

ED779: Technology and Teacher Learning
Mondays & Thursdays, 3-6 PM, Room 2229 SoE

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Class Web Site:

<http://coursetools.ummu.umich.edu/2003/spring/educ/779/101.nsf>

Class Email List: ED779@umich.edu

Course Overview:

This course is intended to provide students with an overview of major trends and themes in practice and research on teacher learning, especially with respect to the use(s) of technology in teacher learning. We will consider both pre-service and in-service teacher learning environments. Core readings on teacher learning will be discussed as a group during each class meeting. Group projects will explore individual teacher learning environments, resulting in oral and written reports to the class, to be presented throughout the term. This class is designed as a true seminar, where students' input is expected to shape the readings and activities.

Course Objectives:

- Develop an understanding of core issues related to teacher learning and research on teacher learning.
- Become familiar with a broad range of current technology-rich teacher learning environments.
- Develop a framework for the critical evaluation of teacher learning environments.
- Hone written and oral presentation skills.

Course Requirements and Assessment*:

Overall course grades will be based upon the successful completion of each of the following components of course-related work:

Reading Reflection Papers (turned in each Sunday by 11:59 PM)	20%
Oral Presentation of Teacher Learning Environment	20%
Draft Written Review of Teacher Learning Environment	10%
Final Written Review	30%
Class participation/CourseTools postings	<u>20%</u>
	100%

Communication

We will use electronic mail for routine communications (ED779@umich.edu). Be sure to read your e-mail regularly, at least thrice/week. In addition, we will use UM CourseTools for regular on-line class discussion and information sharing.

Required Readings

A reading packet is available for purchase at Ulrich's. We will read general articles on teacher learning throughout the term. Students are required to identify readings pertaining to particular on-line teacher learning environments. Other readings will be distributed through CourseTools.

* The professor reserves the right to change course assignments and assessment in response to the needs of the class. All changes will be announced in class and on-line.

Week 1 – Thursday, May 1

Introductions and Agenda Setting.

Hands-On exploration of a range of teacher learning environments.

Form groups and select environments.

“General” Teacher Learning Readings (please read before first class meeting):

Shrader, G., Fishman, B., Barab, S. A., O'Neill, K., Oden, G., & Suthers, D. D. (2002). Video cases for teacher learning: Issues of social and organizational design for use. In G. Stahl (Ed.), *Computer Support for Collaborative Learning: Foundations for a CSCL Community* (pp. 708-709).

Hillsdale, NJ: Lawrence Erlbaum Associates.

<http://www-personal.umich.edu/~fishman/papers/Shrader-etal-CSCL2002.pdf>

CEO Forum on Education and Technology. (1999). *Professional development: A link to better learning* (Year Two Report). Washington, DC: CEO Forum on Education and Technology.

<http://www.ceoforum.org/downloads/99report.pdf>

Week 2 – Monday May 5 & Thursday May 8

Teacher Learning Environments of the Week (TLEOTW): KNOW & CASES

Fishman, B. (in press). Linking on-line video and curriculum to leverage community knowledge. In J. Brophy (Ed.), *Advances in research on teaching: Using video in teacher education* (Vol. 10). New York: Elsevier Science. (CourseTools)

Ball, D. L., & Cohen, D. K. (1996). Reform by the book: What is—or might be—the role of curriculum materials in teacher learning and instructional reform? *Educational Researcher*, 25(9), 6-8.

Schneider, R. M., & Krajcik, J. S. (2002). Supporting science teacher learning: The role of educative curriculum materials. *Journal of Science Teacher Education*, 13(3), 221-245. (CourseTools)

Davis, E. A. (2003). Prompting middle-school science students for productive reflection: Generic and directed prompts. *Journal of the Learning Sciences*, 12(1), 91-142. (CourseTools)

“General” Teacher Learning Readings for this week:

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14.

Munby, H., Russell, T., & Martin, A. K. (2001). Teachers' knowledge and how it develops. In V. Richardson (Ed.), *Handbook of Research on Teaching* (Fourth ed., pp. 877-904). Washington, DC: American Educational Research Association.

