

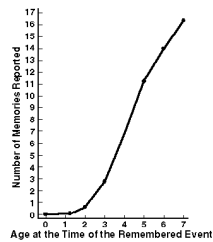
Memory

IIE 366: Developmental Psychology
Greg Francis
Lecture 17

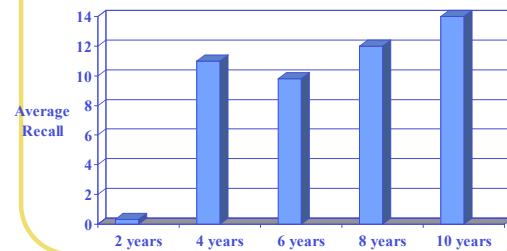
- I. Infantile Amnesia
- II. Age Differences in Memory in Childhood and Adolescence
- III. The Role of Strategies
- IV. The Role of Knowledge
- V. Putting It All Together

I. Infantile Amnesia

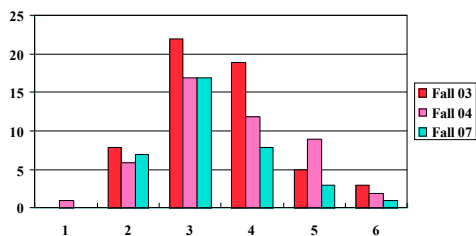
Infantile Amnesia



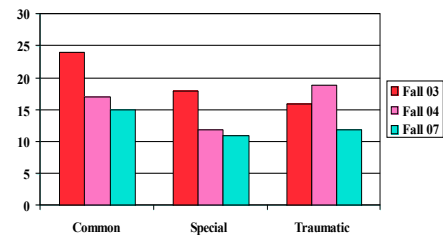
Recall of events associated with siblings' birth (Sheingold & Tenney, 1982)



Age at first memory



Types of events recalled



Explanations for infantile amnesia

- Encoding failure? No.
- Encoding specificity: sensory-motor to language encoding
- Sense of self
- Emergence of socially-shared autobiographical memory
- Brain maturation

Measuring memory

- Memory span
 - how many items can you correctly recall immediately after exposure?
- "The magic number 7+/-2:..."
 - Miller (1956)

Types of memory

- There exist two types of memory systems
- Long Term Memory (LTM)
 - high capacity (no limit)
 - long duration (forever)
- Short Term Memory (STM)
 - small capacity (~7 items)
 - short duration (seconds)

II. Age Differences in Memory during Childhood and Adolescence

Digit Span at Different Ages

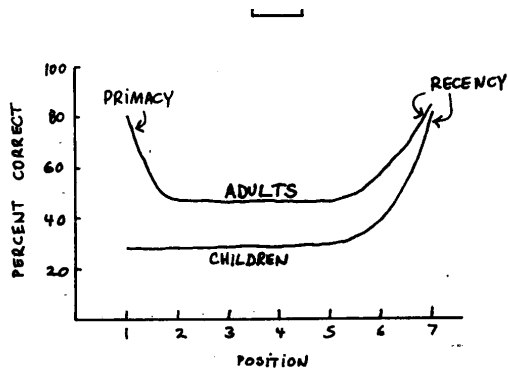
Age	span
2.5	2
6	4.5
7	5
9	6
12	6.5
adults	7

III. The Role of Strategies

- A. Developmental Change in Use of Strategies
- B. The Impact of Metamemory
- C. The Influence of School

A. Developmental Change in Use of Strategies

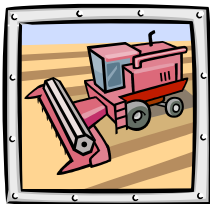
- 6
- 6 2
- 6 2 4
- 6 2 4 1
- 6 2 4 1 9
- 6 2 4 1 9 5
- 6 2 4 1 9 5 0
- 6 2 4 1 9 5 0 8
- 6 2 4 1 9 5 0 8 3

