

**PS 560: Advanced Topics in Cognitive Development
Fall 2005**

Fridays 11-1, McGuinn 332

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This seminar explores major theories and issues in cognitive developmental psychology. Students gain a historical understanding of the emergence of developmental psychology as a field, become familiar with Piagetian theory, and explore more recent theories and findings in the aftermath of Piaget. For graduate students and advanced undergraduates.

Course Requirements

20 Page Term Paper (50% of grade)

For all but the first two classes I have suggested a term paper topic. Students who wish to choose another topic must have that topic approved by me. See instructions at the end of syllabus for the term paper.

Student Presentations (15% of grade)

After the first few sessions, the second half of each class will consist of two student presentations.

- Presentations (including time for discussion) should be 30 minutes.
- Use powerpoint, and handouts. (Bring your slides on a CD or email them to me before class.)
- Presentations should go beyond summarizing the article. Assume that the class has read the article. You can go beyond summary by critiquing the research, suggesting further studies that should be done, relating the research to other studies we have read, raising discussion questions, etc.
- Number of presentations each student does will be determined by the number of students in the class. Graduate students will do more presentations than undergraduates.

Weekly Response Papers (30% of grade)

For each class (with the exception of the first class), students submit a 1-2 page response to one or more questions on the syllabus about this week's readings

Class Attendance and Participation in Discussion (5% of grade):

Attendance is mandatory. You must do the readings before class (including readings for student presentations) and come prepared to actively discuss. If there is a reason why you cannot attend, please email me in advance and ask for an excused absence (e.g., in the case of illness). Non-excused absences will lower your grade.

SYMBOLS FOR LOCATION OF READINGS

OR: Readings available from on-line reserves

CP: Readings in course pack

All of the readings that are not online have been placed on reserve at O'Neill. Students may either buy the books and the coursepack, or do these readings in the reserve room.

Required Text (At the BC bookstore ; books from which the course-pack was made have been placed on reserve)

PS 560 Course Pack.

Reserve Readings at O'Neill

- Damon, W. (Ed.), *Handbook of Child Psychology*, 5th edition, Vols 1 and 2.
- Mix, K.S., Huttenlocher, J., & Levine, S.C. (2002). *Quantitative development in infancy and early childhood*. New York: Oxford.
- Piaget, J. (1954). *The construction of reality in the child*. New York: BasicBooks. (out of print)
- Piaget, J. (1997) *The child's conception of the world*. New York: Routledge.
- Piaget, J. (1999) *Play, dreams, and imitation in childhood*. London: Routledge
- Inhelder, B., & Piaget, J. (1955/1958). *The growth of logical thinking from childhood to adolescence*. New York: BasicBooks.
- Piaget, J. & Szeminska, A. (1997). *The child's conception of number*. London: Routledge, pp. 3-24 (Chapter 1).
- Piaget, J. & Inhelder, B. (1974). *The Child's construction of quantities: Conservation and atomism*. London: Routledge & Kegan Paul, pp. 3-63.
- Piattelli-Palmarini, M. (Ed.), *Language and learning: The debate between Jean Piaget and Noam Chomsky*. Cambridge, MA: Harvard University Press.

Articles/Chapters

All articles and some chapters can be downloaded from O'Neill on-line reserves.

Academic Integrity

All students are asked to review Boston College's policy on academic integrity at

http://www.bc.edu/bc_org/avp/enmgt/stserv/acd/univ.html#integrity

Academic dishonesty can take a variety of forms: copying another student's answers on a test, bringing material to an exam, copying another student's paper or a paper off the internet, copying from someone else's work without using quotations and without referencing the source, or paraphrasing from someone else's work without referencing. If a student is suspected of academic dishonesty, the matter must be turned over to the deans and the student will receive an F in this course. So please remember, it is never worth it! Sometimes students tell me that they do not know what constitutes plagiarism. All students should go to <http://www.indiana.edu/~wts/wts/plagiarism.html> and read this site carefully. Clear examples are provided about the difference between using a secondary source correctly and plagiarizing from it.

Writers Block

Undergraduates may submit their final term papers to Writers Block, a service at Boston College in which peers provide feedback to you on how to strengthen your papers. Submit your draft to www.bc.edu/WritersBlock. This is an excellent service and can help ALL students, those with weak as well as strong writing skills. NOTE: This is a service for undergraduates, so this does not apply to graduate students in this course.

