

ED603: Classroom-Based Evaluation of Learning Technologies
Tuesdays, 4-7 PM, Room 2229

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Course Overview:

ED603 is a core course for all MA students in the Learning Technologies program (though others are welcome). It introduces needs assessment, formative, and summative evaluation as critical tools in the design process for educational materials, software, and/or curricula. The course is designed with an emphasis on site-based experiences, to foster the understanding of real-world evaluation and application of technologies in learning.

Course Objectives:

- Develop skills related to evaluation of learning technologies, including how to work with teachers, students, and others, how to develop an analytical framework to inform design, and how to gather and analyze evaluation data.
- Develop sensitivity for the ethical implications of research.
- Develop skills related to presenting the results of learning technologies research, in the form of writing, multimedia, and oral presentation.

Course Requirements and Assessment:

With the exception of the class participation grade, all grades will be assigned *to the group*. All members of the group get the same grade for work turned in. The overall course grades will be based upon the successful completion of each of the following:

• Group needs assessment report	15%
• Group task analysis report	15%
• Group formative assessment reports (may vary)	30%
• Final presentation to clients	15%
• Final written report to clients	15%
• Class participation	10%
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Communication

We will use electronic mail for routine communications (ED603@umich.edu). We will also use a CTNG site for this class, the use of which will be determined collaboratively.

Required Readings

- A required packet of photocopied readings may be purchased at Ulrich's.
- Other readings will be distributed electronically on CTNG.

Week 1 — January 6 — Introduction

In-Class Activities

- Overview of the course and logistics.
- Introduction to the concepts that will be used throughout the course.
- Hands-on evaluation of various web sites (to get our feet wet).

Week 2 — January 13 — Needs Assessment I

In-Class Activities

- Discussion of Human Subjects issues.
- Complete and discuss PEERRS self-study section entitled “Human Subjects – Behavioral Science” at <http://my.research.umich.edu/peerrs/welcome.html>
- Introduce group projects in more detail.
- Form groups.
- Introduction to needs assessment.

Readings

Scriven, M., & Roth, J. (1978). Needs assessment: Concept and practice. *New Directions for Program Evaluation*, 1(1), 1-11.

Smith, P. L., & Ragan, T. J. (1999). *Instructional Design* (2nd ed.). New York: Wiley.
Chapter 3: “Instructional analysis: Analyzing the learning context.”

Week 3 — January 20 — Needs Assessment II

In-Class Activities

- Continue discussion of needs assessment.
- Plan for needs assessment interviews.
- Practice focus group interview techniques.

Out-of-Class Activities

- Conduct needs assessment for SoE web site.
- Begin project-related needs assessments.

Readings

Smith & Ragan Chapter 4: “Instructional analysis: Analyzing the learners.”

Bellenger, D. N., Bernhardt, K. L., & Goldstucker, J. L. (1976). *Qualitative research in marketing*. Chicago: American Marketing Association.

Tynan, A. C., & Drayton, J. L. (1988). Conducting focus groups: A guide for first-time users. *Marketing Intelligence and Planning*, 6, 5-9.

Week 4 — January 27 — Needs Assessment III

In-Class Activities

- Present results of SoE web site needs analysis.
- Introduction to task analysis.
- Perform a range of task analyses.

Out-of-Class Activities

- Continue project-related needs assessments.
- Start project-related task analysis.

Readings

Smith & Ragan Chapter 5: “Instructional analysis: Analyzing the learning task.”

Flagg, B. N. (1990). *Formative evaluation for educational technologies*. Hillsdale, NJ: Erlbaum.
Chapter 2: “Formative evaluation in decision making.”

Flagg Chapter 3: “Program development and the role of evaluation.”

Week 5 — February 3 — Formative Assessment I

In-Class Activities

- Introduction to formative assessment.
- Overview of heuristic evaluation.
- Hands-on experience with heuristic evaluation (SoE web site).

Out-of-Class Activities

- Continue project-related needs assessments.
- Continue project-related task analysis.

Readings

Nielsen, J. (1993). *Usability engineering*. San Francisco: Morgan Kaufmann. Chapter 2: “What is usability?”

Nielsen, J., & Mack, R. L. (Eds.). (1994). *Usability inspection methods*. New York: John Wiley & Sons. Chapter 2: “Heuristic evaluation.”

