Communication
• What is communication?
• What is necessary for communication?
  – Intent
  – Means
  – Recipient
  – Feedback

Intent
• What is intent of communication?
Means

• By what means do we communicate?

Recipient

• If we communicate with some intent of influence, why are we receptive to communication?

Feedback

• What is the role of feedback in communication?
Communication

• Vervets have “words” for:
  – Leopard, eagle, snake, baboon, other, unfamiliar human, dominant monkey, subordinate monkey, watch other monkey, see rival troop

• Everything we do communicates
• Sensation is communication
• Language is just one form
• Language (Anthropocentric characteristics)
  – Communicative
  – Arbitrarily symbolic
  – Regularly structured
  – Generative/Productive
  – Dynamic

Every attempt at formal communication is an interaction between our goals and desires and the goals and desires of others. Our ability to express those goals and desires in a way that can be understood by others is the main determinant of effective communication.
The search for common ground

- Where do children come from?
  - 5 year old
  - 9 year old
  - Teenager
  - Adult

Pragmatics

- Knowing what to say, how to say it, and when to say it or how to be around other people (Bowen, 2001)
- The study of discourse and conversational skills
- The study of the situational determinants of the use of language
- Schematic mismatch between conversants demands pragmatics

Pragmatic Skills

- Establish common ground
  - Introduce a topic in order for the listener to fully understand
- Maintaining a topic
  - Or change topic appropriately
  - Or interrupt politely
- Appropriate eye-contact
  - Not too much staring
  - Not too much looking away
Pragmatic Skills

- Distinguishing how to talk and behave towards different communicative partners
  - Formal with some,
  - Informal with others
- Responding to gestures and non-verbal aspects of language

Linguistic Relativity

The assertion that the speakers of different languages have differing cognitive systems and that these different cognitive systems influence the ways in which people speaking the various languages think about the world.

Are language and thought the same?

- Sapir-Whorf Hypothesis
  - Strong interpretation
    - Thoughts and behavior are determined by language
    - More evidence against than for
  - Milder interpretation
    - Thoughts and behavior are influenced by language
    - Variety of interesting studies, some for, some against
Research designs & the Sapir-Whorf Hypothesis

• HA: People that speak different languages will think about the world differently.
• HO: People that speak different languages will have similar thoughts about the world.
• Problems
  – Language cannot be randomly assigned
  – Therefore we cannot rule out some third variables such as culture.

Linguistic Relativity Studies

• Bilinguals maintain that they “think” differently in different languages (Wierzbicka, 1985)
• Carroll & Casagrande (1958)
  – Noted that Navajo language focused more on form than the English language
  – Tested Navajo & English dominant Navajo children
  – Shown a pair of objects varied in size and form
    • Yellow rope and blue stick
  – Children were then asked next to which of the two objects should they place a blue rope?

• Concluded results support Whorfian-Sapir hypothesis
  Sapir-Whorf Hypothesis: Thoughts and behavior are determined by language
Linguistic Relativity Studies

• Carroll & Casagrande (1958)
  – Also asked white children from Boston, Massachusetts the same question
  – 80% of these children choose the yellow rope (form)
• This component of the study goes against the Whorfian hypothesis

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Linguistic Relativity Studies

• Labels have been shown to lead to memory distortion
• Color
• Snow
• Grass
• Flowers
• Etc. etc. etc.
• How does this differ from expertise?

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Linguistic Relativity Studies

• Hoffman, Lau & Johnson (1986)
  – Bilinguals fluent in Chinese & English
  – Read story about a worldly experienced, socially skilled person who is devoted to his family, and somewhat reserved written in either English or Chinese
• Chinese language has one word to describe such a person: shi gE
• English speakers do not
Linguistic Relativity Studies

• Hoffman, Lau & Johnson (1986)
  – After, participants rated a variety of statements about the characters
  – Some asked about shi gE stereotype
  – If passage was read in Chinese, a greater impact of the stereotype was present

Linguistic Relativity

• Labels influence memory
• Stereotypes influence memory.
• Both support the Sapir-Whorf Hypothesis
• Does that mean that the Sapir-Whorf Hypothesis is correct?
• Alternative explanation?

Bilingual Studies

• Bilingual
  – People who can speak two languages
• Simultaneous bilingual
  – Learn two languages from birth
• Sequential bilinguals
  – First learn one language and then another
• Additive Bilinguals
  – Learn a second language without loss to the native language
• Subtractive Bilinguals
  – Learn a second language that interferes with the native language
Bilingual Studies

• Early research argued that learning two languages was harmful
• Problems with early research
  – Lower class bilinguals were compared to middle class monolinguals
  – IQ and achievement tests were usually in the monolinguist’s language

Bilingual Studies

• Research showing advantages
  – Bilinguals acquire more expertise in their own language
  – Bilinguals are sensitive to subtle aspects of language
  – Bilinguals perform better on tests of nonverbal intelligence that require recognition of verbal patterns

Linguistic Relativity Conclusions

• Because of pseudo randomization of participants researchers cannot differentiate between
  – Sapir-Whorf Hypothesis
  – Cultural factors
  – Expertise
• However, access to object labels does clearly increase ability to remember objects.
• Shared labels for objects also decrease information loss during communication.
Utahisms

- Oh my heck!
- What the H!
- No fetch’en way!
- What’s your favorite?