COURSE SCHEDULE

WEEK 1 (SEPT 9). HISTORICAL AND METHODOLOGICAL FOUNDATIONS OF DEVELOPMENTAL PSYCHOLOGY

Required Readings

- Cairns, R. (1998) The making of developmental psychology. In W. Damon (Ed.), *Handbook of Child Psychology*, 5th edition, Vol 1, pp. 25-106. (Think about what themes characterize each of the 3 periods, and who were the influential people of each era.)
- Overton, W. (1998). Developmental Psychology: Philosophy, concepts, and methodology. In W. Damon (Ed.), *Handbook of Child Psychology*, 5th edition, Vol 1, pp. 107-188. (Read section called “The Concept of Development” and the final section, “Methodology: Explanation and Understanding.”)
- Keil, F. (1998). Some emergent themes linking cognitive science and development. In W. Damon (Ed.), *Handbook of Child Psychology*, 5th edition, Vol 1, pp. 341-414. Focus on section called “Some Emergent Themes Linking Cognitive Science and Development,” starting p 382.)

WEEK 2 (SEPT 16). PIAGETIAN THEORY

Weekly Response Paper #1

What does Piaget mean when he says that the child “constructs” reality? How is this different from both a nativist and an empiricist position about cognitive development?

Required Readings

- Piaget, J. (1983). Piaget's theory. In P. Mussen (Ed.) *Handbook of child psychology*. New York: Wiley.
- Piaget, J. (1980). Opening the debate. In M. Piattelli-Palmarini (Ed.), *Language and learning: The debate between Jean Piaget and Noam Chomsky* (pp. 23-83). Cambridge, MA: Harvard University Press.
- Flavell, J. H. (1996). Piaget's legacy. *Psychological Science*, 7, 200-207.
- Beilin, H. (1971). Developmental stages and developmental processes. In D.R.Green, M.P. Ford, G.B.Flamer (Eds.), *Measurement and Piaget*. New York: McGraw Hill.
- Beilin, H. (1985). Dispensable and core elements in Piaget's research program. *The Genetic Epistemologist*, 13, 1-16.

WEEK 3 (SEPT 23). PIAGET'S THEORY OF INFANTS' UNDERSTANDING OF OBJECTS

Weekly Response Paper #2

Piaget believes the infant does not have mental representation before the 6th substage of infancy. What criterion does Piaget use to determine when the infant has mental representation? Can you find evidence for some form of mental representation at earlier stages when you do a close reading of Piaget's descriptions of what infants do at stages 3, 4, and 5?

Possible Term Paper Topic

The stage 4 error: conceptual deficit or something else?

Required Readings

- Piaget, J. (1937). *The construction of reality in the child*. Chapter 1: “The Development of the Object Concept.”
- Mandler, J. (1998). Selection from “Representation in infancy” (pp. 268-280). In W. Damon (Ed.), *Handbook of Child Psychology*, 5th edition, Vol. 2. New York: Wiley.
- Haith, M., & Benson, J. (1998). Selection from “Infant cognition” (pp. 199-211). In W. Damon (Ed.), *Handbook of Child Psychology*, 5th edition, Vol. 2. New York: Wiley.

- Harris, P. L. (1975). Development of search and object permanence during infancy. *Psychological Bulletin*, 82, 3, 332-344.

Student Presentations

- (1) Butterworth, G. (1977). Object disappearance and error in Piaget's Stage IV task. *Journal of Experimental Child Psychology*, 23, 391-401.
- (2) Diamond, A. (1985). Development of the ability to use recall to guide action, as indicated by infants' performance on AB. *Child Development*, 56, 868-883.

WEEK 4 (SEPT 30). WHAT DOES RECENT RESEARCH TELL US ABOUT INFANTS CONCEPTIONS OF OBJECTS?

Weekly Response Paper #3

Would Piaget revise his theory if he read Baillargeon's (1987) paper? Why or why not?
What would Piaget reply to Spelke?

Possible Term Paper Topic

How much of an understanding of the permanence of objects can we grant infants in the first few months of life? Consider Piaget's theory, the more recent evidence, the nativist claims, and the critiques on the nativist claims.

