Psychology of Language

23 Language & thought

Fall 2023
Tues/Thur 5:00-6:15pm

Emma Wing
Drop-in hours:
Wednesdays 3-4pm
& by appointment
Webex link

Road map

- Unit 3: Language, Brain, & Diversity
  22 Diversity & multilingualism (review)
  22 Language & thought

...also:
- This week's quiz is the last quiz!
- HW3 Due Tuesday, Dec. 5
- Next week: Big picture discussion & optional full-semester review
- Midterm 3 + Final cumulative exam
  - Opens Dec. 11 at 9am; Closes Dec. 16 at midnight

Review

- Types of bilinguals

  - Simultaneous

  - Sequential

  - Heritage language speakers

  - Second language speakers

Second language acquisition

- Called **L2 acquisition** (regardless of what number language it is!)

- Differences between L1 and L2 acquisition

  - L2 rate of acquisition is slower (slower the older you get)

  - L2 acquisition is more difficult

    - practice is necessary

  - Outcomes are more variable than L1 acquisition

    - typically errors are **fossilized** (stuck)

    - there are many **transfer errors**

      - e.g., Spanish speaking learner of English: "I am agree with that"

Second language acquisition

- There are typically L2 stages of acquisition, but they appear not to mirror the stages of L1 acquisition

    - L2 learners already have knowledge of a language

    - This knowledge can hinder or help

        - How could it help?

        - How could it hinder?

Ortega, 2009

Second language acquisition

- Transfer errors in L2 acquisition

  - **Transfer errors**: an error created by using a rule in the L1 while speaking in the L2

Second language acquisition

- Markedness

  - **Unmarked**: the simplest and most frequent

    - English active voice: *John kicked the ball.*

    - Voiceless stops (/p/, /t/, /k/) cross-linguistically

  - **Marked**: more complex and less frequent

    - English passive voice: *The ball was kicked by John.*

    - Voiced stops (/b/, /d/, /g/) cross-linguistically

Ortega, 2009

Second language speakers

- Transfer errors & markedness

  - In English, you can end a word with a voiceless or a voiced consonant. In German, you can only end a word with a voiceless consonant.

  - What do learners do?

    - English speaking learners of German learn easily that to "sound more German", they have to pronounce *Tag* (day) as /tak/

      - The voiced sound at the end of the word must be devoiced

    - German speaking learners of English often make the error of pronouncing *wave* as /waf/ and *tab* as /tap/

Second language speakers

- Differences between languages do not necessarily result in difficulty learning

  - English learners of French pronoun position put the pronoun in the typical English spot:

    1. *Je vois les.   ATTESTED ERROR OF ENGLISH-SPEAKING LEARNERS

    2. I see them.

  - French learners of English do not make the converse error

    1. Je les vois.

    2. *I them see.   NOT ATTESTED IN FRENCH-SPEAKING LEARNERS

Ortega, 2009

Second language speakers

- Automaticity

  - L1 use is automatic; L2 use starts as a controlled process that requires cognitive labor

    - Analogy: automatic vs. standard shift car

- Proceduralization

  - L2 acquisition is more like acquiring a skill

  - It goes from explicit knowledge to implicit knowledge over time and use (and lots of exposure/practice)

Ortega, 2009

Second language acquisition

- https://www.state.gov/foreign-language-training/
  - US Department of State Foreign Service Programs ranking of language learning difficulty for native English speakers
    - The more different from English, the harder to learn

Ortega, 2009

Key concepts (class 22)

✓Diversity across languages

✓Synthetic vs. analytic languages

✓Types of bilingualism

✓Connections between a bilingual's languages during processing

✓Attrition

✓L1 vs. L2

✓Markedness

✓Transfer error

Language & thought

Learning objectives

- Explain the Sapir-Whorf Hypothesis

- Describe a grammatical influence on perception and reasoning

- Describe a lexical influence on perception and reasoning

Language & thought

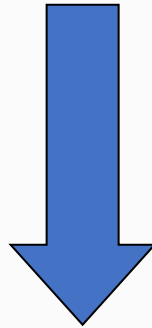- Does language affect thought?

Language & thought

- Does language affect thought?

- Some people think it doesn't:

  - "There is no scientific evidence that languages dramatically affect their speakers' way of thinking…. The idea that language shapes thinking seemed plausible when scientists were in the dark about how thinking works or even how to study it. Now that cognitive scientists know how to think about thinking, there is less of a temptation to equate it with language…" - Steven Pinker (1994)

  - "Does language have a dramatic effect on thought in some other way than through communication? Probably not." Bloom & Keil (2001)

Language & thought

The way we conceptualize the world

Finer color discriminations

↓

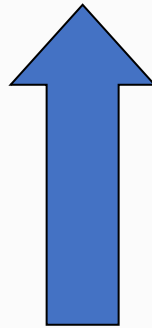Things that get encoded in language

More color words

Language & thought

- Does language affect thought?

