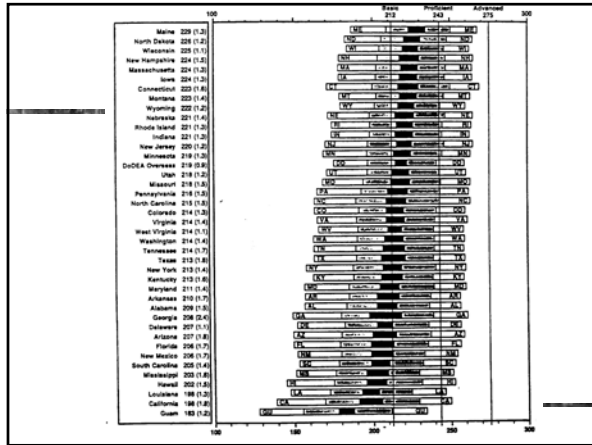


THE PROBLEM

- NAEP results from 1994 highlight reading gap
 - basic reading proficiency
 - drop from 1992
- Mathew's effects of reading difficulty
 - number of words read
 - inability to catch up
 - effects on vocabulary, comprehension



NAEP Results for 4th Grade (% at each level)

Year	Category	Below Basic	Basic or above	Proficient	Advanced
1992	CA	52	48	19	2
	Nation	40	60	37	6
1994	CA	56	44	18	3
	Nation	41	59	28	7
1998	CA	52	48	20	4
	Nation	39	61	29	6
2002	CA	50	50	21	4
	Nation	38	62	30	6

CALIFORNIA READING INITIATIVE: LEGISLATION

- Guidelines on instructional materials
- Guidelines on teacher training
- Guidelines for inservice
- CTC requirements for teacher competency

Current Legislation/Reform Efforts

- NCLB
 - Reading First
- Reports of NIH
- President's Commission on Excellence in Special Education
- Standards

READING AND SCHOOL PSYCHOLOGISTS

- Most prevalent special education referral
- Need to know more than test scores
- Important to understand the reading process
- School psychologists as site/district resources

KEY POINTS

- Model of reading development
- Importance of foundational skills
- Processes linked to poor reading outcomes
- Key points in screening
- Uses of diagnostic assessment
- Interventions

LEARNING TO READ

- Developmental process with phases
- Tasks and critical components are different at each phase
- Early phases foundational to later phases
- Reading is a skills based process
- Reading affected by a variety of factors

SIMPLE MODEL OF READING DEVELOPMENT

- Reading = decoding + comprehension
- Decoding skills are necessary but not sufficient
- Correlation between decoding and reading comprehension declines with age but is still high

**INTERACTIVE-
COMPENSATORY MODEL**

- Multiple sources of information about words
- For good readers context is activated automatically
- For poor readers is a conscious effort
- Reduces amount of attentional capacity available for processing text

**CHALL'S STAGES OF READING
DEVELOPMENT**

- Pre-reading or emergent literacy
- Beginning of formal instruction
- Confirmation and fluency
- Reading to learn
- Multiple viewpoints
- Construction and reconstruction

**PRE-READING:
LAYING THE FOUNDATION**

- Language skills developed
- Beginning phonological awareness
- Print exposure
- Non-language experiences

DEVELOPMENT OF SIGHT WORDS (EHRI)

- Pre-alphabetic
- Partial alphabetic
- Full alphabetic
- Consolidated
- Practice is essential

PRE-ALPHABETIC

- Visual cue reading
- Paired associate learning
- Recognize logos
- Distinctive visual features

ACQUIRING THE ALPHABETIC PRINCIPLE

- Letter name knowledge
- Alphabetic insight
- Phonetic cue reading
- Bi-directionality of phonological awareness
- Developing orthographic-phonetic-semantic representations

PARTIAL ALPHABETIC

- Can identify initial and final sounds
- Can produce rhyming words
- Can blend sounds into spoken words
- Can segment spoken words of 1-2 phonemes
- May read or spell most initial or final consonants

