*EDC 385G (Unique # 09410)*

**Analysis of Research in Instructional Technology**

***Spring 2012***

https://www.edb.utexas.edu/minliu/analysis/

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| ***Class Meeting:*** | Fridays |
| ***Time:*** | 1:00 - 4:00 pm |
| ***Room:*** | SZB 284 |
| ***Instructor:*** | Dr. Min Liu |
| ***Office***: | SZB 244N |
| ***Office Hours:*** | Wednesdays 1-3:30pm or *by appointment*<br>(I strongly encourage you to make an appointment) |
| ***Telephone:*** | 232-6248 (direct line) |
| ***Email:*** | MLiu@mail.utexas.edu<br>(Email is the quickest way to reach me.) |
| ***TAs:*** | Laise Santana |
| ***Emails:*** | laiseds@gmail.com |

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COURSE DESCRIPTION: The goal of this course is for students to get familiar with research in the field of technology for teaching and learning and develop one's own research interest. We aim at getting familiar with research in the IT field both broadly and in-depth. By breadth, we will examine various important topics in historical and current literature, especially those dealing with emerging technologies. By in-depth, we will thoroughly investigate and synthesize several selected research topics of interest on technology use in teaching and learning. We will also evaluate and critique studies using various research methodologies.

Course activities include reading about both major historic and contemporary topics in the field, evaluating emerging technology tools and learning environments to examine their potentials for teaching and learning, synthesizing selected research topics, and developing one's own research topic that can be used for one's dissertation or master report.

Specifically, readings and class activities will be related around three main components of the course:

1) Five common topics as a class;
2) Several selected topics as small groups; and
3) One's own research topic

The contexts for this course will be interactive, collaborative, and student-centered. By getting acquainted with the existing research and what is going currently in the field, we are to deepen our understanding of the role technology plays in enhancing teaching and learning.

PREREQUISITES: No pre-requisites

OBJECTIVES:
• Demonstrate familiarity with prominent IT research in the past and present
• Demonstrate an understanding of issues facing IT research community
• Be able to provide helpful and constructive feedback as a member of this learning community
• Begin to develop one's research focus
• Be able to propose and justify a technology-related project in one's research interest area

READINGS:

Required Readings:
• Reiser, R. & Dempsey, J. (2011). *Trends and Issues in Instructional Design and Technology* (3rd ed.). New Jersey: Allyn & Bacon

• A collection of articles will be provided on the course site.

Recommended Textbooks:
• Publication Manual of the American Psychological Association, (6th ed.).

• Mertens, D. (2009). *Research and Evaluation in Education and Psychology.* Thousand Oaks, CA: SAGE Publications

• Hart, C. (1999). *Doing a Literature Review*. Thousand Oaks, CA: SAGE Publications. Available at amazon.com and UT-coop.

ATTANDENCE: Each student is required to attend *each* class (both online and face-to-face sessions). If you absolutely must miss a class because of an emergency, you must inform me in advance. Please arrange with a classmate beforehand to provide detailed notes to you. You are still responsible for the information covered in that class and turn in the assignment on a due date.

LATE WORK POLICY: All work is due based on the specified due-dates except in emergency situations. If work is turned in late, no credit will be given. This policy is in effect as an incentive to stay current with the assigned work. Like many courses, the work of one session is based on understanding the work of the previous sessions. Falling behind in the work greatly reduces the chances of success at attempting later work. One "Murphy" (that is, one late submission due to human error) is permitted for the semester.

COURSE DROPPING: The last day of the official add/drop period without administrative approval is Jan. 20**.** A student seeking to drop a class after this day should go to the Office of Dean/Student Division (SZB 216).

POLICY ON ADA: The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641 TTY.

ASSIGNMENTS: Assignments for this course include:

- active participation
- various in-class and out-of-class assignments
- readings on various topics
- manuscript reviews
- group research project
- final project & presentation

PERFORMANCE EVALUATION (<u>All detailed guidelines will be available on the course site</u>)

Student performance will be evaluated on the following course requirements. Academic dishonesty (presenting anyone else's work as one's own) in any form will result in a grade of "F" for the assignment or quiz in which it was demonstrated. As a rule, no “incomplete” grades will be given in this course except in situations where a student is unable to complete all the projects for the course due to an extreme emergency.

*Participation --- 20 pts:* Active participation in <u>all</u> course related activities is a critical component of the course performance.

Participation grade consists of attending classes, completing assigned readings, contributing to class discussions, doing reflections, and active participation in project activities.

<u>Attendance</u>: Each student is required to attend *each* class (both online & face-to-face) and engage in discussions on

the readings or other class activities. If you absolutely must miss a class because of an emergency, you must inform me in advance via email or in person. It is your responsibility to talk to your classmate(s) and get informed of what happens in class and turn in the assignment on a due date.

