reading. This will be a part of your class participation grade. The reading list is as follows. See the course schedule for the dates when readings will be discussed.

**I. What is Technology?**

*Week 1: Learning Technologies, Values, & Society*


For Further Reading


II. How People Learn with Technology

Week 2: Theories of Learning


For Further Reading


Week 3: Learning Approaches with Technology (Constructionism & Cognitive Apprenticeship)


For Further Reading:


**Week 4: Learning Approaches with Technology (Problem-Based Learning, Knowledge Building, & Cognitive Tutors)**


For Further Reading


**III. Designing Technology**

Week 5: Design-Based Research (Methodology)


**For Further Reading**


**Week 6: Design-Based Research (Specific Examples)**


Week 7: HCI Approaches & Participatory Design

Bauhaus What is Design: A video about what constitutes design: http://www.youtube.com/watch?v=6U0nklFHzQI&list=PLNpgw0zcyFDRFPvTQQ7joM1MTufE1S1kn&index=1


IV. Technology in Education Today
Week 8: Technology in Education – Policy Issues


For Further Reading


Week 9: Learning Environments


Week 10: Case Studies of Technology Use

NOTE: Each student should choose two case studies to read. During class, students will present summaries and critiques of the case studies they read.

Choose One:


Choose One:


**Week 11: Case Studies of Technology Use**

NOTE: Students may select their own technology case studies, or choose from this list. Each student should choose two case studies to read. During class, students will present summaries and critiques of the case studies they read.

Choose One:


Choose One:


### Course Schedule

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<tr>
<th>Week</th>
<th>Activities</th>
<th>Due</th>
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| 1 | **January 30, 2014**  
   **Introduction:** Learning Technologies, Values & Society  
   Activity:  
   - What is Technology  
   Discussion:  
   - Lit Review Discussion | |
| 2 | **Feb. 6, 2014**  
   Reading: Theories of Learning | |
| 3 | **Feb. 13, 2014**  
   Reading: Learning Approaches with Technology (Constructionism & Cognitive Apprenticeship) | Tweet one insight, quote, aha moment, or question from each reading with the course hashtag  
   - Try to tag your tweets according to the readings as well (e.g., #hung) |
| 4 | **Feb. 20, 2014**  
   Reading: Learning Approaches with Technology (PBL, Knowledge Building, & Cognitive Tutors)  
   Discussion:  
   - Writing a literature review (what to bring for next | Tweet one insight, quote, aha moment, or question from each reading with the course hashtag  
   - Try to tag your tweets |
<table>
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<tr>
<th>Date</th>
<th>Event Description</th>
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<td><strong>Readings</strong> According to the readings as well (e.g., #hung)</td>
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<td><strong>Activity:</strong> Tweet an insight about each of the readings</td>
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<td><strong>Short Assignment 1:</strong> Learning Technology Literature Review Topic</td>
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<td>5 Feb. 27, 2014</td>
<td>Project Work – Selecting Articles</td>
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<td>- Synthesis grid</td>
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<td>6 March 6, 2014</td>
<td><strong>Reading:</strong> Design-Based Research (Methodology)</td>
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<td>Discussion: Readings</td>
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<td><strong>Activity:</strong> Tweet an insight about each of the readings</td>
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<td>7 March 13, 2014</td>
<td><strong>Reading:</strong> Design-Based Research (Specific Examples)</td>
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<td><strong>Activity:</strong> Tweet an insight about each of the readings</td>
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<td>8 March 20, 2014</td>
<td><strong>Spring Break</strong></td>
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<td>9 March 27, 2014</td>
<td><strong>Reading:</strong> HCI Approaches &amp; Participatory Design</td>
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<td>Discussion: Readings</td>
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<td><strong>Activity:</strong> Tweet an insight about each of the readings</td>
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<td>10 April 3, 2014</td>
<td><strong>Reading:</strong> Technology In Education – Policy Issues</td>
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<td>Discussion: Readings</td>
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