HDE 234: Children’s Learning & Thinking  
Spring 2018

Class Time: 4:10-7:00 p.m., Wednesday

Classroom: Olson 144 (or 2338 Hart Hall)

Instructor: Zhe Chen, Ph.D.  
Office: 1339 Hart Hall  
Telephone: 754-6750  
Office Hours: Wednesday 1:00 -3:00 PM or by appointment  
E-mail: zhechen@ucdavis.edu

Course Goal & Description:

The goals of this course are for students to learn the major theories, research methods, and findings of children’s higher-order cognition, including origins of knowledge, memory, problem-solving skills, reasoning strategies, and scientific concepts, with an emphasis on the underlying mechanisms involved in children’s thinking and learning processes. The focus of the course will be on how children think and learn and how children’s abilities and strategies change with age and experience.

Class Format:

The class format will consist of outside readings, in-class lectures, student presentations, and group discussions. For each class, students will read 4 or 5 journal articles or chapters. For those who need the background, it is recommended that you read the corresponding chapters of Robert Siegler and Martha Alibali’s Children’s Thinking (fourth edition), or David Bjorklund’s Children’s Thinking (fifth edition) and the additional journal articles/chapters listed below. These recommended readings are not required, but they might be helpful if you are assigned to present on that day and/or choose to do your reaction paper on that topic. At the beginning of each class session, the instructor will provide a brief overview of the major issues associated with the topic of that day. Two students will then be responsible for leading the discussion. Each student discussion leader will present a hand-out of 4 to 5 questions based on the 2 or 3 journal articles/chapters assigned. The questions will organize the discussion around the theoretical and methodological issues that the student leader sees as most important.

Reading:

The course will include a number of readings from diverse sources:

The majority of readings are original journal articles from major journals in the field (e.g., Child Development and Developmental Psychology.

Some important book chapters (e.g., some important articles in the recently published Handbook of Child Psychology: Vol. 2: Cognition, Perception & Language) are also included.

Other types of readings include special articles from Current Directions in Psychological Science, Child Development Perspectives, and Child Development: Special Issue: New Directions for Child Development in the 21st Century.
Topical Outline

1. Theories & approaches
2. Infant cognition I: Memory, imitation, representation & categorization
3. Infant cognition II: Number concepts, physical reasoning & problem solving
4. Memory development
5. Executive functioning & symbolic understanding
6. Concepts, mental models, rules & theory of mind
7. Problem solving & analogical transfer
8. Mathematical & scientific reasoning & learning
9. Summary, questions & future directions

Course Requirements:

A. Readings. Read all assigned readings before the class in which they are to be discussed.

B. Class participation. I encourage students to participate actively in class discussion. Students are expected to read all the assigned readings prior to class and to be prepared to discuss all of them intelligently.

C. Class presentations. Generate discussion questions before class; summarize and discuss assigned articles in class.

D. Reaction paper. A reaction paper is an informal, 3-4 page, personal evaluation of or reaction to an assigned article or set of papers. You will need to complete 1 of the 3 assigned reaction papers. At least one week prior to a paper’s due date, I will distribute the topic as well as "directing questions" to constrain the domain of your responses. An asterisk (*) in the reading list indicates that a reaction paper on that topic is due that day.

E. Research proposal. In a 10-page research proposal, you will address a specific issue in a particular domain of cognitive development. Your task is to identify a key issue in a specific area of cognitive development, explain why the issue is important, propose one or two experiments that would allow you to address the issue, illustrate how your study would allow you to address it, make predictions about possible results, and draw conclusions based on your anticipated results. About 3 or 4 weeks before the end of the quarter, a topical guideline from which you may select a subject for your proposal will be distributed.

Evaluation & Grading:

Each student’s participation in class discussion will count for 10% of the final grade. Student presentations of journal articles and their overall performance as discussion leaders will count for a further 35%. The reaction paper will count for 15% of the final grade; the research proposal, the remaining 40%.

Determining course grade:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class participation</td>
<td>10%</td>
</tr>
<tr>
<td>Class presentations &amp; discussions</td>
<td>35%</td>
</tr>
<tr>
<td>Reaction paper</td>
<td>15%</td>
</tr>
<tr>
<td>Research proposal</td>
<td>40%</td>
</tr>
</tbody>
</table>

Grading system:
A = 90-100
B = 80-89
C = 70-79
D = 60-69
F = below 60
SYLLABUS

1. April 3: Introduction

2. April 10: Theories & Approaches


Siegler, R. S. (2016). Continuity and change in the field of cognitive development and in the perspectives of one cognitive developmentalist. *Child Development Perspectives, 10*(2), 128-133.

---------------------------------------------------------------------

Recommended Readings:


3. April 17: Infant cognition I: Memory, Imitation, Representation, & Categorization


---------------------------------------------------------------------
Recommended Readings:


4. **April 24: Infant Cognition II: Number Concepts, Physical Reasoning, & Problem Solving** *


---

Recommended Readings:


5. **May 2: Memory Development**


Recommended Readings:


6. May 9: Executive functioning & Symbolic Understanding *


Recommended Readings:


7. May 16: Concepts, Mental Models, Rules, & Theory of Mind


---------------------------------------------------------------------

**Recommended Readings:**


---------------------------------------------------------------------

**8. May 23: Planning, Strategy, Problem Solving, & Analogical Transfer * *


---------------------------------------------------------------------

**Recommended Readings:**


9. **May 30: Mathematical & Scientific reasoning & learning**


---------------------------------------------------------------------

**Recommended Readings:**


10. **June 6: Summary, Questions, & Future Directions:**


---------------------------------------------------------------------

**Recommended Readings:**