If you miss a class without any advance notice, being sick and/or an emergency, 5 participation points will be deducted. Tardiness: Being on time for class is part of professionalism. If you are tardy often, points will be deducted from your grade.

Class discussion: This course will be conducted as a seminar. Students are expected to participate extensively in discussing the readings assigned for each week. In order for class discussions to be beneficial, students are expected to complete the readings prior to each class. For the five common discussion topics, each is expected to bring 2 questions for class discussion. If you rarely contribute to class discussions, points will be deducted.

Reflection & Summary: When there are assigned readings, each student is asked to reflect using a blog as well as comment on others' blog entries, and doing 1 summary.

Getting familiar with IT conferences and journals: Each student is expected to provide relevant information for one conference and one journal that disseminate technology related research.

*Manuscript Review—10 pts:* Each student will be asked to review 2 manuscripts. If it's a conference proposal, reviewing several conference proposals equal reviewing one manuscript. Each review counts for 5 pts. (2 pts for turning in on time; 3 pts for providing a quality review).

*Group Research Project --- 30 pts:* Each student is expected to be part of a group and perform in-depth research of a selected topic.

*Project Proposal--40 pts:* Each student is asked to complete a project proposal that will be submitted to a conference OR to seek funding from a 'funding' agency to execute a project on a topic of his/her interest area.

Each student is also required to review a draft of Project Proposal from 2 classmates, and also give an oral presentation of their Project Proposal in a given time limit.

The final grade of the course will be based upon the following:

| Final Grade | Points Total |
|---|---|
| A | =93-100 |
| A- | =90-92 |
| B+ | =87-89 |
| B | =83-86 |
| B- | =80-82 |
| C+ | =77-79 |
| C | =73-76 |
| C- | =70-72 |

## TENTATIVE SCHEDULE OF CLASS ACTIVITIES

*(Detailed weekly assignment sheets and assignment guidelines, will be available on the course site.)*

*Week 1*

Jan. 20

- Class Activities:
  - Introduction
  - Explanation of the course: Course requirements and expectation
  - Sharing your research interest(s)
  - Getting familiar with the course site
  - Signing up on one conference to research about
  - Discussion on manuscript reviewing process
  - Manuscript review discussion:
    - -Manuscript 1 to ETR&D (Renata, Cesar, Angela, Rob, Anita)
    - -Assigning Manuscript 2 to JECR
  - Discussion on using tools to do references

*Week 2*

Jan. 27

- Readings for the week
  - -see assigned readings on the topic (see reading list below)
  - -Reiser & J. Dempsey, C28
  - -Mertens (2009), *Research and Evaluation in Education and Psychology, C1*

- Class Activities:
  - Discussion of readings – 1- Field of IT and its history

• Discussion on conferences related to IT
• Preparation for discussion topic 2: Online Learning: Where are we?

*Week 3*

Feb. 3 • Readings for the week
-see assigned readings on the topic (see reading list below)
-Mertens (2009), *Research and Evaluation in Education and Psychology, C2*

• Class Activities:
• Discussion of readings – 2 – Online Learning: Where are we?

• 2:15-3:15 Guest Speaker: Janelle Hedstrom jhedstrom@austin.utexas.edu-- Using library resources effectively

*Week 4*

Feb. 10 • Readings for the week
-see assigned readings on the topic (see reading list below)
-Optional: Clark, R. (2001). Learning from media: arguments, analysis, and evidence, Greenwich, CT: Information Age Pub.

• Class Activities:
• Discussion of readings – 3- Media Debate (I)

• Manuscript review discussion: Manuscript 2 to JECR
• Manuscript review discussion: Manuscript 3 to JRTE
• Preparation for discussion on media debate for next week

*Week 5*

Feb. 17 • Readings for the week
-see assigned readings on the topic (see reading list below)

• Class Activities:
• Discussion of readings – 3- Media Debate (II):

• Discussion on journals in IT
• Preparation for Discussion Topic 4 - Designing learning environments

*Week 6*

Feb. 24 • Readings for the week
-see assigned readings on the topic (see reading list below)
-Mertens (2009), *Research and Evaluation in Education and Psychology, C3*

• Class Activities:
  • Discussion of readings – 4- Designing learning environments (I)

  • Forming teams for Group Research project

*Week 7*

March 2 • Readings for the week
  -see assigned readings on the topic

• Class Activities:
  • Mid-semester eval.
  • Discussion of readings – 4- Designing learning environments (II)

  • Discussion on your group research project

*Week 8*

March 9 • Readings for the week
  - Readings on your group research project

• Class Activities:
  • Work on your group research project

*Due:* *Topic and one paragraph description of your final project*

*Week 9*

March 16 • No class. Spring Break. Have a nice break!

