Cognitive Psychology
P335

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Assistant Instructor Jared Lorince
Plan For The Day

- Student poll
- Go over syllabus
- Pep talk for cognitive psychology
Syllabus

• Contact information
• Textbook
• Grading
• Laboratories
• Getting the most of the class
• Class schedule
Why Study Cognitive Psychology?

- Fundamental Question: What is the nature of the mind?
- General applications – user’s manual to your brain
  - Memory
  - Problem Solving
  - Learning
  - Reasoning
- Specific applications
Specific Applications of Cognitive Psychology

• Computer science
  – How do we build an intelligent system?

• Design
  – What makes an object easy to use?

• Mental health
  – How can thoughts be reshaped to be more healthy?

• Teaching
  – How do people best learn?

• Sales
  – How are beliefs and desires constructed?

• Art
  – What devices do people use to perceive?

• Law
  – What are the pitfalls of eye-witness testimony?
Poor Design

Back Right  Front Left  Back Left  Front Right
Good Design
Bad Design

This handle **slides**, it doesn’t twist or pull
Good Design
Bad Design

At left and below are photographs of hardware for doors that open by being pulled. The large plates at the left are a signal to push, but in fact the door is supposed to be pulled; no wonder the door needs the signs. The simple U-shaped brackets below is a much better design, but they are ambiguous enough that a sign still seems to be needed. Contrast with the two handles at the top, neither of which needs a sign yet is always operated properly. If a door handle needs a sign, then its design is probably faulty.

Good Design
Bad Design
Bad design right around the corner
Good Design
Bad Design
Good Design
Education

Improving instruction by developing a model of the student

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Bug = All “borrows” taken from left-most digit
Bug = Digits are added together without considering their unit values
Education
First impressions are right (Gladwell, “Blink”)

In a 1993 study published in the Journal of Personality and Social Psychology (Vol. 64, No. 3), Ambady and a colleague videotaped 13 graduate teaching fellows as they taught their classes. She then took three random 10-second clips from each tape, combined them into one 30-second clip for each teacher and showed the silent clips to students who did not know the teachers. The student judges rated the teachers on 13 variables, such as “accepting,” “active,” “competent” and “confident.” Ambady combined these individual scores into one global rating for each teacher and then correlated that rating with the teachers’ end-of-semester evaluations from actual students.

“We were shocked at how high the correlation was,” she says. It was 0.76.

Curious to see how thin she could make her slices before affecting the student judges’ accuracy, Ambady cut the length of the silent clips to 15 seconds, and then to six. Each time, the students accurately predicted the most successful teachers.

“There was no significant difference between the results with 30-second clips and six-second clips,” Ambady says.
Marketing / Choice Behavior

Expense

Number of Features for Camera

50% 50%

Expenses:

50% 50%
Marketing / Choice Behavior

Compromise effect: People prefer choices that are a compromise between multiple desirable attributes.

Adding an option can increase the number of times another option is picked.
Marketing / Choice Behavior

Attraction effect: Adding an option that is inferior in all ways to Option B increases choices of B.
Marketing / Choice Behavior

**Similarity effect**: An option tends to take away “market share” from other options that are similar to it.
Art ("Rotating Snakes" by A. Kitaoka)

Perceived Motion Without Real Motion
David Hockney’s photographic collages: 1 photo = 1 gaze
Art

Movement of gaze
Summary

Cognitive psychology

• addresses deep scientific questions
• helps you make better use of your mind
• is widely applicable
• reminds us not to take ourselves for granted