New Research on Oral Language, Text Difficulty & Writing

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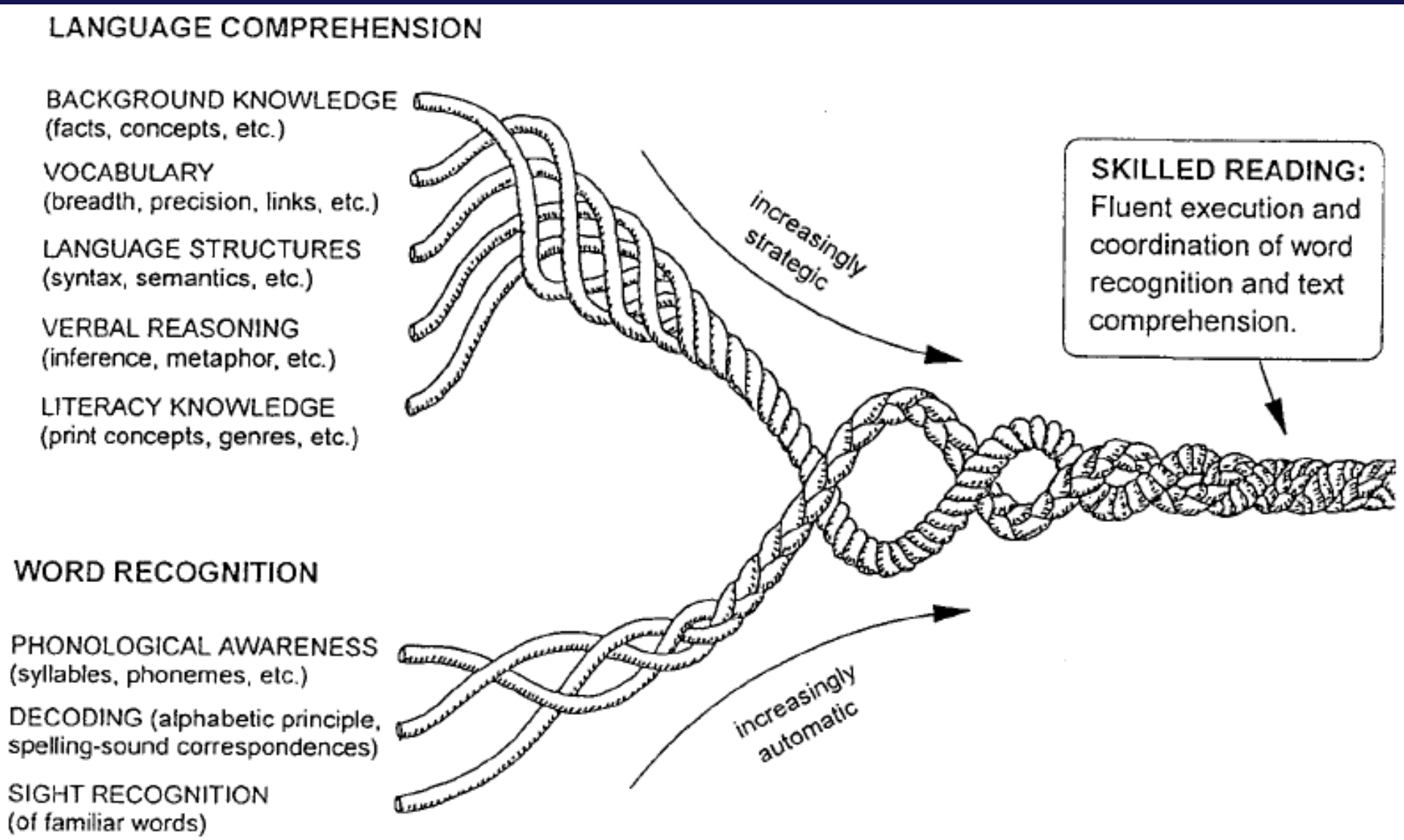


Scarborough (2002)

Spoken language vs. reading comprehension

- General language comprehension will constrain the development of reading comprehension
- The strength of this relationship changes with age

Simple View of Reading

Recognizing words in text & sounding them out phonemically

The ability to understand language

The ability to read and obtain meaning from what was read.

Gough and Tunmer (1986)

The Simple View

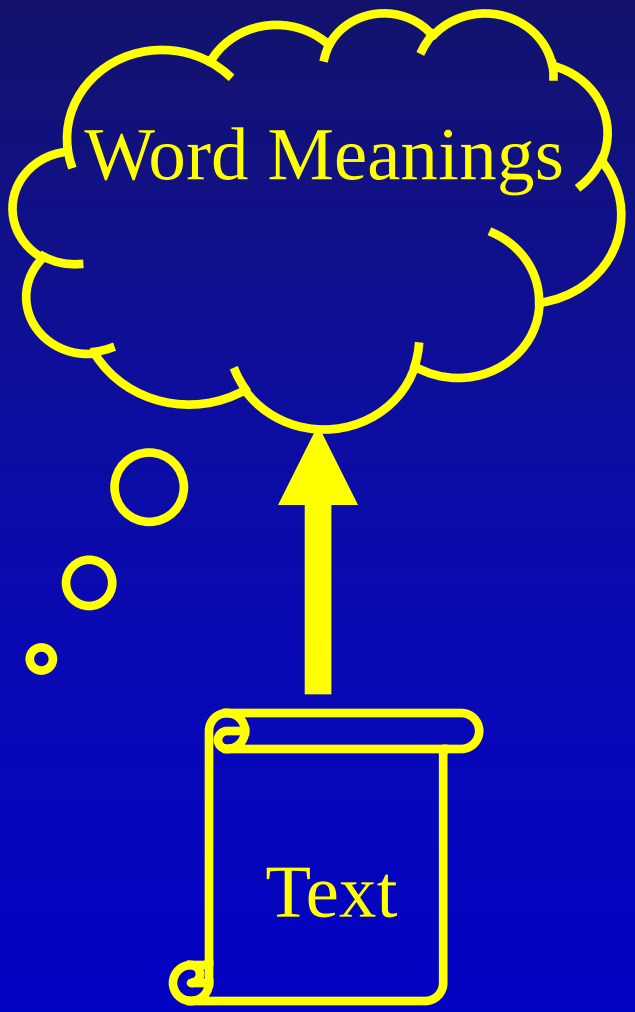
- Reading Comprehension will develop to the same level as listening comprehension

