

85-423/723 Cognitive Development
Fall, 2011
Study Questions for Final

1. Theory-based representations are the most recent approach to conceptual development. Why do you think this was the last approach to be proposed? What phenomena were people trying to capture by proposing it? Do infants really have implicit theories of complex phenomena like the activities of physical objects? What does it mean to say that infants have a theory anyway?
2. What is guided participation? How is it similar and different across different cultures, and why do these similarities and differences occur?
3. “The relationship between early and later mathematical knowledge is roughly twice as strong as that between early and later reading achievement.” Why might this be? (Siegler, 2009).
4. Which are most common: Underextensions or overextensions? Describe the evidence on which your conclusion is reached. What are the implications of this finding for learning in general?
5. What is the zone of proximal development? Why did Vygotsky emphasize it within his theory, and what does this concept, and the lack of a corresponding concept in Piaget’s theory, say about the differences between the two theories?
6. How is the experience-expectant versus experience-dependent distinction an improvement over the traditional maturation versus learning distinction?
7. How does self-produced locomotion contribute to a more mature sense of space, both in performance at one time and over the course of development?
8. What is an analogy, and why is the ability to draw analogies important within cognitive development?
9. What process leads children to generate the types of bugs that are described in long subtraction, fractions, and algebra?
10. How did encoding contribute to developmental differences in learning about balance scales? On what other tasks might encoding influence the development of problem solving?
11. How does knowledge shape what is remembered, as well as how much is remembered? How can information given after an event shape memory for the event?
12. Why does early automaticity of reading predict later reading comprehension?
13. Do infants have intelligence in the same way as older children? What does it mean for an infant to be intelligent? What does it mean for an older child or adult to be intelligent?
14. Why do 4- to 8-year-olds use such a wide variety of strategies on arithmetic problems?
15. What are the main explanations for the development of theory of mind, and which strikes you as most persuasive?
16. What are the implications of whether children understand counting principles before or after they become able to count?
17. What is social scaffolding? Why is the metaphor of a scaffold a good one? How do adults vary in the scaffolding they provide, and how do these variations influence children’s learning?

18. In what ways are choices among strategies for decoding words similar to, and different from, strategy choices in the context of arithmetic?
19. What evidence indicates that a child is in a particular stage?
20. How is the experience-expectant versus experience-dependent distinction an improvement over the traditional maturation versus learning distinction?
21. How would an effective early intervention program deal with factors such as the summer developmental delay and informal learning (outside of formal school hours)? (Ramey & Ramey, 2004)
22. How does encoding contribute to age related improvements in the amount of material that children can remember?
23. What are mental models? Why do so many children develop faulty mental models of the earth?
24. In what senses does children's thinking show qualitative changes and in what senses doesn't it?
25. Why does it take children so long to understand problems such as $a+b-b=$ __? and $a+b+c=$ __+c?
26. How has perceptual development research contributed to the diagnosis, and indirectly to the treatment, of visual problems of children?
27. What is social referencing, and why is it important for learning?
28. The study done by Rowe and Goldin-Meadow, 2009, is based on naturalistic data from observing the children in their homes. Why is it significant that the procedure involved naturalistic observation? Specifically, what differences would we expect if the gestures were elicited in a controlled setting?
29. How does automatization contribute to age related improvements in the amount of material that children can remember? How can it be harmful?
30. What is the "bricoleur" metaphor? Is it a useful characterization of children's problem solving?