

**ED. 205: INSTRUCTION AND DEVELOPMENT**  
**SPRING SEMESTER 2016**  
Monday, 1-4pm, 3515 Tolman

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<https://bCourses.berkeley.edu>

### KEY ISSUES IN THE COURSE

This graduate-level survey seminar is organized around three key issues in the realm of instruction and development:

1. *What is cognitive “development”? What precisely is it that develops?*
2. *What is the relation between “development,” and “learning”? Are they the same thing? If not, how are they different?*
3. *What is the relation of formal schooling to learning and development?*
4. *How can cognitive developmental theory be productively used in instructional design?*

This course also encourages you to consider your particular academic interest(s) vis à vis these questions.

### ASSIGNMENTS

The assignments for this course were crafted to offer maximum benefit to your graduate studies, giving you an opportunity to develop core academic skills and practices (e.g., writing a literature review, writing article reviews, etc.) and to support the eventual completion of degree requirements (e.g., position papers, orals exam).

***Weekly Readings and Study Questions:*** You are expected to finish all assigned readings prior to class each week and come to class ready to discuss your ideas. Pdfs of the readings can be found on our bCourses site. To support a deep engagement with the readings, you are expected to write a fairly brief response (1-2 paragraphs) to TWO of the posted study questions. Look for study questions in the “pinned” weekly discussion on our bCourses site. You are also asked to make one post that includes an idea you found intriguing, challenging or puzzling, and which you would like to discuss further. Please submit responses to the bCourses site by midnight on the Saturday prior to the class. In addition to these three postings, you are expected to respond to ONE classmate’s post, which must be submitted by midnight on Sunday. Themes from these posts and responses will be used to guide the class discussion for the following meeting.

***Provisional Topic Selection for Final Paper:*** Your final paper will take the form of a literature review of a topic within the broad areas of teaching, learning, and development. By the fourth week of class, you must submit an idea for the topic of your final paper. Your paper topic must be broadly relevant to the topic of the course, appropriate in scope for a relatively short paper and, ideally, connected to your personal academic interests. To support you in brainstorming a tractable topic, you will be provided with a list of example topics. Submit your provisional topic selection in the body of an email (kentondekirby@berkeley.edu) with the subject LAST NAME\_paper topic. I will review your proposal and we will discuss further if necessary. **(Due 2/15)**

***Introductory paragraph and preliminary bibliography:*** In one MS Word document, please submit an introductory paragraph that includes, but need not be limited to, completions of the following three sentence stems: 1) The purpose of this paper is to review the research literature on... ; 2) This topic is important because.... 3) In this review, I will demonstrate that... The function of the third sentence is to states your central argument about the literature you will be reviewing. In the same document, please also submit a preliminary list of references (between 10-20 references). **(Due 3/21)**

***Final Paper Solid Draft (9-12 double spaced pages, not including references):*** You will submit a solid draft of your final paper. The paper must be formatted using APA 6th edition. The draft needs to have ALL key parts of a paper, although the ideas may not be completely formulated. Please post the paper on the bCourses site using the following file naming convention: LAST NAME\_solid draft. **(Due 4/11)**

***Peer Reviews:*** Pretending to be a reviewer for a journal to which your peers have submitted a paper, you will be assigned two of your peers' papers to review. The review should include a constructive critique of the paper's (a) rhetorical structure (paper's organization, clarity of the development of ideas), (b) style (clarity of prose), and (c) conceptual content. Remember, your task is to help your peer improve the draft in a revision. While support is always nice, praise alone is not particularly useful. Supportive criticism is an ability that is well worth nurturing! Send these reviews as two separate emails to me at kentondekirby@berkeley.edu with each cc:'d to the email address of the paper's author. Please use the following file naming convention: LAST NAME of author \_ your LAST NAME\_REVIEW. Please use the same naming convention for the subject header of your email. **(Due 4/18)**

***Final Paper:*** I will read the solid draft of your paper and the two reviews. Acting as the pretend journal's editor, I will write a synthesis of the reviews and add my own comments. You will use the reviews, with special attention to my synthesis, to revise your paper. In addition to your final paper, you must also submit a short "letter to the editor" explaining how your revised draft incorporated the feedback. Please combine the paper and the letter in one document (with the letter first) and

submit to the bCourse site. Please use the following file naming convention:  
LAST NAME\_final paper. **(Due 5/9)**

### DUE DATES

*Apart from responses to weekly readings, all assignments are due by 1pm on the due date.* They are to be submitted on bCourses and/or the instructor (see above). To support you in completing assignments on time, the first three due dates fall on weeks we do not meet, and readings were minimized on the remaining due dates.

Final paper topic selection	February 15, Presidents' day (no class)
Intro paragraph/references	March 21, spring recess (no class)
Final paper solid draft	April 11, AERA (no class)
Peer reviews	April 17
Final paper	May 9

### COURSE GRADES

Course grades will be based on attendance, participation in classroom-related activities, and completion of the assignments for the course.

Classroom participation, online discussion of readings	20%
Introductory paragraph and preliminary bibliography	10%
Final project paper solid draft	20%
Peer reviews	20%
Final project paper and "letter to the editor"	30%

### WEEKLY FOCI AND READINGS

#### SESSION 1. COURSE INTRODUCTION (1/25)

*Required readings:*

None

*Activities:*

- Introduction to course
- Personal introductions
- Review of syllabus/tour of bCourse site
- Preview of readings for next week and discussion questions

## SESSION 2. TOUGH QUESTIONS ABOUT THE RELATIONSHIP BETWEEN FORMAL SCHOOLING AND THE STUDY OF DEVELOPMENT (2/1)

### *Required readings:*

Cole, M., & Bruner, J. S. (1971). Cultural differences and inferences about psychological processes. *American Psychologist*, 26(10), 867.

