CI 499: Designing Learning Spaces

Fall 2014

Dr. Emma Mercier
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Class: Wednesday 4-6.50pm
Office hours: Tuesday 10am - noon

Purpose

This class will review the literature on learning spaces, and research into how the environment shapes the learning experiences and opportunities of students both in classrooms and in informal learning spaces such as museums. A large focus of the course will be on observing, collecting data about, and designing learning spaces. Some class sessions will include visits to different learning environments on campus (other classroom spaces, museums, etc.). We will also collect data on the teaching and learning experience in the new classrooms in the College of Education to develop a greater understanding of what teachers and students care about in their learning environments. The final project will focus on the design and justification of a classroom on campus that is scheduled to be redeveloped in the next year.

Assignments and Grading

Attendance and Participation: 10%

Many of our class sessions will require discussion of the articles and be a number of collaborative activities to take part in during and between classes, as such, attendance and participation are essential to everyone having successful learning experiences during the course.

Research presentation on 42a/22: 30%

In the first part of the course, we will collect data about the use of the two new classrooms in the College of Education. Groups will work together to present their findings on the way the classrooms are being used, and instructor and students attitudes towards these spaces.

Final Project: 60%

The final project is a design project for one of two learning spaces that are in the process of being redesigned. This will be a team project and the deliverables will consist of a group presentation in the final class (20%) and a design and design justification due one week later (Dec 16th – 40%).

Grades and Grading Scale

Students may elect a course grade or satisfactory/unsatisfactory. Letter grades will be the default option.

Plus and minus grades will be assigned for the semester grades. Grades will be assigned as follows:

A+	97-100%	C+	77-79.9%
A	93-96.9%	C	73-76.9%
A-	90-92.9%	C-	70-72.9%
B+	87-89.9%	D+	67-69.9%
B	83-86.9%	D	63-66.9%
B-	80-82.9%	D-	60-62.9%
		F	Less than 60%

Course Policies

Attendance and late assignments

Attendance is very important during this course. If you are going to be absent for a particular class, please let me know as soon as possible.

Weekly assignments are due on Tuesday night each week to receive credit. Late reflections must be discussed with me before submission to receive credit.

Late submissions and extensions are not encouraged. Get in touch with me as soon as you can to discuss any issues arising with submission of your assignments.

Statement of Academic Integrity

The Code of Policies and Regulations Applying to All Students will be applied in all instances of academic misconduct committed by students. This applies to all exams, presentations, assignments and materials distributed or used in this course. http://admin.illinois.edu/policy/code/article1_part4_1-401.html

Equal Opportunity and Access Statement

Your success as a student is of utmost importance to me. If you have a disability or any other special circumstance that may have some impact on your work in this class, and for which you may require special accommodations, please contact me within the first two weeks in the semester so that accommodations can be made in a timely manner. http://www.disability.illinois.edu/

Week 1 – Aug 26th
Introduction

Week 2 – Sept 2nd

- **Schools as knowledge building organizations – or knowledge transfer organizations?**
- **How do we know if the environment influences learning (part 1: observations and video analysis)**

Reading due this week:

Horne Martin, S. (2006). The Classroom environment and children's performance - is there a relationship? In C. Spencer & M. Blades (Eds.), *Children and their environments: Learning, using and designing spaces*.

So, H-J, & Tan, E. (2014) Designing the Situation for Perfasive Knolwedge Building: Future School Expereinces. In S.C. Tan et al (eds) Knowledge Creation in Education. Springer.

Sutherland, R., Sutherland, J., Fellner, C., Siccolo, M., & Clark, L. (2014). Schools for the future: subtle shift or seismic change? *Technology, Pedagogy and Education*, *23*(1), 19–37. doi:10.1080/1475939X.2013.869975

Week 3 – Sept 9th

- **Do building features influence learning**
- **How do we know if the environment influences learning (part 2: Interviews)**

Reading due this week:

Barrett, P., Zhang, Y., Moffat, J., & Kobbacy, K. (2013). A holistic, multi-level analysis identifying the impact of classroom design on pupils' learning. *Building and Environment*, *59*, 678–689. doi:10.1016/j.buildenv.2012.09.016

Facer, K. (2014). What is space for? Towards a politics and a language for the human in education. *Technology, Pedagogy and Education*, *23*(1), 121–126. doi:10.1080/1475939X.2013.839229

Week 4 – Sept 16th

- **Do classroom features influence learning**
- **How do we know if the environment influences learning (part 3: surveys)**
- **The design of 22 and 42a (Jeremy Jones – TBC)**

Reading due this week:

Hastings, N., & Schwieso, J. (1995). Tasks and tables : the effects of seating arrangements on task engagement in primary classrooms. *Educational Research*, *37*(3), 279–291.