- Some people think it does

  - "We dissect nature along lines laid down by our native languages …We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement…that holds throughout our speech community and is codified in the patterns in our language…" (Whorf, 1956)

Language & thought

The way we conceptualize the world

Finer color discriminations

Things that get encoded in language

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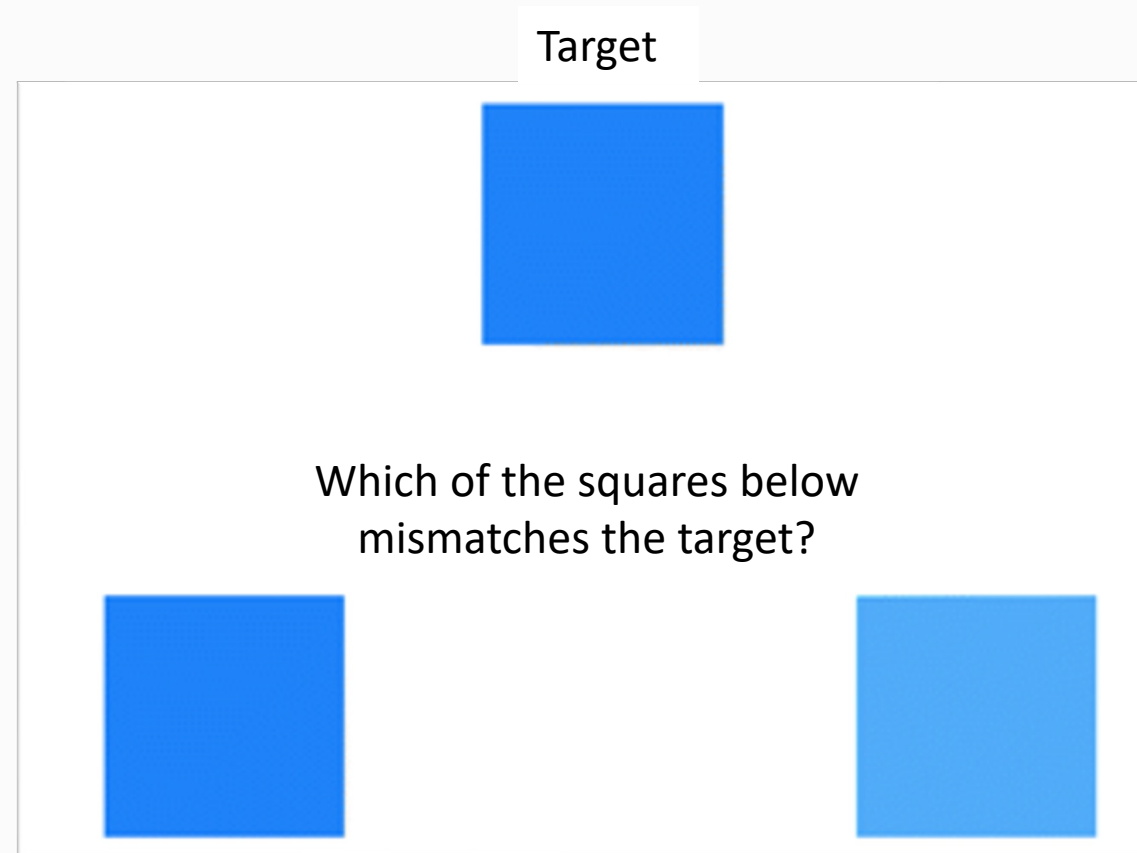
Language & thought

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Sapir-Whorf hypothesis

- Strong: no language means you have no concepts

- Weak: language affects concepts

Language & thought

Example 1

Language & thought

Example 1

- Studies with color show that if you speak a language with different lexical items for light and dark blue (e.g., Russian) and are asked to perform a task that requires detecting the difference between two color patches that cross that color boundary, you'll be better at it than people who speak a language that doesn't have different words.

- But this kind of effect goes away if they are rehearsing a string of numbers

Language & thought

Example 2

BRIDGE

masc → **SPANISH**

fem → **GERMAN**

KEY

fem → **SPANISH**

masc → **GERMAN**

SPANISH	GERMAN		SPANISH	GERMAN
big	beautiful		golden	hard
dangerous	elegant		intricate	heavy
long	fragile		little	jagged
strong	peaceful		lovely	metal
sturdy	pretty		shiny	serrated

Language & thought

Example 2

How do speakers of different languages describe objects of different grammatical genders?

- Experiment conducted in English (everyone highly proficient), but subjects were native speakers of Spanish or German
  - List first 3 adjectives that come to mind

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Example 2

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Language & thought

"Give-a-Number" Children are asked to put a specific number of fish into a "pond" and count them

Example 3

404 children from four groups, ages 3-9.

GROUP	CHILDREN	CRITERIA
EARLY ASL	91	**DEAF/HARD OF HEARING** DEAF PARENTS IMMEDIATE AND FULL ACCESS TO AMERICAN SIGN LANGUAGE (ASL)
LATER ASL	90	**DEAF/HARD OF HEARING** HEARING PARENTS LATER AND/OR REDUCED ACCESS TO ASL
EARLY ENGLISH	124	**HEARING** HEARING PARENTS IMMEDIATE AND FULL ACCESS TO ENGLISH
LATER ENGLISH	99	**DEAF/HARD OF HEARING** HEARING PARENTS LATER AND/OR REDUCED ACCESS TO ENGLISH USING COCHLEAR IMPLANT OR HEARING AIDS

What have we learned?

- **Knowing how to count is critical:** The better the child's number knowledge (the number words used by the child when counting), the better he/she performed on the Give-a-Number task.
- **Either Spoken English and/or ASL can effectively support number development:** Overall, children, regardless of the language they are using, perform similarly when asked to put fish in a bowl.
- **Timing matters:** Children who are exposed to language from birth, whether ASL or spoken English, perform better when asked to put a specific number of fish in a bowl.
- **Later exposure to language impacts overall performance on the Give-a-Number task:** Some children with later exposure to language develop typically, however, overall performance for Give-a-Number is lower and more variable in these children.

Therefore, EARLY and full access to ANY LANGUAGE is the key to optimal number knowledge.

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