Metz, Kathleen E (1997). "On the complex relation between cognitive developmental research and children's science curricula." *Review of Educational research*: 151-163.

### *Activities:*

- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.

## SESSION 3. WRITING LITERATURE REVIEWS (2/8)

### *Required readings:*

Boote, D N. & Belle, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher*. 34 (6), PAGE 8 ONLY.

Saxe, G. B., & de Kirby, K. (2014). Cultural context of cognitive development. *Wiley Interdisciplinary Reviews: Cognitive Science*, 5 (4), 447-461.

### *Activities:*

- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.
- Quick video of children solving Piagetian conservation tasks.

*2/15 Presidents' Day, No class – DUE: final paper topic selection*

## UNIT I: DEVELOPMENTAL THEORY

## SESSION 4. PIAGET'S TREATMENT OF DEVELOPMENT AND LEARNING (2/22)

### *Required readings:*

Ginsburg, H. & Opper, S. (1969). Piaget's theory of intellectual development. Englewood Cliffs NJ: Prentice Hall. Chapter 1: Biography and basic ideas (pp. 1-25).

Piaget, J (1996). To understand is to invent: The future of education. New York: Penguin Books. Pp. 92-109.

*Activities:*

- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.
- Videos on Piaget

SESSION 5. EXTENDING PIAGET (2/29)

*Required readings:*

Steffe, L. P., & Kieren, T. (1994). Radical constructivism and mathematics education. *Journal for Research in Mathematics Education*, 711-733.

Smith III, J. P., Disessa, A. A., & Roschelle, J. (1994). Misconceptions reconceived: A constructivist analysis of knowledge in transition. *The journal of the learning sciences*, 3(2), 115-163.

*Activities:*

- Sharing paper topics and giving progress reports
- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.

SESSION 6. VYGOTSKY'S TREATMENT OF DEVELOPMENT AND LEARNING (3/7)

*Required readings:*

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds. and Trans.). Cambridge, MA: Harvard University Press. Chapter Six: The interaction of learning and development (pp. 79-91).

Vygotsky, L., Hanfmann, E., & Vakar, G. (2012). *Thought and language.* MIT press. Chapter 6.

*Activities:*

- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.

## SESSION 7. EXTENDING VYGOTSKY (3/14)

### *Required readings:*

Saxe, G. B. (2004). Practices of quantification from a sociocultural perspective. *Cognitive developmental change: Theories, models and measurement*, 241-263.

Wertsch, J. V. (1979). From social interaction to higher psychological processes. A clarification and application of Vygotsky's theory. *Human development*, 22(1), 1-22

### *Activities:*

- Progress report on class project.
- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.

*3/21 Spring Recess, No class – DUE: introductory paragraph and preliminary bibliography*

## **UNIT II: LEARNING AND DEVELOPMENT IN THE CLASSROOM**

### SESSION 8. APPLYING DEVELOPMENTAL THEORY TO THE CONSTRUCTION OF LEARNING ENVIRONMENTS—DESIGN BASED RESEARCH (3/28)

#### *Required readings:*

Cobb, P., Confrey, J., Lehrer, R., & Schauble, L. (2003). Design experiments in educational research. *Educational researcher*, 32(1), 9-13.

Collins, A., Joseph, D., & Bielaczyc, K. (2009). Design research: Theoretical and methodological issues. *The Journal of the learning sciences*, 13(1), 15-42.

#### *Activities:*

- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.

### SESSION 9: MATH, PART 1 (4/4)

#### *Required readings:*

Will

#### *Activities:*

- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.
- Video of *Batteries* and *AIDS* episodes

4/11—AERA Conference (no class), ***DUE: solid draft of paper***

SESSION 10. MATH, PART 2 (4/18) – ***DUE: peer reviews***

*Required readings:*

McClain, K. (2002). Teacher's and students' understanding: The role of tools and inscriptions in supporting effective communication. *Journal of the Learning Sciences*, 11(2-3), 217-249.

Cobb, P. (1999). Individual and collective mathematical development: The case of statistical data analysis. *Mathematical thinking and learning*, 1(1), 5-43.

*Activities:*

- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.
- Sharing peer reviews of solid drafts

SESSION 11. SCIENCE (4/25)

*Required readings:*

Engle, R. A., & Conant, F. R. (2002). Guiding principles for fostering productive disciplinary engagement: Explaining an emergent argument in a community of learners classroom. *Cognition and Instruction*, 20(4), 399-483.

Metz, K. E. (2011). Disentangling robust developmental constraints from the instructionally mutable: Young children's reasoning about a study of their own design. *The Journal of the Learning Sciences*. 20 (1), 50-110.

*Activities:*

- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.

SESSION 13. LITERACY (5/2) )—***Instructor's synthesis of paper reviews returned***

*Required readings:*

Palincsar, A. S. & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and monitoring activities. *Cognition and Instruction*. 1 (2), 117-175.

Lee, C. D. (2006). 'Every good-bye ain't gone': analyzing the cultural underpinnings of classroom talk. *International Journal of Qualitative Studies in Education*, 19(3), 305-327.

*Activities:*

- Small group work comparison of responses to discussion questions; reporting to whole group on the content of small group conversations; whole group discussion of core issues brought up; wrap by instructor; preview of next week.
- Close—summary of course themes

***(5/9) DUE: final paper and "letter to the editor"***