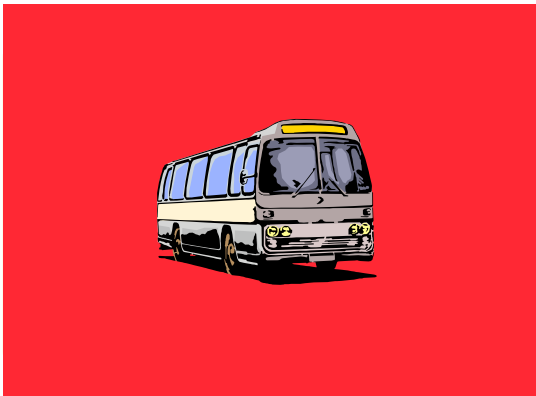
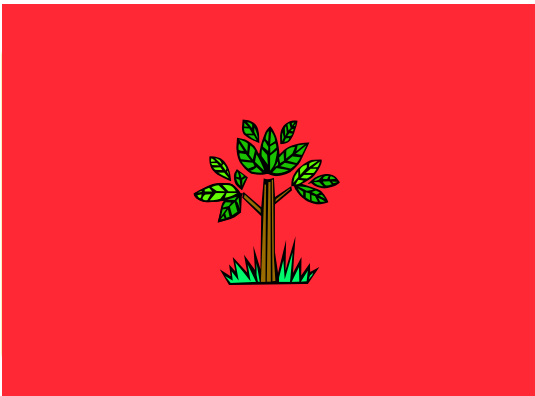
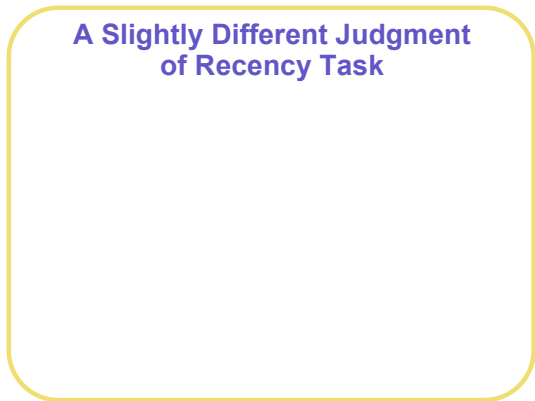
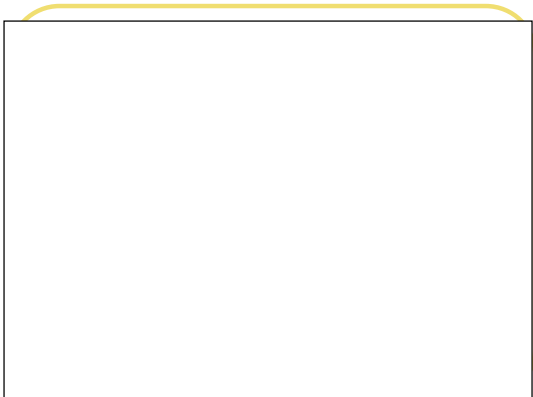
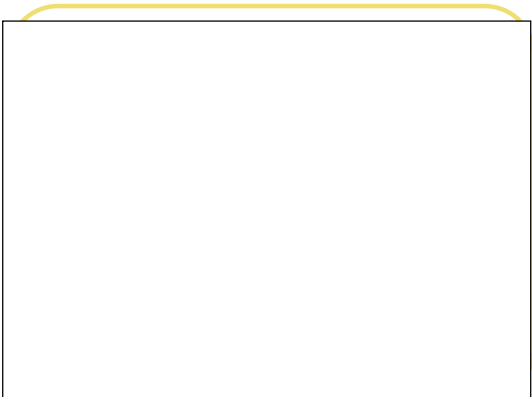