Hawkins, S. (2014). Classroom Design. *Journal of Best Teaching Practices*, (June), 19–20.

Pointon, P. (2000). Students' views of environments for learning from the primary to the secondary school. *International Journal of Educational Research*, *33*(4), 375–382. doi:10.1016/S0883-0355(00)00023-9

Activity due this week:
Observe a class is 22 (note 42a will not be completed until the end of this week – we might have to push observations of that room for a week or 2)

Week 5 – Sept 23rd
- **The design process – participatory design, need finding etc.**

Reading due this week:

Collins, A. (1996). Design Issues for Learning Environments. In S. Vosniadou, E. De Corte, R. Glaser, & H. Mandl (Eds.), *International Perspectives on the Psychological foundations of technology-based learning environmnets*. (pp. 1–25). Lawrence Erlbaum Associates.

Hämäläinen, R., & Oksanen, K. (2014). Collaborative 3D learning games for future learning: teachers' instructional practices to enhance shared knowledge construction among students. *Technology, Pedagogy and Education*, *23*(1), 81–101. doi:10.1080/1475939X.2013.838451

Kollar, I., Pilz, F., & Fischer, F. (2014). Why it is hard to make use of new learning spaces: a script perspective. *Technology, Pedagogy and Education*, *23*(1), 7–18. doi:10.1080/1475939X.2013.841615

Activity due this week:
Interview a professor from 22 or 42a

Week 6 – Sept 30th
- **Active Learning Classrooms**
- **Armory visit (project site 1)**

Reading due this week:

Baepler, P., & Walker, J. (2014). Active Learning Classrooms and Educational Alliances: Changing Relationships to Improve Learning. *New Directions for Teaching and Learning*, (137), 27–40. doi:10.1002/tl

Beichner, R. J. (2014). History and Evolution of Active Learning Spaces, (137), 9–16. doi:10.1002/tl

Langley, D., & Guzey, S. S. (2014). Conducting an Introductory Biology Course in an Active Learning Classroom: A Case Study of an Experienced Faculty Member, (137), 71–76. doi:10.1002/tl

Whiteside, A. L. (2014). Conclusion: Advancing Active Learning Spaces, (137), 95–98. doi:10.1002/tl

Activity due this week:
Survey students in 22 and 42a

Week 7 – Oct 7th
- **New schools designs**
- **Uni High visit (project site 2)**

Reading due this week:

Blackmore, J., Bateman, D., Mara, J. O., & Loughlin, J. (n.d.). *The connections between learning spaces and learning outcomes: people and learning places?*

Florman, J. C. (2014). TILE at Iowa: Adoption and Adaptation, (137), 77–84. doi:10.1002/tl

Slotta, J. (2010). Evolving the classrooms of the future: The interplay of pedagogy, technology and community. In K. Makitalo-Siegl, J. Zottmann, F. Kaplan, & F. Fischer (Eds.), *Classroom of the Future: Orchestrating collaborative spaces* (pp. 215–242). Sense Publishers.

Week 8 – Oct 14th

Reading due this week:

Brooks, D. C., Walker, J. D., & Baepler, P. (2014). Editors' Notes. *New Directions for Teaching and Learning*, *2014*(137), 1–8. doi:10.1002/tl.20080

Burke, C. (2014). Looking back to imagine the future: connecting with the radical past in technologies of school design. *Technology, Pedagogy and Education*, *23*(1), 39–55. doi:10.1080/1475939X.2013.838450

Smith, R., Chen, H., Johnson, M., O'Brien, A., & Huang-DeVoss, C. (2012). Priorities in the Classroom: Pedagogies for High Performance Learning Spaces. In A. D.

Olofsson & J. O. Lindberg (Eds.), *Informed Design of Educational Technologies in Higher Education: Enhanced Learning and Teaching* (pp. 474–495). IGI Global.