Gough & Tumner, 1986

Comprehension problems specific to reading

- Syntactic construction
- Vocabulary
- Decontextualization
- Need for integration of information

Academic Language is at the Core of Literacy Instruction

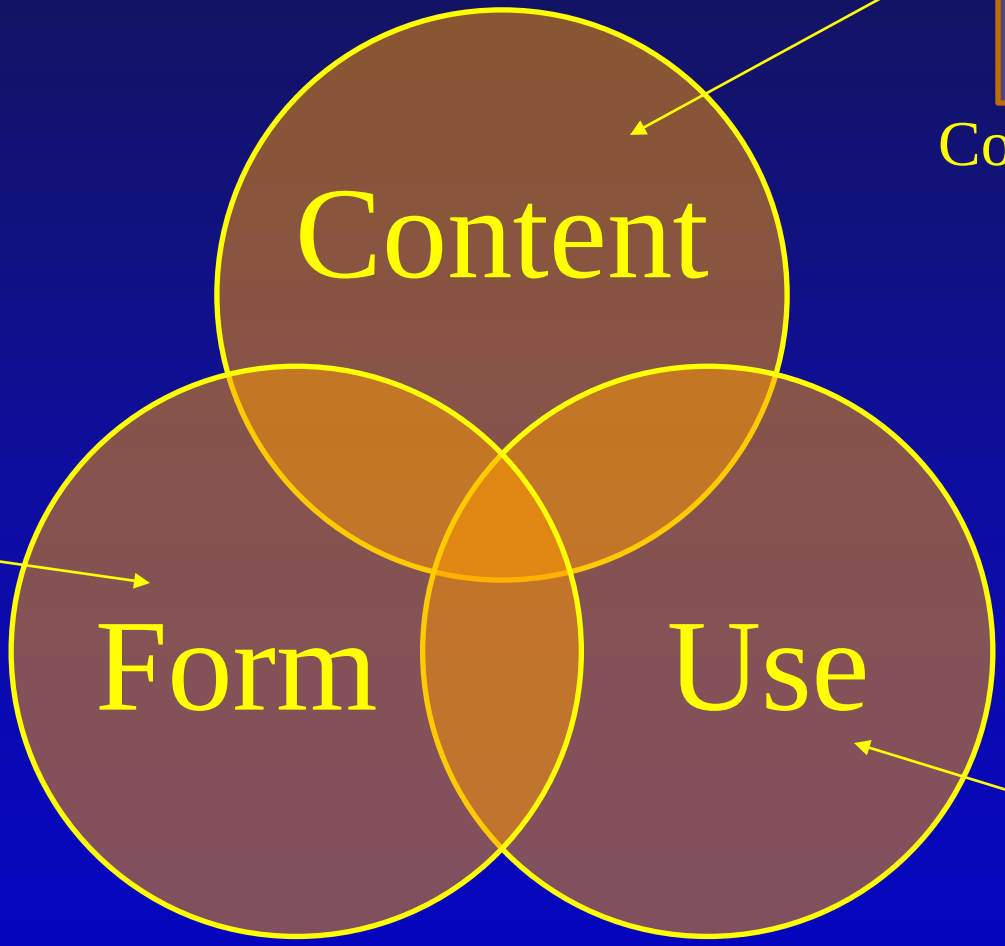


a. because it allows literate people to discuss literary products; previously referred to as **extended discourse** or **decontextualized language**
b. because contextual cues and shared assumptions are minimized by explicitly encoding referents for pronouns, actions, and locations

Components of influence on spoken and written language

- Phonology
- Semantics
- Syntax
- Pragmatics (discourse)

Language



Semantics (vocabulary lexicon),

Concepts such as synonyms, antonyms, multiple meanings, similes, metaphors

Phonology, Morphology, Syntax

Pragmatics, (discourse) how language is used

Bloom & Lahey, (1978); Soiffer, (1999)

Phonological (phonemic) awareness

- Children's knowledge of the internal sound structures of spoken words
- Correlational AND causal connection to reading success
- Becomes reciprocal with reading & writing
- Strongest predictor of early reading success, more than IQ

Front, smiley

ē	ĭ	ā	ĕ	ă
see	sit	make	pet	cat
these	gym	rain	head	
me		play		
eat		baby		
key		eight		
happy		vein		
chief		great		
either		they		

ə	ī	ŏ	ŭ	aw	ō	o͝o	o͞o
about	time	fox	cup	saw	vote	took	moo
lesson	pie	father	cover	pause	doe	put	tube
elect	right	palm	flood	call	boat	could	blue
definition	rifle		tough	water	snow		chew
circus	by		among	daughter	open		ruby
	buy			thought	old		suit
	heist				go		
					though		