Required Readings

- Spelke, E.S., & Newport, E.L.. (1998) Nativism, empiricism, and the development of knowledge. In W. Damon (Ed.), *Handbook of Child Psychology*, 5th edition, Vol 1, pp. 275-340.
- Spelke, E. (1998). Nativism, empiricism, and the origins of knowledge. *Infant Behavior and Development*, 21, 181-200.
- Spelke, E. (1994). Initial knowledge: Six suggestions. *Cognition*, 50, 431-445.
- Haith, M., & Benson, J. (1998). Infant cognition (pp. 204-211; 235-247). In W. Damon (Ed.), *Handbook of Child Psychology*, Vol. 2. New York: Wiley, 5th edition.

Student Presentations

- (3) Baillargeon, R. (1987). Object permanence in 3 ½ and 4 ½ month-old infants. *Developmental Psychology*, 23, 5, 655-664.
- (4) Cashon, C. H., & Cohen, L. B. (2000). Eight-month-old infants' perceptions of possible and impossible events. *Infancy*, 1(4), 2000, 429-446.

WEEK 5 (OCT. 7). CAN INFANTS ADD AND SUBTRACT?

Weekly Response Paper #4:

What are two alternative interpretations to Wynn's findings?

Possible Term Paper Topic

How much understanding of number can we grant infants? Consider Wynn's findings and alternative interpretations of her findings.

All students turn in their proposed term paper topic today (see description of paper assignment at end of syllabus).

Required Readings

- Wynn, K. (1992). Addition and subtraction by human infants. *Nature*, 358, 749-750.
- Wakeley, A., Rivera, S., & Langer, J. (2000). Can young infants add and subtract? *Child Development*. 71(6), 1525-1534.

- Wynn, K. (2000). Findings of addition and subtraction in infants are robust and consistent: Reply to Wakeley, Rivera, and Langer. *Child Development*, 71(6), 1535-1536.
- Wakeley, A., Rivera, S., & Langer, J. (2000). Not proved: Reply to Wynn. *Child Development*. 71(6), 1537-1539.
- Mix, K.S., Huttenlocher, J., & Levine, S.C. (2002). *Quantitative development in infancy and early childhood*, Chapt. 2 “Quantification in infancy.”

Student Presentations

- (5) Simon, T., Hespos, S.J., & Rochat, P. (1995). Do infants understand simple arithmetic? A replication of Wynn. *Cognitive Development*, 10, 253-269.
- (6) Clearfield, M.W., & Mix, K.S. (1999). Number versus contour length in infants’ discrimination of small visual sets. *Psychological Science*, 10, 408-411.

WEEK 6 (OCT. 14). INFANT IMITATION: PIAGET VS. MELTZOFF

Weekly Response Paper #5

How would Piaget explain Meltzoff and Moore’s 1977 finding given that these infants were not yet in Stage IV of infancy and thus would not have mental representation, according to Piaget?

Possible Paper Topic

What is the evidence that imitation is the route by which infants come to understand other minds?

Required Readings

- Piaget, J. *Play, dreams and imitation in childhood*, Chapter 3 “Beginnings of representative imitation and further development of imitation”.
- Meltzoff, A. N., & Moore, M. (1977). Imitation of facial and manual gestures by human neonates. *Science*, 198, 75-78.
- Meltzoff, A. N., & Moore, M. (1983). Newborn infants imitate adult facial gestures. *Child Development*, 54, 702-719.

Student Presentations

- (7) Meltzoff, A. N., & Moore, M. (1989). Imitation in newborn infants: Exploring the range of gestures imitated and the underlying mechanisms. *Developmental Psychology*, 25, 954-962.
- (8) Meltzoff, A. N. (1995). Understanding the intentions of others: Re-enactment of intended acts by 18-month-old children. *Developmental Psychology*, 31, 838-850.

WEEK 7 (OCT. 21). EARLY WORD LEARNING

Weekly Response Paper #6

What is the role of joint reference in children’s ability to learn new words?

Possible Term Paper Topic

What is the evidence for constraints in early word learning?