To do: Pick final project teams and site
Finalize interview questions and schedule interview with faculty member

Week 9 – Oct 21st
- **Stakeholders and change**
- **Barbara Hug on Games for Learning [TBC]**

Reading due this week:

Brooks, D. C., & Solheim, C. A. (2014). Pedagogy Matters, Too: The Impact of Adapting Teaching Approaches to Formal Learning Environments on Student Learning, (137), 53–61. doi:10.1002/tl

Petersen, C. I., & Gorman, K. S. (2014). Strategies to Address Common Challenges When Teaching in an Active Learning Classroom, (137), 63–70. doi:10.1002/tl

Laurillard, D. (2008). The pedagogical challenges to collaborative technologies. *International Journal of Computer-Supported Collaborative Learning*, *4*(1), 5–20. doi:10.1007/s11412-008-9056-2

In class: Review findings from classroom observation and survey.

Week 10 – Oct 28th
- **Informal learning spaces - libraries**
- **Library tour**

Reading due this week:

Morrone, A. S., Ouimet, J. A., Siering, G., & Arthur, I. T. (2014). Coffeehouse as Classroom: Examination of a New Style of Active Learning Environment, (137), 41–51. doi:10.1002/tl

Esmonde, I., Pilner Blair, K., Goldman, S., Martin, L., Jimenez, O., Pea, R. (2013) Math I Am: What We Learn from Stories that People Tell about Math in their Lives. In B. Bevan, P. Bell, R. Stevens & A. Razfar (eds) LOST Opportunities: Learning in Out of School Time. Springer.

Forrest, C., & Hinchliffe, L. (2005). Beyond classroom construction and design: formulating a vision for learning spaces in libraries. *Reference & User Services Quarterly*, 296–301. Retrieved from http://www.jstor.org/stable/20864404

You should have interviewed a faculty member teaching in 22 or 42a by this class.

Week 11 – Nov 4th

- **Informal learning spaces - museums**
- **Krannert Art Museum tour (confirmed) meet in 42a – museum visit at 3pm**

Reading due this week:

Ash, D. (2003). Dialogic inquiry in life science conversations of family groups in a museum. *Journal of Research in Science Teaching*, *40*(2), 138–162. doi:10.1002/tea.10069

Heath, C., & vom Lehn, D. (2008). Configuring "Interactivity": Enhancing Engagement in Science Centres and Museums. *Social Studies of Science*, *38*(1), 63–91. doi:10.1177/0306312707084152

Hornecker, E. (2008). "I don't understand it either, but it is cool"–Visitor Interactions with a Multi-Touch Table in a Museum. *Proceedings of IEEE Tabletop*, *21*, 121–128.

Week 12 – Nov 11th

- **Technology in classrooms**
- **Class will be held in DELTA lab (hopefully)**

Reading due this week:

Baylor, A. L., & Ritchie, D. (2002). What factors facilitate teacher skill, teacher morale, and perceived student learning in technology-using classrooms? *Computers & Education*, *39*(4), 395–414. doi:10.1016/S0360-1315(02)00075-1

Cuban, L. (2001) Oversold and Underused: Comptuers in the Classroom. Chapter 6. Harvard University Press

Higgins, S. (2010). Interactive Whiteboards for Education: Theory, Research and Practice. In M. Thomas & E. C. Schmid (Eds.), (Vol. 44, pp. 86–101). Hershey, NY: IGI Global. doi:10.4018/978-1-61520-715-2

Week 13 – Nov 18th

- **22 and 42a presentations**

- **Barb Geissler on building management issues and decisions making in classroom design at the college level**

- **Embedded phenomena and smart classrooms**

Reading due this week:

Lui, M., & Slotta, J. D. (2014). Immersive simulations for smart classrooms: exploring evolutionary concepts in secondary science. *Technology, Pedagogy and Education*, *23*(1), 57–80. doi:10.1080/1475939X.2013.838452

Moher, T. (2006). Embedded phenomena. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI '06*, 691. doi:10.1145/1124772.112487

ENCORE lab website and projects

Nov 25th: no class this week [thanksgiving break]

Week 14 – Dec 2nd
- **Technology and pedagogy**
- **Review grading rubric for project**
- **Robb Lindgren on embodied cognition and mixed-reality learning environments [TBC]**

Reading due this week:

Lehtinen, E. (2003). Computer-supported collabaortive learning: an approach to powerful learning environments. In E. De Corte, L. Verschaffel, N. Entwistle, & J. van Merriënboer (Eds.), *Unravelling basic componts and dimensions of powerful Learning envrionments*. Elsevier.

Sutherland, R., & Fischer, F. (2014). Future learning spaces: design, collaboration, knowledge, assessment, teachers, technology and the radical past. *Technology, Pedagogy and Education*, *23*(1), 1–5. doi:10.1080/1475939X.2013.870107

Week 15 – Dec 9th
Final project presentations