Back, rounded

oi/oy	boy, oil
ou/ow	cow, out, bough

ir	sir
er	her
ur	fur
ar	car
or	pour, or

Low, open

Moats, 2000

Semantic Skills--Vocabulary, Syntax, and Oral Language Skills

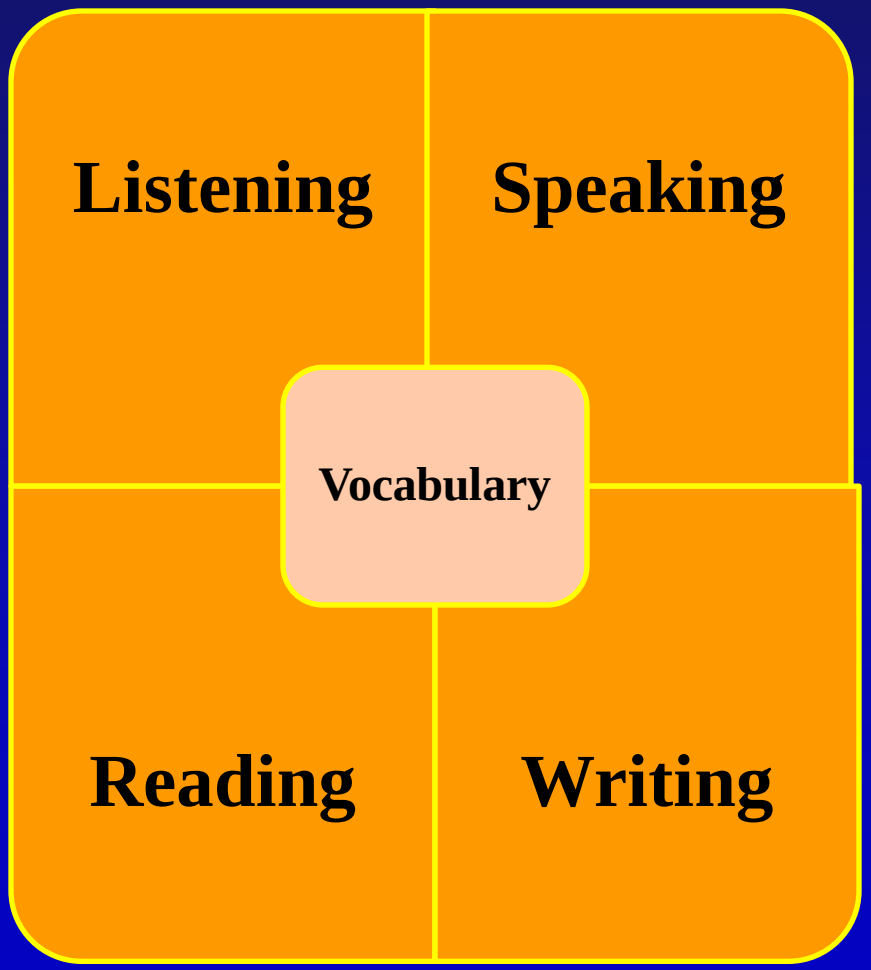
- Evidence is mixed
  - Word ID and phonological skills limit reading comprehension in the early stages
  - **Vocabulary predicts later comprehension skills**
  - Vocabulary & comprehension may be reciprocal
  - Syntactic skills & comprehension (weak link) may be mediated by phonological working memory

Vocabulary Lexicon

"The lexicon of a language is the **stock of established words speakers can draw on when they speak and have recourse to in understanding what they hear.** This stock is stored in memory in such a way that speakers can locate the relevant units to use in both speaking and understanding. To do this, of course, speakers have to be able to identify words either by looking them up in memory (for comprehension) or by retrieving them as appropriate forms for conveying specific meaning (for production)." (Clark, 1993, p. 2)

The Vocabulary Quartet & Levels of Knowing

- Receptive vs. Expressive
- Written vs. oral mode
- Depth: Level of understanding
- Breadth: Amount of words in the lexicon



Dimensions of Word Knowledge

- Knowledge of word's spoken form (pronunciation)
- Written form (spelling)
- Grammatical behavior (syntactic/morphological features)
- Co-locational behavior (occurs with other words)
- Frequency (orally and in print)
- Stylistic register (e.g., academic language; informal)
- Conceptual meaning (antonyms, synonyms)
- Association with other words (inter-relatedness)

Nation (1990) in Nagy & Scott (2000)

Thesaurus Entry: *Exacerbate*

Exacerbate vb to cause to become increasingly bitter or severe <foolish words that only *exacerbated* the quarrel>

synonym acerbate, embitter, envenom

related annoy, exasperate, irritate, provoke; aggravate, heighten, intensify; inflame

