

Department of Educational Psychology
Graduate School of Education
Rutgers University

Children's Thinking

Special Topics in Learning, Cognition & Development: 15:295:590
Fall 2012

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Office hours are Tuesday, 2:30-4:00 or otherwise by arrangement. It's best to make an appointment ahead of time.

Course Overview:

Children's thinking is a topic that has intrigued scientists, artists, teachers and parents. We will explore the development of children's thought processes from their origins in the very early years of life through adolescence and the transition to adulthood. We will consider the breadth of psychological processes that can be called "thinking", the mechanisms that have been proposed to explain the development of thinking, and the contextual or environmental factors that moderate this development.

The readings are drawn from diverse sources but most come from the scientific literature in developmental and educational psychology. Frequently this will include reports of empirical research. We will build upon class interests to examine the application of these ideas to educational and therapeutic settings.

Learning goals for this course:

1. How do practitioners and researchers approach the topic of children's thinking?
2. What are some of the ways that thinking changes over the course of childhood?
3. Do children "learn" how to think, or is this an activity that results from maturation, or is best described some other way?
4. What is the role of the social context on children's intellectual or cognitive development? What are some of the different contexts? Who are the critical elements.
5. Evaluate different types of scholarly sources of information; essays, reviews, empirical reports, new media items (video, internet, etc.),
6. Recognize and discuss critical issues in the development of children's thinking spanning late toddlerhood through high school.
7. Critique and possible develop methods for studying children's thinking across a range of related content.

Books:**Required:**

Paley, V. (1992). *You Can't Say You Can't Play*. Cambridge: Harvard University Press.

Piaget, J. (1965). *The moral judgment of the child*.

Vygotsky, L.S. (1978). *Mind in Society: The development of higher psychological processes*.

Optional/Recommended:

Siegler, R. & Alibali, M. *Children's thinking*. 4th edition, Pearson Publishing

Journal Articles:

Listed below. Also to be found on the class website.

Video resources:

To be found in the RU Library on the Video-Mosaic website and also on the class website. (There is a link-- you may not make copies of any of these materials.)

Weekly discussion thread posted on website:

Participate. Respond to questions and add some of your own. Include at least three postings a week.

Date	Topic & Assignment
1 9/6	Introduction (first class) Ways of thinking in children and adults: What develops?
2 9/13	Foundations for thinking: Origins of thinking: Complementary perspectives on what develops and how? Vygotsky, L. (1978). <i>Mind in Society: The development of higher psychological processes</i> . Chapters 1 & 2. (pp. 19 -37). Piaget, J. pp. 29-37 Ch 1: pp 13-29 "the rules of the game" (as per discussion on 9/6) Start reading Paley. DeLoache-- Looking for big bird. Memory with models. Infancy-- Representation in infancy Wynn and number Bruner, J.

3 9/20	<p>PLAY <i>Symbols and representation; collaboration and social context</i></p> <p>Paley, V. (1992). <i>You can't say you can't play</i>. Cambridge: Harvard University Press</p> <p>Vygotsky, L. The role of play in development. In <i>Mind & Society</i>, Ch. 7. (pp. 92-104)</p> <p>Theory of mind and play.</p>
4 9/27	<p>PLAY <i>Games, fairness and social rules</i></p> <p>Piaget, J. (1965). Rules of the game, Ch 1. (pp 13-24;pp. 84-108) <i>The moral judgment of the child</i>. NY: Free Press.</p> <p>Siegler & Ramani (2011) Math & games</p> <p>Early writing</p>
5 10/4	<p>PLANNING & PROBLEM SOLVING <i>Thinking ahead</i></p> <p>Rogoff & Gauvain (beginnings of planning)</p> <p>Vygotsky, Ch. 4 (pp 52-57) Internalization of higher psychological functions.</p> <p>Baker-Sennett, Matusov, & Rogoff, B. (1998) Sociocultural processes of creative planning in children's playcrafting. In Faulkner, Littleton & Woodhead (eds.). <i>Learning relationships in the classroom</i>. London: Routledge. (pp.237-257)</p> <p>Empirical article</p>
6 10/11	<p>PLANNING & PROBLEM SOLVING <i>Problems of fairness</i></p> <p>Piaget, J. (1965) The development of the idea of justice. Ch. 3 (especially pp. 313-325). <i>The moral judgment of the child</i>.</p> <p>Empirical article</p>
7 10/18	<p>SPATIAL THINKING <i>Symbols & representations-- Drawings, notations, maps & signs</i></p> <p>Creating notations</p> <p>Drawing and symbols</p> <p>Myers, L. & Liben, L. (2012) Graphic symbols as "The Mind on Paper": Links between children's interpretive theory of mind and symbol understanding. <i>Child Development</i>. 83,(1),186-202.</p>