Willis, J. W., & Mehlinger, H. D. (1996). Information technology and teacher education. In J. Sikula, T. Buttery & E. Guyton (Eds.), *Handbook of research on teacher education* (pp. 978-1029). New York: Simon & Schuster Macmillan.

Margerum-Leys, J., & Marx, R. W. (2002). Teacher knowledge of educational technology: A case study of student teacher/mentor teacher pairs. *Journal of Educational Computing Research*, 26(4), 427-462. (CourseTools)

Barron, L. C., & Goldman, E. S. (1994). Integrating technology with teacher preparation. In B. Means (Ed.), *Technology and education reform* (pp. 81-110). San Francisco, CA: Jossey-Bass.

Week 3 – Monday May 12 & Thursday May 15

**TLEOTW: (5/12) InTime, Terc/Lesley “Try Science”
(5/15) Living Curriculum, Mathedology/NDL/Understanding Teaching**

“General” Teacher Learning Readings:

- Richardson, V., & Placier, P. (2001). Teacher change. In V. Richardson (Ed.), *Handbook of Research on Teaching* (Fourth ed., pp. 905-947). Washington, DC: American Educational Research Association.
- Loucks-Horsley, S., & Matsumoto, C. (1999). Research on professional development for teachers of mathematics and science: The state of the scene. *School Science and Mathematics*, 99(5), 258-271. (CourseTools)
- Fishman, B., Marx, R., Best, S., & Tal, R. (in press). Linking teacher and student learning to improve professional development in systemic reform. *Teaching and Teacher Education*. (CourseTools)
- Sprinthall, N. A., Reiman, A. J., & Thies-Sprinthall, L. (1996). Teacher professional development. In J. Sikula, T. J. Buttery & E. Guyton (Eds.), *Handbook of research on teacher education* (2nd ed., pp. 666-703). New York: Macmillan.
- Marx, R. W., Blumenfeld, P., Krajcik, J. S., & Soloway, E. (1998). New technologies for teacher professional development. *Teaching and Teacher Education*, 14(1), 33-52.

Week 4 – Monday May 19 & Thursday May 22

**TLEOTW: (5/19) TappedIn & TI2, MathForum/MathTools
(5/22) Inquiry Learning Forum, Teachscape**

“General” Teacher Learning Readings:

- Putnam, R., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher*, 29(1), 4-15. (CourseTools)
- Barab, S. A., & Duffy, T. M. (1999). From practice fields to communities of practice. In D. Jonassen & S. Land (Eds.), *Theoretical foundations of learning environments* (pp. 25-55). Mahwah, NJ: Erlbaum. (CourseTools)
- Barab, S. A., MaKinster, J., & Scheckler, R. (in press). Designing system dualities: Characterizing online community. In S. A. Barab, R. Kling & J. Gray (Eds.), *Designing for virtual communities in the service of learning*. Cambridge, MA: Cambridge University Press. (CourseTools)
- Renninger, K. A., & Shumar, W. (2002). Community building with and for teachers at The Math Forum. In K. A. Renninger & W. Shumar (Eds.), *Building virtual communities: Learning and change in cyberspace* (pp. 60-95). Cambridge, England: Cambridge University Press.

Week 5 – No Class This Week – Group Work

No reading reaction for this week (i.e., none due on May 25th, but there is one due on June 1st)

ASSIGNMENT DUE:

Draft written reviews due from all groups for all TLEs by May 31st, posted on CourseTools.

Week 6 – Monday June 2 & Thursday June 5

**TLEOTW: (6/2) PBS Teacherline, EdTech Leaders Online
(6/5) SLATE, eSTEP**

“General” Teacher Learning Readings:

Wilson, S. M., & Berne, J. (1999). Teacher learning and the acquisition of professional knowledge: An examination of research on contemporary professional development. In A. Iran-Nejad & P. D. Pearson (Eds.), *Review of Research in Education* (pp. 173-209). Washington, D.C.: American Educational Research Association.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38(4), 915-945. (CourseTools)

Calderhead, J. (1996). Teachers: Beliefs and knowledge. In D. Berliner & R. Calfee (Eds.), *Handbook of educational psychology* (pp. 709-725). New York: Simon & Schuster Macmillan.