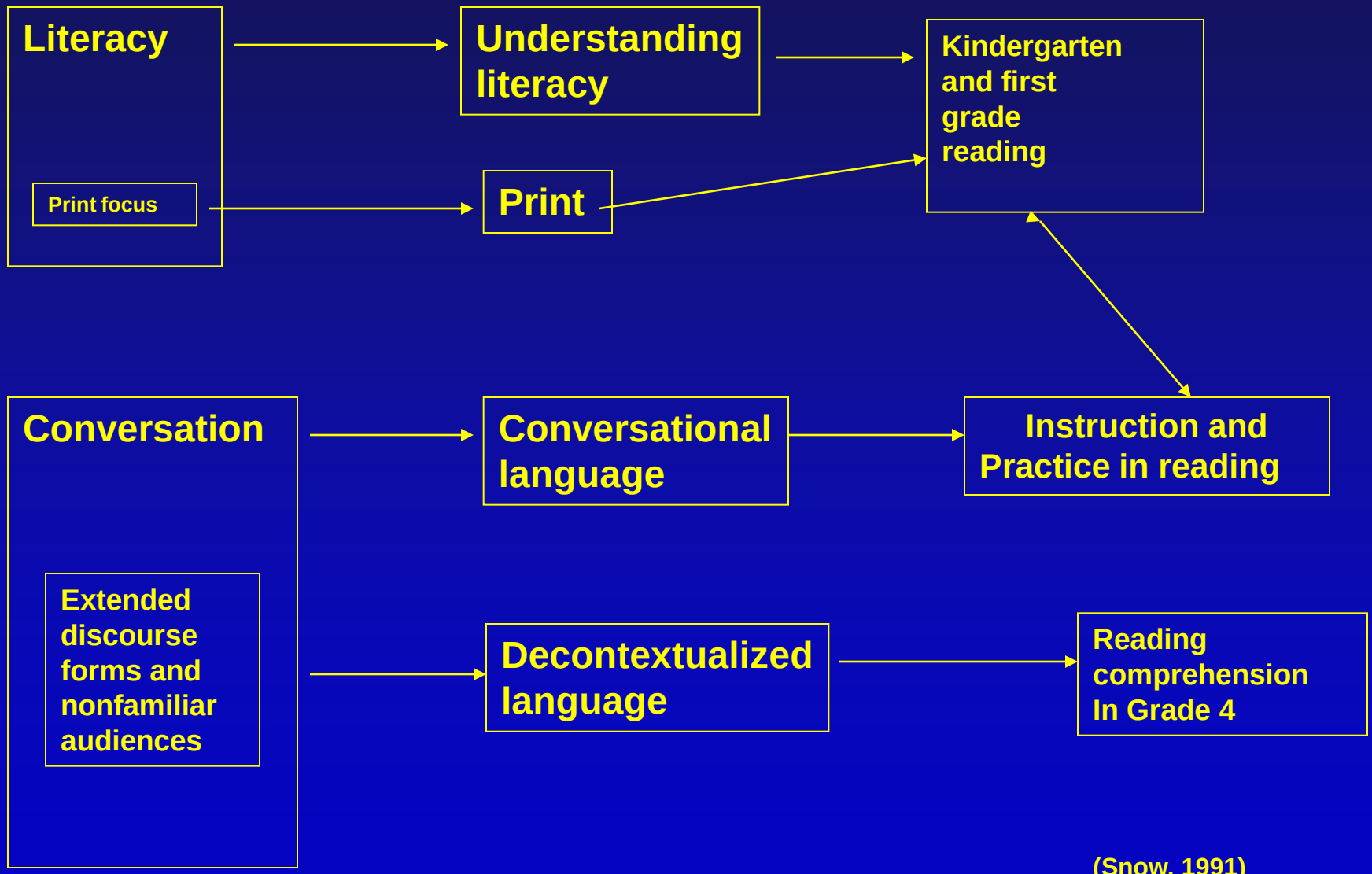
idiom add fuel to the flame, fan the flames, feed the fire, pour oil on the fire

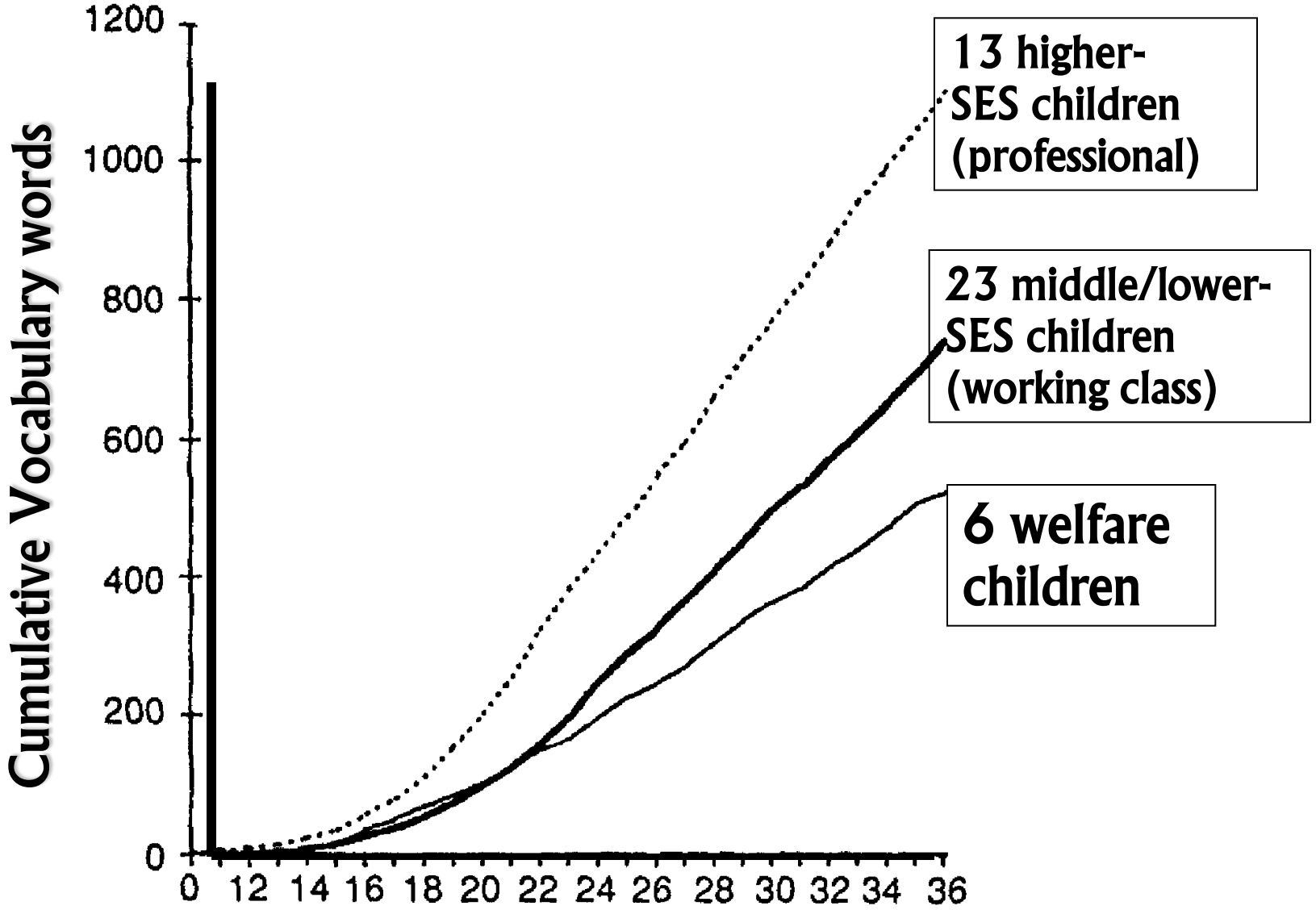
contrasted appease, mollify, pacify, placate, quell; lessen, moderate