Required Readings

- Woodward, A. L., & Markman, E. M. (1998). Early word learning. (pp. 371-420). In W. Damon (Ed.), *Handbook of Child Psychology*, Vol. 2. New York: Wiley, 5th edition.
- Heibeck, T. H., & Markman, E. M. (1987). Word learning in children: An examination of fast mapping. *Child Development*, 58, 1021-1034.

- Baldwin, D. A. (1992). Clarifying the role of shape in children's taxonomic assumption. *Journal of Experimental Child Psychology*, 54, 392-416.
- Mervis, C.B., Golinkoff, R.M., & Bertrand, J. (1994). Two-year-olds readily learn multiple labels for the same basic-level kind. *Child Development*, 65, 1163-1177.

Student Presentations

(9) Baldwin, D. A. (1991). Infants' contribution to the achievement of joint reference. *Child Development*, 62, 875-890.

(10) Woodward, A. L., Markman, E. M., & Fitzsimmons, C. M. (1994). Rapid word learning in 13- to 18-month-olds. *Developmental Psychology*, 30, 553-566.

WEEK 8 (OCT 28). PIAGET'S PRE-OPERATIONAL STAGE: EGOCENTRISM

(NOTE: THIS CLASS WILL BE RESCHEDULED AT A TIME WHEN WE CAN ALL MEET; I WILL BE OUT OF TOWN OCT 28)

Weekly Response Paper #7

How is the child's understanding of life and consciousness an aspect of egocentrism?

How does such understanding relate to the child's performance on the 3 mountains task?

Is the 3 mountains task a Level 1 or Level 2 task?

Is Borke measuring the same thing as Piaget in the 3 mountains task?

Do Liskowski et al's findings mean Piaget was wrong about egocentrism?

Possible Paper Topic

Can children be non-egocentric? Review the research post-Piaget claiming that young children are able to respond non-egocentrically on less complex kinds of tasks.

Required Readings

- Piaget, J. *The child's conception of the world*, Chapt. 5 "Consciousness Attributed to Things" and Chapt. 6 "The Concept of 'Life'").
- Piaget, J. *The Language and thought of the child*, Chapt. 1 "The Functions of Language in Two Children of Six".
- Piaget, J., & Inhelder, B. *The child's conception of space*, Chapt. 8 "The Coordination of Perspectives".
- Borke, H. (1975). Piaget's mountains revisited: Changes in the egocentric landscape. *Developmental Psychology*, 11, 240-243.

Student Presentations

(11) Liskowski, U., Carpenter, M., Henning, A., Striano, T., & Tomasello, M. (2004). Twelve-month-olds point to share attention and interest. *Developmental Science*, 7(3), 297-307

(12) Flavell, J.H., Everett, B.A., Croft, K., & Flavell, E.R. (1981). Young children's knowledge about visual perception: Further evidence for the Level 1-Level 2 distinction. *Developmental Psychology*, 17(1), 99-103.

WEEK 9 (NOV. 14). UNDERSTANDING SYMBOLIZATION IN EARLY CHILDHOOD

Weekly Response Paper #8

Describe Piaget's model of the emergence of symbolization as a general skill (the semiotic function). Then describe DeLoache's findings. Are these findings consistent with Piaget's claim that symbolization is a general rather than domain-specific skill?

Possible Paper Topic

Dual representation theory: does it hold up?

- Piaget, J. *Play, dreams and imitation in childhood*, Chapt. 4, “The Beginnings of Play”.
- DeLoache, J. (1987). Rapid change in the symbolic functioning of very young children. *Science*, 238, pp. 1556-7.
- DeLoache, J., Miller, K., & Rosengren, K. (1997). The credible shrinking room: Very young children’s performance with symbolic and nonsymbolic relations. *Psychological Science*, 8, 4, 308-313.
- DeLoache, J. (1991). Symbolic functioning in very young children: Understanding of pictures and models. *Child Development*, 62, 4, 736-752.

Student Presentations

(13) DeLoache, J. (2000). Dual representation and young children’s use of scale models. *Child Development*, 71, 2, 329-338.

(14) Tomasello, M., Striano, R., & Rochat, P. (1999). Do young children use objects as symbols? *British Journal of Developmental Psychology*, 17(4), 563-584.