Nielsen Chapter 5: “Usability heuristics.”

Week 6 — February 10 — Formative Assessment II

In-Class Activities

- Presentation of project needs analyses.
- Introduction to formal usability testing
- Planning for project-related usability testing/formative assessment.

Out-of-Class Activities

- Continue work on project-related task analyses.

Readings

Nielsen Chapter 6: “Usability testing.”

Flagg Chapter 10: “Issues of user friendliness: Does it bite?”

Flagg Chapter 11: “Issues of reception: Does it appeal?”

Week 7 — February 17 — Formative Assessment III

In-Class Activities

- Present project-related task analyses.
- Continue planning for project-related formative assessments.

Out-of-Class Activities

- Begin to carry out project-related formative/usability assessments.

Readings

Nielsen & Mack Chapter 3: “The pluralistic usability walkthrough: Coordinated empathies.”

Gomoll, K. (1990). Some techniques for observing users. In B. Laurel (Ed.), *The art of human-computer interface design* (pp. 74-97). Reading, MA: Addison-Wesley. (In packet.)

Scaife, M., & Rogers, Y. (1999). Kids as informants: Telling us what we didn't know or confirming what we knew already? In A. Druin (Ed.), *The design of children's technology* (pp. 28-50). San Francisco: Morgan Kaufmann. (In packet.)

Week 8 — February 24 — Spring Break (No Class)

Week 9 — March 2 — Formative Assessment IV

In-Class Activities

- TBD.

Out-of-Class Activities

- Continue project-related formative/usability assessments.

Readings

Hanna, L., Ridsen, K., Czerwinski, M., & Alexander, K. J. (1999). The role of usability research in designing children's computer products. In A. Druin (Ed.), *The design of children's technology* (pp. 4-26). San Francisco: Morgan Kaufmann.

Nielsen Chapter 7: "Usability assessment methods beyond testing."

Flagg Chapter 9: "Planning formative evaluation."

Rubin, J. (1994). Handbook of usability testing. New York: Wiley. Chapter 5: "Developing the test plan."

Week 10 — March 9 — Formative Assessment V

In-Class Activities

- Guest speaker from Vividence Corporation.
- Hands-On with the Vividence usability evaluation tools.

Out-of-Class Activities

- Continue project-related formative/usability assessments.

Readings

Vividence Corporation. (2002, March). *Customer experience management: The Vividence approach and methodology*, from

<http://www.vividence.com/resources/public/what+we+do/methodology/method.pdf>

Rubin Chapter 6: "Selecting and acquiring participants."

Rubin Chapter 7: "Preparing the test materials."

Week 11 — March 16 — Formative Assessment VI

In-Class Activities

- TBD.

Out-of-Class Activities

- Continue project-related formative/usability assessments.

Readings

Rubin Chapter 8: “Conducting the test.”

Rubin Chapter 9: “Debriefing the participant.”

Rubin Chapter 10: “Transforming data into findings.”

Week 12 — March 23 – Summative Evaluation I

In-Class Activities

- Introduction to summative evaluation.
- Planning for summative evaluation.

Out-of-Class Activities

- Work with Greenhills class to design summative evaluation.
- Continue project-related formative/usability assessments.

Readings

Smith & Ragan Chapter 5: “Assessing learning from instruction.”

Flagg Chapter 12: “Issues of outcome effectiveness: Does it teach?”

Squires, D., & Preece, J. (1999). Predicting quality in educational software: Evaluating for learning, usability and the synergy between them. *Interacting with Computers, 11*, 467-483.

Week 13 — March 30 — Summative Evaluation II

In-Class Activities

- Discuss summative evaluation progress.
- Begin to prepare summative evaluation report.

Out-of-Class Activities

- Conduct summative evaluation activities with Greenhills students.
- Wrap-up project-related formative/usability assessments.

Week 14 — April 6 — No class meeting (Passover)

Out-of-Class Activities

- Work on preparing final project presentation and written report.

Week 15 — April 12 — No class meeting (AERA)

Out-of-Class Activities

- Work on preparing final project presentation and written report.

Week 16 — April 20 — Final Project Presentations

In-Class Activities

- Presentation and final discussion of group projects.