antonym assuage

Weak empirical link between vocabulary instruction & reading comprehension

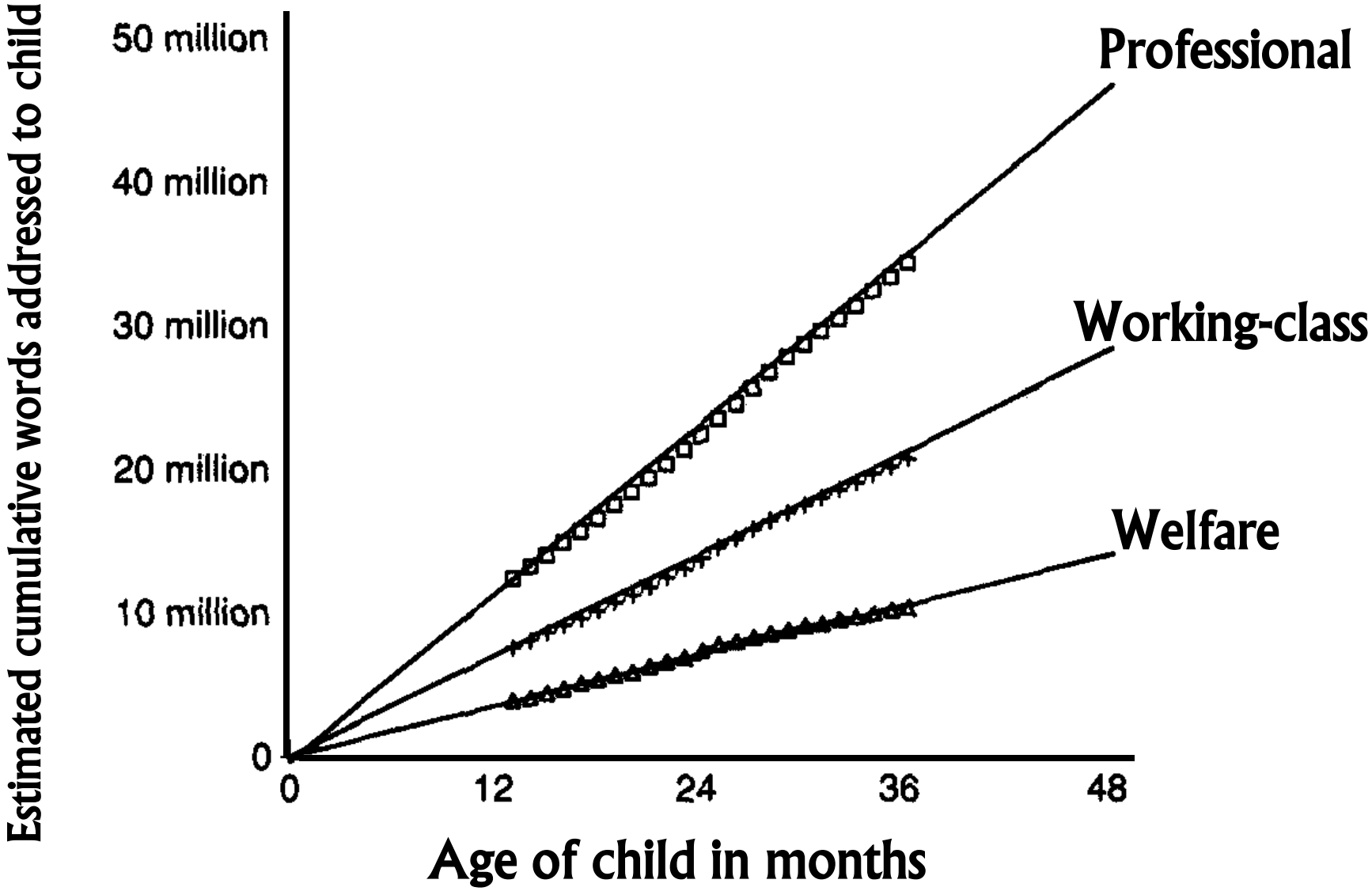
1. Three plausible explanations (Pearson et al., 2007)
   - No connection between vocabulary and comprehension
   - Vocabulary instruction is focused on a local skill set that does not transfer to far skills such as reading comprehension
   - Vocabulary measures do not adequately capture enough information on the dimensions of vocabulary that transfer to reading comprehension
2. New studies are more encouraging (e.g., Snow et al., 2009; Leseaux et al., 2010)