Heck is the place where people who don’t believe in Gosh go.

Language and Utahisms

My experience says, 2 camps:
- We all know what you mean why don’t you just say it!
- Hell gets you sent to bed early and without dinner, but heck goes unnoticed!

What can Psychology add?

- Language is arbitrarily symbolic
- Communication requires a shared understanding
- Understanding of language is based on experience
- No two experiences with language use are identical
- Speakers symbolic understanding will never precisely match the listener

Therefore the symbolic/emotional meaning of a word can never be fully understood by the listener making Hell and Damn very different words for different people.
Define Hell?... As in hell yeah!? Easy, I put hell before a word and it makes it super intense. Take the word no for example: No + hell = Hell no!

Define Hell?: Purgatory, living separated from God, the abode of the Devil. Often used as an explicative.

That’s bullocks, you bloody tosser!

Without a shared, common understanding, language impact and significance is lost

- Speaker and listener have a different understanding
- To the speaker Hell is Hell, but we can never fully understand how a listener will interpret the emotional and semantic impact of a word
- Therefore Hell and Heck may or may not be equivalent, depending on the speaker and the listener.
Reading

- Bottom-up processing
  - Recognizing letters and words
- Top-down processing
  - Meaning of words
  - Expectations and prior knowledge about material

Dyslexia

- Dys = Abnormal or impaired
- Lexis = Refers to language or words

What is dyslexia?

- Neurological: Developmental or Genetic
- Prevalence ~ 4%
  - (60-80% male)
- Surface dyslexia = can sound out letters but cannot read irregular words such as ‘yacht’, because they have poor orthographic reading skills (difficulty recognizing words as wholes).
  - B.U. ▼ T.D.
- Phonological dyslexia = cannot sound out words, therefore have difficulty reading non-words such as ‘drop’.
  - B.U. ▼ T.D.
DSM-IV criteria for reading disorder

- Reading achievement is below expectations, given age, IQ and educational opportunities.
- Academic and or life disturbance
- Not sensory related

Lexical Processes in Reading

- Saccades
  - Eyes pause on individual words or pairs of words
  - Fixations last 1/4 to 1/2 of a second
    - 120-240 per minute

Carpenter & Just (1983)

- Recorded eye-movements
- 14 college students
- Asked to read normally 15 short excerpts from Time and Newsweek
- Asked to recall what they could of each paragraph after it was finished
Carpenter & Just (1983) Results

- Found that readers fixated on an average of 67.8 percent of the words
- Content words were fixated on 83% of the time
- Function words were fixated only 38% of the time
- Evidence that the syntactic and semantic components of words play a role in determining whether fixation occurs

Speed reading

So much to read, so little time...

"I've read a dozen books in 3 hours!"

Sounds familiar? And what if you could read all the books you want in the time you have? Learn about the new amazing discoveries on our planet, and in the outer space; find out the deepest secrets of your own mind, bodies, and souls; boost your expertise in your own profession, or just read for the pleasure of it!

"I've read a dozen books in 3 hours!" Just the other day I sat in a comfy chair in my favorite bookstore and read about a dozen books on business, marketing and leadership in 3 hours. It is like taking an intense shower of detailed information, grand visions, and captivating stories, followed by an exhilarating flood of new ideas pouring right out of my head — the result of mixing the mind-invigorating cocktail of all these books at the same time.

Tolstoy's War and Peace — 15 minutes

"15 lines at a time backwards and forwards.

80-90 pages a minute.

Techniques that work

- Limited bandwidth
- Comprehension suffers
- 120-240 saccades ~ 300 wpm

Techniques that work

- Practice
- Build vocabulary
Kim Peek
Can read two pages simultaneously, one with each eye, with 98% retention.
Born without a corpus callosum.

Lexical Access
• Retrieving the meaning of a word from our lexicon

Demonstration
Based on Reicher (1969)
• On the next several slides, a row of six letters will appear.
• You will then see two letters, one above and one below a letter that appeared
• Guess which of the two letters actually appeared in the appropriate location
Word Superiority Effect

• Letters are more easily recognized in the context of a word than alone

• Words are also more easily recognized after processing a sentence

• What does this tell us about the role of top-down and bottom-up processing in reading?

Understanding Discourse

• Research focuses on how we obtain the meaning from stories, lectures, and reading

• Identify the processes underlying reading and factors that lead to successful comprehension

• Complex task involving many processes
Reading Comprehension Processes

- Semantic encoding
- Acquiring vocabulary
- Comprehending ideas
- Creating mental models
- Impact of context on comprehension
- Impact of perspective on comprehension

Semantic Encoding

- The relationship between knowing what a word means and using that knowledge when processing new material
- + vocabulary yields + understanding
- Best way to increase vocab?

Acquiring Vocabulary

- Readers acquire vocabulary in a variety of ways
  - Through wide reading
  - From the use of context
  - Through use of the dictionary
  - Direct instruction
Kintsch & Keenan (1973)

- Participants read different sentences
- All sentences had the same number of concepts
- Sentences differed in terms of the number of propositions contained
  - *The crowded passengers squirmed uncomfortably.* (3 propositions)
  - *The horse stumbled and broke a leg.* (2 propositions)

The greater the number of propositions, the longer the reading time

Conclusion: propositions, not single words, are the units of comprehension