8 10/25	<p>SPATIAL THINKING <i>Symbols and representations for spatial learning</i></p> <p>Selections from: http://www.silccenter.org/initiatives</p>
9 11/1	<p>COLLABORATION <i>Learning with peers</i></p> <p>Azmitia, M. (1998). Peer interactive minds: developmental, theoretical and methodological issues. In Faulkner Littleton & Woodhead (eds.) <i>Learning relationships in the classroom</i>.(pp. 207 - 233).</p> <p>Howe, McWilliam & Cross. (2005). Chance favours the prepared mind: Incubation and delayed effects of peer collaboration. <i>British Journal of Psychology, 2005 , 96, 67- 93.</i></p> <p>Rittle-Johnson, Saylor & Swiggert. (2008). Learning from explaining: Does it matter if mom is listening? <i>Journal of Experimental Child Psychology, 100, 215-224.</i></p>
10 11/8	<p>COLLABORATION</p> <p>Kruger, A. Fawcett & Garton (2005). The effect of peer collaboration on children’s problem solving ability. <i>British Journal of Educaitional Psychology, 75, 157-169.</i></p>
11 11/15	<p>REPRESENTATIONS Causal explanations</p> <p>Legare, Wellman & Gelman. (2009) Evidence for an explanation advantage in naïve biological reasoning. <i>Cognitive Psychology, 58, 157-194</i></p>
12 11/22	<p>REPRESENTATIONS</p> <p>Mental representations</p>
13 12/6	<p>FINAL PROJECTS</p> <p>Group Presentation 1: Group Presentation 2:</p>
14 12/13	<p>FINAL PROJECTS</p> <p>Group Presentation 3: Group Presentation 4:</p>

Requirements, Grading & Timeline.

The course requirements are listed below. Due dates are also on the schedule of assignments, above. You are expected to turn things in on time. Contact me if you need have problems meeting the time requirements.

Online discussion thread. (20%)

The course requirements are listed in the syllabus posted above. A significant portion of the grade is based on the online activity in class, through journal postings and discussions. Your postings should demonstrate that you have done the reading and that you have thought about the issues. These are ongoing. You are expected to contribute to the class discussion every week and to post at least three comments. One of these should be a new question. If you make thoughtful comments that reflect your having read the assignment for the week, you will receive 2 points. There are 11 weeks for discussion, excluding the last two classes which will be reserved for final project presentations. Postings must be made PRIOR to class. (You may miss one week's postings and still receive full credit.) The class website is on www.ecompanion.rutgers.edu

Online Journal:

There is an online journal available to you on the class website. You may use this space for notes and comments about the readings and I can send feedback to you. This will not be graded but you might want to use it. We will talk about this.

Written work

Two critiques of empirical articles identified by the student. (15% each)

Find two empirical articles (refereed journal article) on topics of interest to you and write a critical commentary. We will talk about the type of article or paper that meets this qualification. A critical commentary is not the same as a summary. While a portion of the paper may include some summarizing statements, you should write about the paper. Analyze the research report by thinking about each component. (Some questions you might ask include: Is the introduction clear? Is there a clear research question? Is the study grounded in theory? Do you understand the method & results? What do you think about the measurement and design issues the researchers made? Do the findings offer an answer to the researcher's questions? Does this study make a contribution to our understanding of practice? Of theory? How?). Each critique should be about five pages long. You should have me approve each article you are writing about at least two weeks before the assignment is due. Please send me a pdf of the article when you seek approval. I must have the article to grade your critique. **Critique 1** is due **September 27**. **Critique 2** is due **October 25**.

Project

Everyone will complete a project, either alone or with one other person. Projects will be centered around one of the five problem areas delineated in the syllabus; **Play, Problem Solving, Collaborating, Spatial Thinking, Representations & Knowledge**. I will provide further details about the project but the gist of the assignment is as follows: For the project, you will be asked to identify a specific problem area or broad question regarding children's thinking within one of the topic areas. I expect to help you define this. After identifying the focus area, you will review some literature in the field with the goal of identifying specific questions you can examine through some analysis of children's behavior. I hope that you will make use of the empirical recordings of children's problem solving in school. There is an extensive video collection that is available. You will then spend time exploring selected video from the collection with the goal of answering the questions you have raised about children's thinking.

The final product will be a presentation to the class one of the last two weeks of the semester. In addition to the presentation, you will identify a reading for the class so that everyone will be actively engaged with your work. You will critique your classmates presentations and your comments will contribute to your own grade (not the presenter's grade). (10%)

Your work will probably include some close analysis of children involved with math problem solving. Hopefully you will have the opportunity to see repeated observations of the same children as they work together on different problems at different points in their development. You and your partner will work together, making use of materials we discuss in class together. You will also extend that work in ways that are relevant to your project focus.

As noted above, further details about this, along with grading criteria will follow within the next two weeks. (40%)

University Policies on Academic Integrity:

We will abide by the Rutgers University Standards of Academic Integrity in all ways. Please review those standards on the University website.