Home & School experiences: ages 3-6
Skills developed: ages 3-6
School performance
Literacy
Print focus
Understanding literacy
Print
Kindergarten and first grade reading
Conversation
Extended discourse forms and nonfamiliar audiences
Conversational language
Decontextualized language
Instruction and Practice in reading
Reading comprehension In Grade 4
(Snow, 1991)



Hart & Risley, 1995

Language Experience



Hart & Risley, 1995

Quality Teacher Talk
(Snow et al., 2007)

- Rare words
- Ability to listen to children and to extend their comments
- Tendency to engage children in cognitively challenging talk
- Promotes emergent literacy & vocabulary & literacy success in secondary grades

Matthew Effects in Reading (Stanovich, 1986)

%	Independent Reading Minutes Per Day	Words Read Per Year
98	65.0	4,358,000
90	21.1	1,823,000
80	14.2	1,146,000
70	9.6	622,000
60	6.5	432,000
50	4.6	282,000
40	3.3	200,000
30	1.3	106,000
20	0.7	21,000
10	0.1	8,000
2	0.0	0

Variation in Amount of Independent Reading

(Cunningham & Stanovich, 1998, adapted from Anderson, Wilson, & Fielding,1988)

Metalinguistic skills

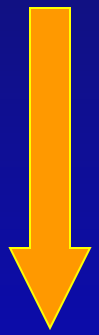
- Manipulate sounds and meanings of words, phrases, and sentences
- Interpret non-literal meaning
- Reflect on the comprehension of a text
- Repair comprehension problems
- Comprehension monitoring

Discourse-level Skills

- Allow us to make inferences and connect information from different parts of the text
- Crucial to an integrated representation of text as a whole
- Develop in a progression:
  - Conversational discourse
  - Narrative discourse
  - Reading comprehension

Discourse-level Skills

inference skill



comprehension

Oakhill et al., 2003; Oakhill & Cain, 2007

Discourse-level Skills

narrative skill

story structure understanding

reading comprehension

Snyder & Downey, 1991

Oakhill et al., 2003; Oakhill & Cain, 2007

Conclusions on Oral Language

- Written text and oral narratives share many properties, including syntactic structures and rare and more abstract vocabulary items.
- Both oral narratives and written text are decontextualized language forms
- Reading comprehension predictors
  - Oral language skills
  - Memory skills
  - Strategy knowledge

Conclusions on Oral language

- With an increase in age, reading comprehension becomes less closely related to decoding skill, and the relations between reading and listening comprehension increases.

- Reading comprehension will become more heavily dependent on language skills that are also important in listening comprehension as children get older.