Kagan, D. M. (1990). Ways of evaluating teacher cognition: Inferences concerning the Goldilocks principle. *Review of Educational Research*, 60(3), 419-469.

Week 7 – Monday June 9 & Thursday June 12

TLEOTW: (6/9) WISE, Learning to Teach with Technology Studio

“General” Teacher Learning Readings:

We'll read pieces that arise out of our joint class work, and catch up on pieces we haven't quite gotten to yet!

ASSIGNMENT DUE:

Final project reports from all groups on all TLEs are due by Tuesday, June 17th, at 5:00 PM.

Reading Reaction Papers

Reading reactions must be posted into a discussion thread on CourseTools each week by Sunday night at 11:59. The reading reaction is intended to help seed classroom discussion, and focus your thoughts as you read the papers assigned for the coming week. There will be a total of 5 reading reaction papers due throughout the term, each worth 4 points. Each reading reaction paper has an *absolute* limit of 2 pages! If you write more than 2 pages, I will deduct 1 point!

What makes for a good reading reaction paper?

- Highlights key issues from each paper (but doesn't summarize): 1 point
- Explains how readings contribute to your thinking about either your group's learning environment(s) and/or the framework: 1 point
- Raises questions for further consideration in class: 1 point
- On time (posted on or before 11:59 Sunday): 1 point

Group Oral Presentations

Each group will be responsible for presenting their teacher learning environment(s) once throughout the term. I encourage you to be as creative as you want to be about this presentation. You may imagine that the class is made up of teachers who will use the environment, or that we are a school board considering adoption, etc. These presentations (in combination with the readings) will be key events in the development/evolution of our framework. Each presentation *must* address the points of the framework that currently exists, and if appropriate, extend the framework with new dimensions that are suggested by your analysis of the TLE. As a class, we will debate whether new items should or should not be added to the overall framework following each presentation. The target length for these presentations is indeterminate at this time; we'll figure this out as a class.

You will receive a total of 20 points *as a group* for your presentations. The 20 points will be assigned at the end of the term, and will be for *all* of the group's presentations (e.g., if you are responsible for 3 TLE's, your overall points will be averaged across the three presentations. I will give your group feedback after each presentation, if requested.

What makes for a good presentation?

- Provides a thorough overview of the TLE: 5 points
- Links the TLE to the teacher learning literature: 5 points
- Describes the TLE in terms of the evolving framework: 5 points
- Has the participation of all group members: 3 points
- Is organized and professional: 2 points

Written Reports

Written final project reports from all groups on all TLEs must be posted to the assignment area of CourseTools by Tuesday, June 17th, at 5:00 PM. A draft version of these reports must be posted to the discussion area of CourseTools 5:00 PM on May 31st.

The draft written report is worth 10 points, and the final written report is worth 30 points. All points for reports are assigned *to the group*.

If your group is reviewing three TLEs, your report should have three *sections*, each parallel to the others. All three sections will receive a single grade (out of a total of 10 or 30 points). In other words, your report is not a comparison of the environments your group looked at against each other, but rather each TLE is to be reviewed by itself using the class-developed framework. ALSO NOTE: We are not judging the “goodness” of the TLE against the framework, because different TLEs have different design goals and assumptions. We’re merely using the framework to establish a common language for describing TLEs. Think of the review as an explication, *not* as an evaluation.

What makes for a good written report?

The draft reports (due May 31st) are just that: drafts. It is OK if there are blanks to be completed later, but a (nearly) complete outline is important. Your group will receive 10 points just for having this posted to the discussion area of CourseTools by 5:00pm on the due date. Late drafts will have 1 point deducted for each day they are late.

For the *final* reports (and try to make this your target for the drafts as well):

- Provides a thorough overview of each TLE: 5 points
- Links each TLE to the teacher learning literature: 10 points
- Describes each TLE in terms of the evolving framework: 10 points
- Is clearly laid out, with appropriate headings: 3
- Conforms to APA style: 2