Later reading skills

- What’s important? Example...
- Knowing the genre
- Comprehension monitoring
- Vocabulary
“Sepkoski…recently found that a plot of increasing organic diversity versus time from the late Precambrian to the end of the ‘explosion’ conforms to our most general model of growth: the so-called sigmoidal curve. Consider the growth of a typical bacteria colony on an uninhabited medium: each cell divides into two daughters every 20 minutes. Rate of population growth is slow at first. The explosive “log” phase follows as every cell of a substantial population reproduces every 20 minutes. Eventually, the colony guarantees its own stability by filling its space, exhausting its nutrients, etc. This leveling completes the sigmoidal distribution.” (from Gould, 1977, p. 128)
Comprehension monitoring: Older kids or better readers...

- know they’re supposed to make sense of text
- focus on getting meaning, not just decoding
  - judge scrambled passages to be unreadable;
    (poor readers say only non-words are unreadable)
- understand purpose of skimming; pick key words
- unfamiliar word: more likely to use dictionary, ask, or re-read
Word Knowledge and Reading

Role of vocabulary in reading:
- Vocabulary accounts for 35-50% of reading skill variance
- vs. reading speed = 10% of variance

Grade school: 6,000 word gap (25th - 50th percentile)

Levels of word knowledge:
- "Feels familiar"
- Recognize
- Understand meaning (in or out of context)
- Understand meaning relations
- Use productively

“What is a sigmoidal curve?”
“What non-linear functions produce a sigmoidal curve?”
“What mathematical function best describes population growth over time?”
Vocabulary Size

“Matthew effect”

-1 SD
Mean
+1 SD

1st Grade 3rd Grade 5th Grade
Using Context to Learn Words

- Adults know up to 100,000 words
- Few are learned by “drilling” in school
  - Maybe 10% of the 2-3,000 learned/year
- Most are figured out and learned from:
  - spoken context, or
  - written context [ex: “sigmoidal”], esp. as kids read more!
- Critical skill: inferring new word meanings from context. In HS students:
  - Definition accuracy $r = .65$ w/ reading comprehension
  - Definition accuracy $r = .56$ w/ vocabulary
Limits of Written Context

Not all context is created equal. Examples:

- “The driver admitted that his foot had threnned off the brake, causing the car to surge forward….” (after Ames, 1966)
- “She, who preferred ‘ageless’ men, eyed his encroaching phalacrosis and grimaced.” (after Sternberg, 1988)

Estimate: Students learn meanings (from context) of only 5% of the unfamiliar words they read

- *But if you read 750,000 words/year, and 15,000 are unfamiliar, 5% = a gain of 750 words/year!*
  - Note: that still doesn’t make up all vocabulary growth!
  - Where else is new vocabulary coming from?
Is Direct Vocabulary Instruction Sensible?

- Usually small gains, little comprehension gain
- Beck et al: Three tiers of words (of 88K):
  - Tier 1: basic ("cat," "go," "green")
    - estimated 8K families
  - Tier 3: specialized ("divertimento")
    - est. 44K families
  - Tier 2: general utility ("unique," "convenient," "ponder")
    - est. 7K families
- Focus on teaching ‘at-risk’ kids Tier 2 words
Beck’s Vocabulary Program

- 4th Graders taught 10 words per week:
  - **High frequency presentation**
    ✦ Integrated into stories & units in curriculum
  - **Non-standard definitions used familiar words:**
    ✦ *e.g.*, “kindergartner” for *novice*
  - **Many games for associating words with meanings**
    ✦ answer fun questions: “What would be a *hermit’s* nightmare?”
    ✦ make your own context: “The *sleuth* helped the police by...__________________”
    ✦ “Word Wizard:” Earn points for using or noticing words outside of class
Results of Beck’s Program

- After 3 weeks, children remembered 80% of words
- Accessed learned words faster
- Increased comprehension of stories with learned words
- Anecdotal evidence: interest in new words increased (e.g., brought new words for Word Wizard activity)
Learning to write

- Children’s writing difficulties:
  - Knowing the genre
  - Content knowledge (expert-novice)
  - Taking audience’s perspective (egocentrism)
  - Language skill (*conscious control over syntax*)

- Difficult processes (“areas of development”): Planning, seeing problems, and revising

I have not got a bird but I know some things about them. They have tow nostrils and They clean Ther feather and They eat seeds, worms, bread, cuddle firs, and lots of other things. and they drink water. When he drinks he Puts his head up and it gose down. A budgie cage gets very dirty and people clean it. (8-year-old, from Kerss, 1982, pp. 59-60)
Bilingualism & 2nd Language Learning

- Bilingualism:
  - US: 17% (?) (most Spanish); Canada 24% (most French)
  - Few balanced bilinguals (L1 & L2)
  - Acquisition: simultaneous or sequential?
    - Acquiring L2 may delay L1
    - Smaller vocabulary in each language?

- Age of acquisition: A critical period?
  - Learning ASL when younger (Newport):
    - more mastery of L2 phonological and syntactic details if acquired before 9-12 years
    - Problem: age is confounded with input & environment
      - e.g., motivation element
What’s hard about 2nd language learning?

- Contrasting syntax: Where L1 & L2 differ, the learner will have trouble
  - Example: L1: “No es posible hacer eso”
    L2: “It is not possible [to do that]”
    L2*: “No is possible [to do that]”

- Pronunciation:
  - English: [b d g] at end of word. Spanish: only in beginning or middle
  - Leads to errors like “bik” [big] & “Bop” [Bob]

- BUT evidence of cognitive & metalinguistic benefits of bilingualism
Summary/Review

- Factors that influence early reading success: What matters?
- Phonics & WL in early reading: Pros, cons, blends
- Later skill: Role of comprehension monitoring
- Vocabulary: Major factor; varies a lot
  - Relation of reading & vocabulary growth
- Changes in writing
- Bilingualism: Challenges for L2 learners