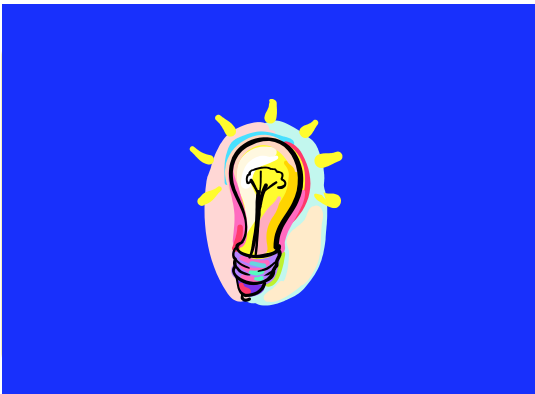
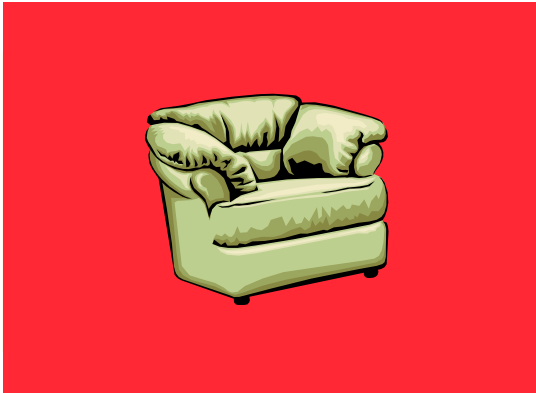
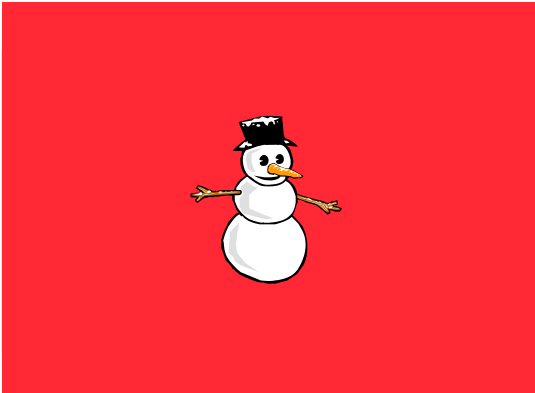
Judgment of Recency Task

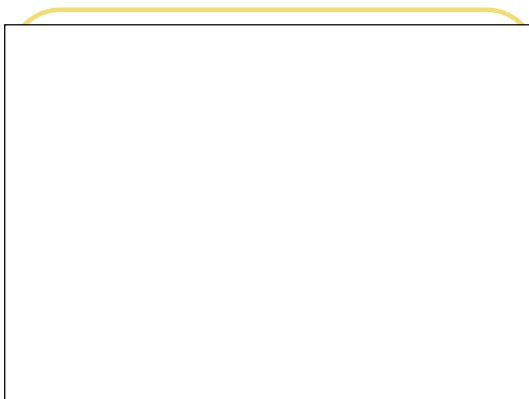
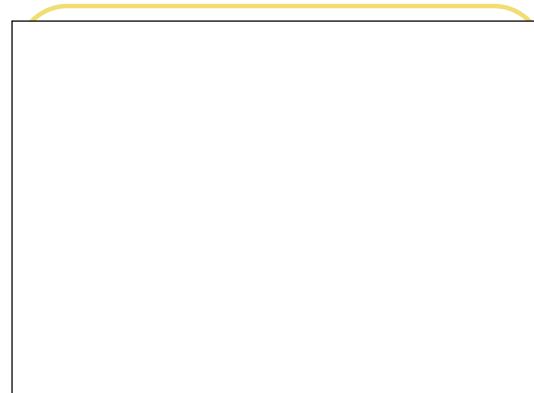
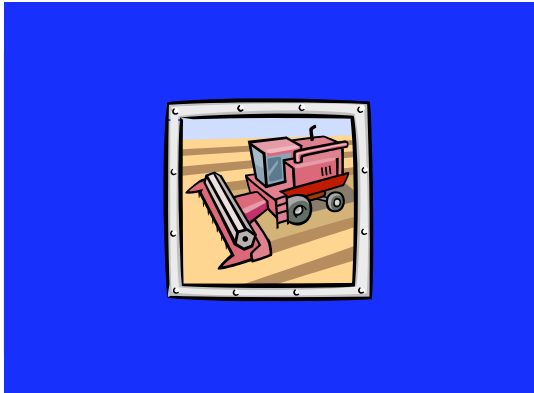
- Presentation: 1, 2, 3, 4....100
- Test:
 - ♦ 51 vs 54
 - ♦ 80 vs 85
 - ♦ 20 vs 40