Gough, Hoover, & Peterson, 1996

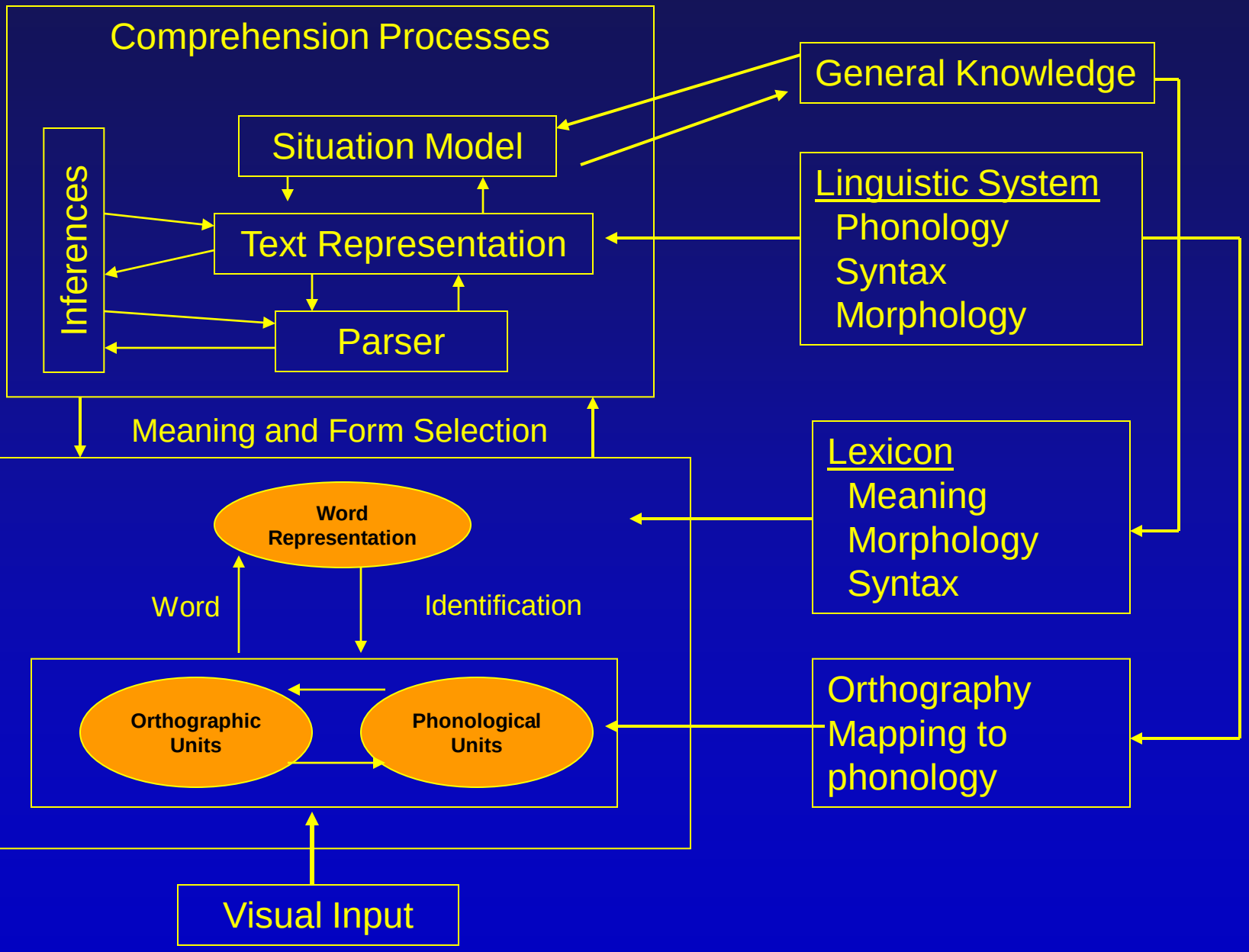
Implications

- Comprehension skills develop simultaneously with basic language skills
- Don’t wait for decoding proficiency to begin instruction in oral language skills
  - Vocabulary
  - Syntax
  - Inference making
  - Comprehension monitoring

Text Difficulty

- Reading demands of college/work place text have increased over past 50 years, but demands of K-12 text have decreased.

Components of Reading Comprehension (Perfetti, 1999)



From Barbara Tuckman's *The Zimmerman Telegram*…

The first message of the morning watch plopped out of the pneumatic tube into a wire basket with no more premonitory rattle than usual. The duty officer at the British Naval Intelligence twisted open the cartridge and examined the German wireless intercept it contained without noting anything of unusual significance. When a glance showed him that the message was in non-navel code, he sent it in to the Political Section in the inner room and thought no more about it. The date was January 17, 1917, past the halfway mark of a war that had already ground through thirty months of reckless carnage and no gain.

What Makes This Text Difficult?

- Consider the text type and structure
- Consider prior knowledge
- Consider the vocabulary
- Consider the discourse features—linguistic markers for coherence, coreference, deixis
- Consider the inferences needed

Instructional Considerations

- **Text Type/Structure**
  - persuasive text
    - anti-war sentiment, “thirty months of reckless carnage and no gain”
    - indictment of war bureaucracy
  - narrative structure
  - historical non-fiction

- **Prior Knowledge**
  - World War I
    - text references: war, 1917, British, German, duty officer
  - early 20th century communications
    - text references: telegram, pneumatic tube, wire basket, wireless intercept
  - Zimmerman telegram
    - text references: German wireless, non-naval code

TELEGRAM RECEIVED.

FROM 2nd from London # 5747.

"We intend to begin on the first of February unrestricted submarine warfare. We shall endeavor in spite of this to keep the United States of America neutral. In the event of this not succeeding, we make Mexico a proposal of alliance on the following basis: make war together, make peace together, generous financial support and an understanding on our part that Mexico is to reconquer the lost territory in Texas, New Mexico, and Arizona. The settlement in detail is left to you. You will inform the President of the above most secretly as soon as the outbreak of war with the United States of America is certain and add the suggestion that he should, on his own initiative, invite Japan to immediate adherence and at the same time mediate between Japan and ourselves. Please call the President's attention to the fact that the ruthless employment of our submarines now offers the prospect of compelling England in a few months to make peace." Signed, ZIMMERMANN.

Instructional Considerations
(continued)

- **Vocabulary**
  - academic language
    - examined, significance, “ground through”
  - generative words
    - premonitory, carnage, intercept
  - Tier 3 vocabulary (military domain)
    - “morning watch,” non-naval code, German wireless, pneumatic tube

- Linguistic Markers (Coherence Relations)
  - pronouns
    - duty officer = he, him
  - co-references
    - German wireless intercept = the message
  - deixis
    - “in the inner room”
  - chronology
    - “When a glance showed him that the message was in non-naval code,…”

Situation Model (Kintsch & Rawson, 2005)

The situation model for the Tuchman text requires knowledge of:

a) The war Britain & Germany were engaged in during early 1917

b) The ability to draw inferences about the relevance of a German message intercepted by the British and about the author's anti-war sentiment.

Instructional Delivery

- Model strategies (activating background knowledge, questioning, searching for information, summarizing, organizing graphically, identifying story structure (e.g., Guthrie et al., 2004; Brown, Pressley et al., 1996)
- Keep the focus on the meaning of the text through high quality discussion.
- Model “thinking like an historian” (e.g., sourcing) to provide a purpose for reading (Biancarosa & Snow, 2004).

Matching Reader to Text

- Select text appropriate to reader ability and interest.
- Scaffold discussion.
- Verify that comprehension is at least at 80% correct.