WEEK 10 (NOV. 11). UNDERSTANDING PRETENSE IN EARLY CHILDHOOD

Weekly Response Paper #9

According to Lillard, how do children understand pretense? What conditions help children to understand pretense as a mental state, and why? Cite one piece of evidence contrary to Lillard’s conclusions.

Possible Term Paper Topic

What is the evidence for and against pretend play involving meta-representational understanding?

- Lillard, A. S. (1993). Young children's conceptualization of pretense: Action or mental representational state? *Child Development*, 64, 372-386.
- Lillard, A. S., & Sobel, D. (1999). Lion kings or puppies: The influence of fantasy on children's understanding of pretense. *Developmental Science*. 2(1), 75-80.
- Ganae, P. A., Lillard, A.S., & Turkheimer, E. (2004). Preschooler's understanding of the role of mental states and action in pretense. *Journal of Cognition & Development*, 5(2), 213-238.

Student Presentations

(15) Rakoczy, H., Tomasello, M., & Striano, T. (2004). Young children know that trying is not pretending: A test of the “Behaving-As-If” construal of children’s early concept of pretense. *Developmental Psychology*, 40, 3, 388-399.

(16) Joseph, R. M. (1998). Intention and knowledge in preschoolers' conception of pretend. *Child Development*. 69(4), 966-980.

WEEK 11 (NOV. 18). UNDERSTANDING OTHER MINDS IN EARLY CHILDHOOD

Weekly Response Paper #10

Why is the false belief task considered the definitive way to test a child’s theory of mind?

Why do children succeed at an earlier age on the smarties task than the Maxi task?

What is the difference between what Clement and Perner claim about implicit understanding vs. what Onishi and Baillargeon claim about infant understanding?

Compare the findings of Onishi & Baillargeon with Call and Tomasello: Both used a non-verbal false belief task.

Possible Term Paper Topic

Can we reconcile Baillargeon's finding of false belief understanding in infancy with the body of research showing no false belief understanding until between 3-4 years?

Required Readings

- Wimmer, H., & Perner, J. (1983). Beliefs about beliefs: Representation and constraining function of wrong beliefs in young children's understanding of deception. *Cognition*, 13, 103-128.
- Perner, J., Leekam, S.R., & Wimmer, H. (1987). Three-year-olds' difficulty with false belief. *British Journal of Developmental Psychology*, 5, 125-137.
- Clements, W.A., & Perner, J. (1994). Implicit understanding of belief. *Cognitive Development*, 9(4), 377-395.

Student Presentations

(17) Onishi, K.H., & Baillargeon, R. (2005). Do 15-month-old infants understand false beliefs? *Science*, 308(5719):255-8. Followed by Perner, J., & Ruffman, T. (2005). Psychology. Infants' insight into the mind: how deep? *Science*, 308 (5719): 255-8.

(18) Call, J., & Tomasello, M. (1999). A nonverbal false belief task: The performance of children and great apes. *Child Development*, 70, 2, 381-395.

WEEK 12 (DEC 2). PIAGET'S THEORY OF MIDDLE CHILDHOOD: FOCUS ON CONSERVATION

Weekly Response Paper #11

Choose either Gelman's or Siegler's study. How serious a challenge does this study pose for Piaget's claims about conservation?

Possible Term Paper Topic

Can conservation be taught? If so, is trained conservation true conservation with genuine understanding? If not, what do we conclude about the relationship between learning and development? If yes, same question.

Required Readings

- Piaget, J. & Szeminska, A. (1997). *The child's conception of number*. London: Routledge, pp. 3-24 (Chapter 1).
- Piaget, J. & Inhelder, B. (1974). *The child's construction of quantities: Conservation and atomism*. London: Routledge & Kegan Paul, pp. 3-63.
- *Films of Piaget's conservation tasks*: <http://www.soe.jcu.edu.au/subjects/ed1481/movies/> (Watch the "Number Movie" and the "Conservation of Continuous Quantity Solids Movie")

Student Presentations

(19) Gelman, R. (1969). Conservation acquisition: A problem of learning to attend to relevant attributes. In *Journal of Experimental Child Psychology*, 7, 167-187.

(20) Siegler, R.S. (1995). How does change occur: A microgenetic study of number conservation. *Cognitive Psychology*, 28, 225-273.

