LS 601 – FALL 2017
Foundations of Learning Sciences

INSTRUCTORS: Devrim Güven, Günizi Kartal, Emine Erktin

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CLASS: Monday 10.00-13.00 ETB 511 (CET Seminar Room)

OFFICE HOURS: by appointment

TEXT: Weekly readings available online

Online components: http://bounce.boun.edu.tr (for QuACTLes & feedback)
                        https://moodle.boun.edu.tr (for course materials and grades)

OVERVIEW AND OBJECTIVES

This course is designed to introduce major epistemic, theoretical positions and research approaches in learning sciences. Through assigned readings and discussions, students are expected to become competent in understanding cognitive and social perspectives on learning, concepts and approaches to learning environment design that focuses on interaction and authentic practices for learners.

ACADEMIC HONESTY

It is assumed that you will submit your own work for all assignments and only your own work will receive a grade. If you refer to the work of any other author (including the work of another student, Internet source, published or unpublished article) you must clearly indicate what is quoted or paraphrased or summarized, cite the source in APA format, and incorporate the cited material logically and coherently into an exposition of your own ideas. Incidents of deliberate academic dishonesty will result in failure for the course and liability to disciplinary action under the terms of the university.

DISABILITY POLICY

Bogazici University is committed to provide equal educational opportunities for all BU students. If you have a disability-related need for modifications in this course, contact me for appropriate accommodations.

COURSE EXPECTATIONS AND GRADING

Professionalism / In-class Participation (10)
Class will be discussion-based. Your presence and participation is essential for class discussions. Absences without an acceptable excuse and tardiness will affect your professionalism and participation grade.

This portion of your grade will be based on following criteria;

1. The nature of your collaborative efforts with classmates and instructor(s): Are you actively engaging in the activities of this course?

2. The quality of contributions made in class: Are you actively improving the learning environment of this course?

Learning Paper (30)

Learning & Technology assignments (30)

Research Methods Paper (30)

Paper details will be provided by module instructors.

Distribution of Grades

100-90=AA   89-85=BA   84-80=BB

COURSE SCHEDULE

Date	Topic
Sep 18	Intro to course and expectations
Sep 25	Dimensions of human learning
Oct 2	Intro to learning sciences as a discipline and student-centered learning env.
Oct 9	Situated Learning and Design
Oct 16	Scaffolding
Oct 23	Cognitive Structure & Cognitive Theory of Multimedia Learning
Oct 30	Problem-based Learning & Anchored instruction
Nov 6	Learning to be Literate & Online reading comprehension
Nov 13	Learning as a cultural process: Achieving equity through diversity
Nov 20	Design-Based Research
Nov 27	Design-Based Research and Technology-Enhanced Learning Environments
Dec 4	Design-Based Research and methodological issues
Dec 11	Research proposal presentation

Readings

Sep 25
Alexander, P. A., Schallert, D. L. and Reynolds, R. E. 2009. What is learning anyway? A topographical perspective considered. *Educational Psychologist*, 44: 176–192.

Oct 2
Sawyer, R. K. (2014). The New Science of Learning. In R. K. Sawyer (Ed.). The Cambridge Handbook of the Learning Sciences (Second Edition) (Chapter 2). Cambridge University Press: Cambridge, England, UK

Nathan, M. J. & Sawyer, R. K. (2014). Foundations of Learning Sciences. In R. K. Sawyer (Ed.). The Cambridge Handbook of the Learning Sciences (Second Edition) (Chapter 2). Cambridge University Press: Cambridge, England, UK.

Land, S.M., Hannafin, M. J., & Oliver, K. (2012). Student-centered learning environments (pp. 3-26). In D. Jonassen and S. Land (Eds.) *Theoretical Foundations of Learning Environments*, 2nd Ed. London, UK: Routledge

Oct 9
Wilson, B. G., & Myers, K. M. (2000). Situated cognition in theoretical and practical context. In D. H. Jonassen & S. M. Land (Eds.), Theoretical foundations of learning environments (pp. 57-88). Mahwah, NJ: Lawrence Erlbaum Associates.

Oct 16
Reiser, B. J., & Tabak, I. (2014). Scaffolding. In R. K. Sawyer (Ed.), The Cambridge handbook of the learning sciences: Second edition (pp. 44–62). New York, NY: Cambridge University Press

Oct 23
Sweller, J., Van Merriënboer, J. J. G., & Paas, G. W. C. (1998). Cognitive architecture and instructional design. *Educational Psychology Review, 10*(3), 251-296.

Mayer, R. E. (2014) Cognitive theory of multimedia learning. In Mayer, R. E. The Cambridge handbook of multimedia learning (pp. 43-71). New York, NY: Cambridge University Press.

Mayer, R. E. Research-based principles for designing multimedia instruction (summary). https://hilt.harvard.edu/files/hilt/files/background_reading.pdf

Oct 30

Bransford, J. D., Sherwood, R.D., Hasselbring, T. S., Kinzer, C. K. & Williams, S.M. (1990) Anchored instruction: Why we need it and how can technology help? In D. Nix & R. Spiro (Eds.) *Cognition, Education, and Multimedia* (pp 115-141). Hillsdale, N.J.: Lawrence Erlbaum Associates

Lu, J, Bridges, S, & Hmelo-Silver, C. E. (2014). Problem-based learning. In R. K. Sawyer (Ed.), The Cambridge handbook of the learning sciences: Second edition (pp. 298–318). New York, NY: Cambridge University Press

Nov 6
Smagorinsky, P. & Mayer, R. E. (2014). Learning to be literate. In R. K. Sawyer (Ed.), The Cambridge handbook of the learning sciences: Second edition (pp. 605-625). New York, NY: Cambridge University Press

Coiro, J. (2015). Purposeful, critical, and flexible: Key dimensions of online reading and learning. In Spiro et al (Eds.) Reading at a Crossroads? Disjunctures and Continuities in Current Conceptions and Practices (pp. 53-64).

http://www.voiceofliteracy.org/posts/26036
http://www.voiceofliteracy.org/posts/44978

Nov 13
Nasir, N. S., Rosebery, A. S., Warren, B, & Lee, C. D. (2014) Learning as a cultural process: Achieving Equity through diversity. The Cambridge handbook of the learning sciences: Second edition (pp. 686–706). New York, NY: Cambridge University Press

Nov 20

Barab, S., & Squire, K. (2004). Design-based research: Putting a stake in the ground. *Journal of the Learning Sciences, 13*(1), 1–14.

Barab, S. (2014). Design-Based Research A Methodological Toolkit for the Learning Scientist In R. K. Sawyer (Ed.). The Cambridge Handbook of the Learning Sciences (Second Edition) (Chapter 10). Cambridge University Press: Cambridge, England, UK

Confrey, J. (2014) The Evolution of Design Studies as Methodology. In R. K. Sawyer (Ed.). The Cambridge Handbook of the Learning Sciences (Second Edition) (Chapter 9). Cambridge University Press: Cambridge, England, UK

Nov 27

Wang, F., & Hannafin, M. J. (2005). Design-based research and technology-enhanced learning environments. Educational Technology Research and Development, 53(4), 5–23

Dec 4

Anderson, T. & Shattuck, J. (2012). Design-Based Research: A Decade of Progress in Education Research? *Educational Researcher,* 41, 16-25.