Measuring Text Difficulty: Qualitative Measures

(see Appendix A of the Common Core State Standards)

- Levels of Meaning (literary text) or Purpose (informational text):
  - Single vs. multiple levels of meaning (e.g., satire)
  - Explicit vs. implicit
- Structure
  - Low complexity: simple, well-marked, conventional
  - High complexity: complex, implicit, unconventional
- Language Conventionality and Clarity: literal, clear, contemporary, & conversational language vs. figurative, ironic, ambiguous, purposefully misleading, archaic/unfamiliar, academic & domain-specific language
- Knowledge Demands: Texts with few assumptions about reader's life experiences & depth of cultural/literary and content/discipline knowledge are less complex than those with more assumptions.

Measuring Text Difficulty: Quantitative Measures
(see Appendix A of the Common Core State Standards)

- Readability: The first paragraph of Tuchman's *Zimmermann Telegram* passage ranges from 8.4 on Dale-Chall to 13.3 on the Flesch-Kincaid & Fry; 13.5 on Lexiles.
- Natural language processing (e.g., Graesser et al., 2004, Coh-Metrix):
  - Linguistic features: vocabulary difficulty; lexical diversity; word concreteness; anaphora; overlapping text segments; sentence and text structure.
  - Discourse features: text coherence & cohesion

Writing: Causes for Concern

- Poor writing skills cost businesses $3.1 billion annually (National Commission on Writing, 2004)
- Only one out of four 12th graders is a proficient writer (Salahu-Din, Persky, & Miller, 2008)
- Nearly 1/3 of high school graduates are not ready for college-level English composition courses (ACT, 2005).

Writing from a Prompt: My Best Friend

G3

April 27 2000

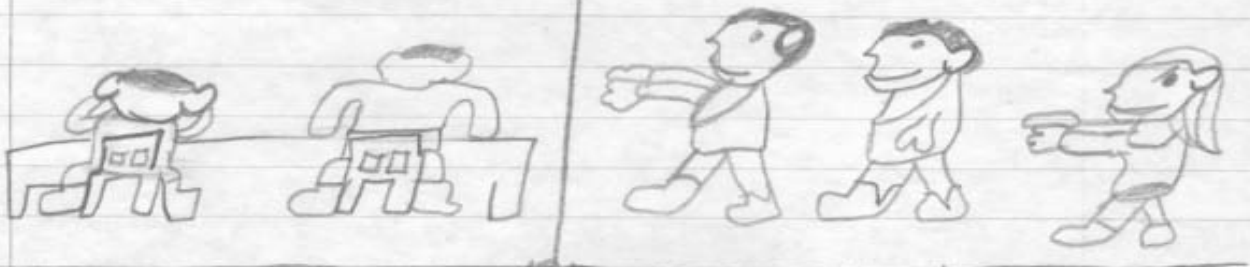
My Best Friend
by: Justin Colbert
First, Pat and I
Draw pictures to
start off the day.
We draw pictures
of our friends or
somtimes pictures
of two fearsome

dragons going at it in comfet.
Next, when we go out side we get chased by girls. I'm the leader and Pat is the second hand man. Its very exiting.
Last, we play a game of fotball. We are a great team. Somtimes we

we use a bottle or can for the ball. This concludes my spectacular story

Draw

Run Girl from



Play Football

Writing Development (Wagner et al., in press)

- CFA shows 5-factor model of writing development in 1st and 4th grades: 1) macro-organization; 2) productivity; 3) complexity; 4) spelling & punctuation; and 5) handwriting fluency
- Handwriting fluency correlated with written composition factors at both grades, but surprisingly strongly related to macro-organization and productivity in grade 4.

Writing Development (Abbott, Berninger, & Fayol, 2010)

- Used SEM to evaluate longitudinal relations from grades 1-7 among reading and writing at subword, word, and text levels (using WIAT).
- Individual differences in spelling explained both word-level spelling and text level composition consistently across grades.
- Spelling was the most stable of skills measured (which also included alphabetic letter writing, written expression, word reading, & reading comprehension).

Writing Research & Resources

- Writing Next (Graham & Perin, 2007): meta-analysis on effective writing instruction for middle and high school.
- Writing to Read (Graham & Hebert, 2010): Meta-analysis on writing techniques shown to enhance students' reading
- Common Core State Standards: Appendix C

WritingNext: Effective adolescent writing intervention

- Writing strategies (ES = .82)
- Summarization (ES = .82)
- Collaborative writing (ES = .75)
- Specific product goals (ES = .70)
- Word processing (ES = .55)
- Sentence combining (ES = .50)
- Prewriting (ES = .32)
- Inquiry activities (ES = .32)
- Process writing approach (ES = .32)
- Study of models (ES = .25)
- Writing for content learning (ES = .23)

Writing to Read: Effective Practices

- Have students write about the texts they read (ES = .40 to .51, depending on outcome)
  - Respond to text in writing (writing personal reactions; analyzing & interpreting the text)
  - Write summaries of a text
  - Write notes about a text
  - Answer questions about a text in writing, or create and answer written questions about a text

Writing to Read: Effective Practices

- Teach students the writing skills & processes that go into creating text
  - Teach the process of writing; text structures for writing; paragraph or sentence construction skills (improves reading comprehension: ES = .18-.27)
  - Teach spelling and sentence construction skills (improves reading fluency: ES = .79)
  - Teach spelling skills (improves word reading skills: ES = .68)
- Increase how much students write (ES = .30)

Children Must be *Taught* to Read and Write!

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We are all born dyslexic--the difference among us is that some of us are easy to cure and others more difficult.

-Liberman, 1996