WEEK 13 (DEC. 9). COGNITIVE DEVELOPMENT BEYOND CHILDHOOD

Weekly Response Paper #12

According to Piaget, how does adolescent thought differ qualitatively from concrete operational thought? How does idealism relate to the new formal logical structure?

Possible Term Paper Topic

Evaluate the evidence for a qualitatively distinct form of thinking that is available only at adolescence.

Term papers are due in class today.

Required Readings

- Moshman, D. (1998). Cognitive development beyond childhood. (pp. 947-981). In W. Damon (Ed.), *Handbook of Child Psychology, Vol. 2*. New York: Wiley, 5th edition.
- Inhelder, B., & Piaget, J. (1955/1958). *The growth of logical thinking from childhood to adolescence*. New York: BasicBooks. Section 4 (Pendulum), Section 7 (Combinations of Colored and Colorless Chemical Bodies), Section 16 (Formal Thought from the Equilibrium Standpoint) and Section 18 (Adolescent Thinking)
- Watch a filmed version of Piaget's Pendulum task being administered:
<http://www.soe.jcu.edu.au/subjects/ed1481/movies/>
- Amusing background reading showing how we often fail to use formal operational reasoning: Shermer, M. (2002). Smart people believe weird things. *Scientific American*, Aug. 12.
<http://www.sciam.com/article.cfm?articleID=0002F4E6-8CF7-1D49-90FB809EC5880000>

Student Presentations

- (21) Kuhn, D., & Brannock, J. (1977). Development of the isolation of variables scheme in experimental and "natural experiment" contexts. *Developmental Psychology*, 13, 9-14.
- (22) Ward, S.L., & Overton, W.F. (1990). Semantic familiarity, relevance, and the development of deductive reasoning. *Developmental Psychology*, 26, 488-493.

20 page Term Paper

Your paper topic must be closely related to one of the issues covered in class. I have suggested a paper topic related to each class. Each paper topic I have suggested is written in the form of a question. Your paper will be the answer to that question. If you wish to choose your own question to answer, you may, but you must get the topic approved by me. Remember: All paper topics must be on one of the issues/questions on the syllabus.

Papers must conform to APA format (as described in the APA Publication Manual). For information on APA format, see these URLs. The last one has a section (III) on how to write a research review.

http://owl.english.purdue.edu/handouts/research/r_apa.html
http://www.vanguard.edu/faculty/ddegelman/index.aspx?doc_id=796
<http://www.uwsp.edu/psych/apa4b.htm>

I will also distribute an editorial from *Psychological Bulletin* (a journal that publishes review articles) about how to write a review paper. For examples of review articles, see papers in *Psychological Bulletin*.

Format:

Your paper should be about 20 pages long, double spaced, 12 point font, with pages numbered at top right hand corner. Papers should be stapled (no paper clips please!).

The paper should have the following components:

- Title Page
- Abstract (half page) (on a separate page)
- Body of the paper: Begin with statement of the question, then review the evidence (which may include evidence favoring conflicting views), then come to a conclusion about what the evidence you have reviewed shows. Use subheadings to separate major parts of the paper, including one called Conclusions.
- References (starting on a new page) (Refer to Publication Manual of the APA, Chapter 3, "Reference Citations in Text," and "Reference List" and "Appendix 3-A.")

Oct 7: Paper Topic Proposal Due

You should then list the articles/books/chapters you plan to use as references for your paper. You should aim for at least 10 references, and at least 7 of these should be empirical studies in journals. How should you find your references?

- First, search through the reference lists at the end of the articles on this topic that are assigned for this class.
- Third, do an electronic search using PsychInfo. If you click on "view record" you can read the abstract and decide if the article is relevant for your paper.

All references that are cited in your paper must be read. It is not acceptable to cite a source that you have found cited in a primary source. If you cite it, you must read the primary source.

Outlines help make your paper better

After you have read all of the articles you plan to include as sources, write yourself a detailed outline. The outline should include the arguments of each of your references. For example, if your paper is about whether the object concept is present earlier than Piaget claimed, your outline must specify which sources you will review that claim YES, and which you will review that claim NO. Look at your outline carefully to be sure that the structure of your paper follows a logical progression. If your outline is good, the paper will almost write itself.

Dec 9: Term paper due in class