*Week 10*

March 23 • Readings for the week
  -see assigned readings on the topic (see reading list below)
  -see assigned readings on group projects

• Class Activities:
  • Discussion of readings – 5- Emerging Technologies: What's next?

  • Discussion & Presentation on Group Research 1:

*Week 11*

March 30 • Readings for the week
  -see assigned readings on group projects
  -Reading in your own topic area

• Class Activities:
  • Discussion & Presentation on Group Research 2:
  • 2pm: Guest Speaker-Kelly Gaither, Director of Visualization
  Senior Research Scientist, Texas Advanced Computing Center

*Week 12*

April 6

• Readings for the week
  -see assigned readings on group projects
  -Reading in your own topic area

• Class Activities:
  • Discussion & Presentation on Group Research 3:

  • Discussion on Final Project

*Due:* *Group Project Research*

*Week 13*

April 13

• Readings for the week
  --Readings on your topic
  --Hart, C. (1999). *Doing a Literature Review*

• Class Activities:
  • Work session on Final Paper

*Week 14*

April 20

• Readings for the week
  --Readings on your topic
  --Hart, C. (1999). *Doing a Literature Review*

• Class Activities:
  • Work session on Final Paper
  • Q&A

*Due:* *Draft for peer review on the course site by 10pm*

*Week 15*

April 27

• Readings for the week
  --Readings on your topic

• Class Activities:
  • Peer review (see papers assigned to you)
  • Peer review discussion on Final Paper draft
  • Q & A

*Due:* *Peer evaluation feedback*

*Week 16*

May 4 • Class Activities:
- Final Paper Presentation
- Course evaluation

*Due:* *Presentation*

**May 5 (Sat.) *Due* at 11:59pm:**

• Final Paper **via email** to Instructor:
"ConfProposal_Lastname.**doc**" or
"FundingProposal_Lastname.**doc**"

**AND**

• *Final Paper* **on the course site:**
"ConfProposal_Lastname.**pdf**" or
"FundingProposal_Lastname.**pdf**"

**Reading List**

(This list is for 5 common topics. Apart from this list, other readings relevant to the topic of the week are listed above for each week. Additional readings will be assigned for group research project.)

**=1. Field of IT and its history**

- Reiser & Dempsey, C1 & C3

Optional:

• Januszewski, A. and Molenda, M. (2007). *Educational Technology: A Definition with Commentary*, Routledge/Taylor & Francis Group, C1 & C10.

**=2. Online learning**

• U.S. Department of Education, Office of Planning, Evaluation, and Policy Development (2009), *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies,* Washington, D.C.

**=3. Media Debate**

- Ross, S. M. (1994). Delivery trucks or groceries? More food for thought on whether media (will, may, can't) influence learning. *ETR&D*, *42*(2), 5-6.
- Kozma, R. B. (1994). *Will* media influence learning: Reframing the debate. *ETR&D*, *42*(2), 7-19.
- Clark, R. E. (1994). Media will never influence learning. *ETR&D*, *42*(2), 21-29.
- Jonassen, D. H., Campbell, J. P., & Davidson, M. E. (1994). Learning *with* media: Restructuring the debate. *ETR&D*, *42*(2), 31-39.
- Ross, S. M. (1994). From ingredients to recipes … and back: It's the taste that counts. *ETR&D*, *42*(3), 5-6.
- Clark, R. E. (1994). Media and method. *ETR&D*, *42*(3), 7-10.
- Kozma, R. B. (1994). A reply: Media and methods. *ETR&D*, *42*(3), 11-14.
- Tennyson, R. D. (1994). The big wrench vs. integrated approaches: The great media debate. *ETR&D*, *42*(3), 15-28.

**=4. Designing Learning Environments**

- Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). The design of learning environments. In *How people learn: Brain, mind, experience, and school* (Chapter 6). Washington, DC: National Academy Press. Available at: http://www.nap.edu/openbook.php?isbn=0309070368

- Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). Technology to Support Learning. In *How people learn: Brain, mind, experience, and school* (Chapter 9).

Washington, DC: National Academy Press. Available at: http://www.nap.edu/openbook.php?isbn=0309070368

- Reiser & Dempsey, C7

Optional:

- Greeno, J. G., Collins, A.M., & Resnick, L.B. (1996). Cognition and learning. In D. Berliner & R. Calfee (Eds.), *Handbook of educational psychology* (pp. 15-46). New York, NY: Simon & Schuster Macmillan.

- Collins, A. (1996). Design issues for learning environments. In S. Vosniadou, E. D. Corte, R. Glaser, & H. Mandl (Eds.), *International Perspectives on the Design of Technology-Supported Learning Environments*, (pp. 347 - 361). Mahwah, NJ: LEA.

**==5. Emerging Technologies**

• NMC Horizon Report 2012: http://www.nmc.org/publications
• Select and read any 2 chapters from Sections V – IX in Reiser & Dempsey's book