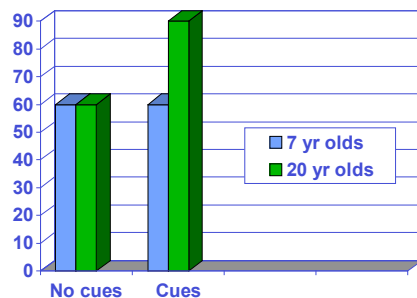






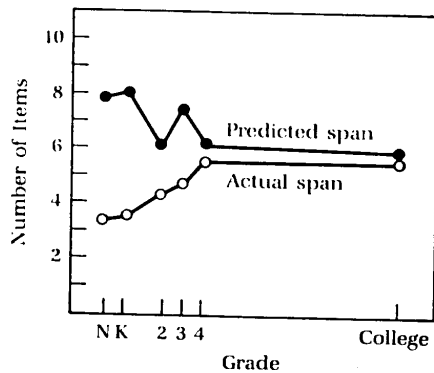
A Slightly Different Judgment of Recency Task

- Presentation: 1, 2, 3, 4...50 [on a blue background]...51, 52, 53...100 [on an orange background]
- Test
 - ♦ 46 vs 48 (no cues)
 - ♦ 52 vs 54 (no cues)
 - ♦ 49 vs 51 (cues)



III. A. The Impact of Metamemory

- Metamemory refers to a person's informal knowledge and beliefs about how memory works and their own abilities as a memorizer.
- Young children have limited metamemory, which explains why they often don't use strategies when they should do so.
- Example: digit span



III. B. The Influence of School

- What experiences promote the growth of metamemory?
- Going to school, where tests are given frequently.
- Cross-cultural data.

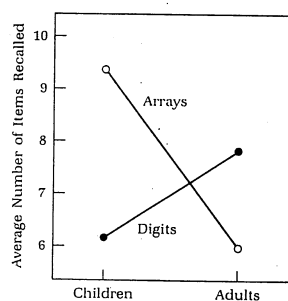
IV. The Role of Knowledge

- A. The more you know, the more you can remember
- B. Experience is critical

A. The more you know, the more you can remember

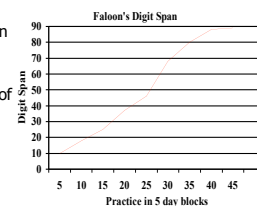
n n c c b a s b c c b n
 ??????
 n b c c b s a b c c n n

B. Experience is critical

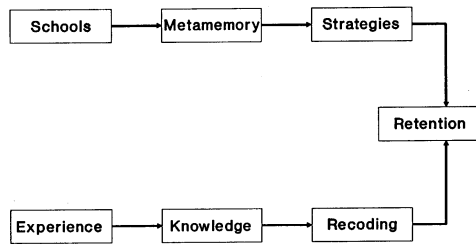


B. Experience is critical

- Steve Faloan: college student of average intelligence, average span
- Digit span of nearly 90 after 20 months
- How? Used extensive knowledge of running times (3492—3 min 49.2 sec, near world record for 1 mile)
- Span for letters perfectly average
- Span for "noncodeable digits" perfectly average



V. Putting It All Together



Factors in the development of memory

Next time

- Intelligence
- Intelligence tests
- Heredity and environment
- Cultural differences