Partial Alphabetic Uses Cues for Words

- LFT for elephant vs. MQZ

- KDN for kindergarten vs. BDN

FULL ALPHABETIC PHASE

- Can segment words of more than 4 phonemes
- Can manipulate phonemes
- Can read and spell consonant blends
- Can read or spell short vowels
- Can read pseudowords of familiar structure

CONSOLIDATED ALPHABETIC

- Develop generalized knowledge of the orthographic system
- Aware of multi-letter units
- Develops in tandem with spelling knowledge
- Reduces memory load for reader
- Aware of syllables and orthographic conventions
- Orthographic stage

Full Alphabetic Stage

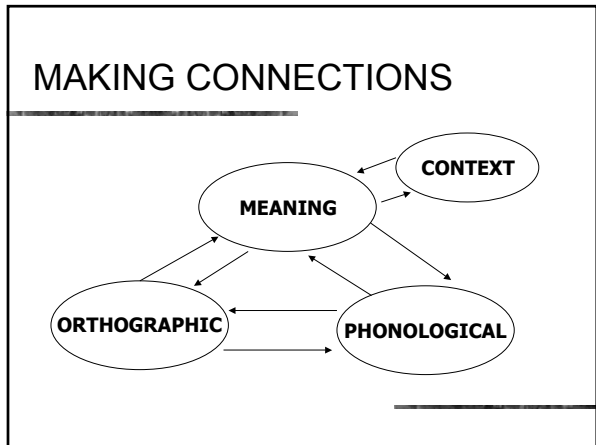
- Morphemes
- Onsets
- Rimes

PRACTICE, PRACTICE, PRACTICE

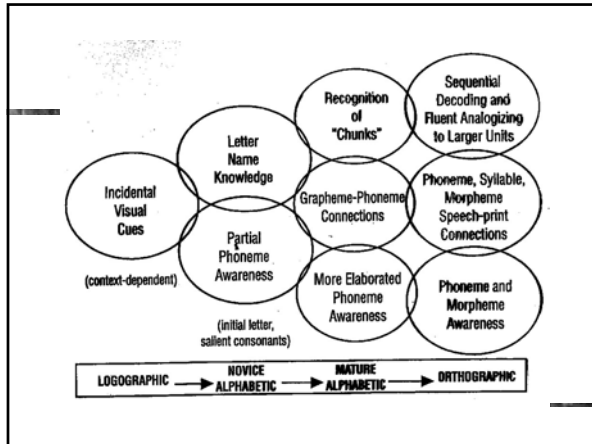
- Moving from controlled to automatic word recognition
- Connectionist models
- Print exposure
- Accurate practice is important
- Mastery vs. fluency

Stroop Test

BLUE	GREEN	YELLOW
PINK	RED	ORANGE
GREY	BLACK	PURPLE
TAN	WHITE	BROWN



Connectionist example



READING TO LEARN

- Text comprehension strategies
- Language processing
- Functional working memory

Berninger

- Language by ear
- Language by eye
- Language by mouth
- Language by hand

PURPOSES FOR READING ASSESSMENT

- Screening
- Diagnosis
- Intervention
- Progress monitoring

TWO APPROACHES TO SCREENING

- Do they have characteristics of children who might be at-risk of reading failure?
- Are they achieving foundational reading skills?

CHARACTERISTICS OF SUCCESSFUL READERS

- Good phonological processing skills
- Ability to recognize new printed word after 1-4 exposures
- Ability to recognize words with fluency
- Ability to focus on meaning because they are not glued to print

CHARACTERISTICS OF POOR READERS

- Over-reliance on context and guessing
- Limited phonological processes
- Deficits in rapid naming
- Laborious reading
- Deficient word specific skills

NO DIFFERENCE BETWEEN NORMAL AND RD READERS

- Visual perception tasks
- Visual memory for abstract designs
- Visual spatial analysis
- Sensori-motor functioning
- Visual motor integration

PHONOLOGICAL PROCESSING SKILLS

- An unnatural act
- Not linked to IQ
- Are the strongest predictor of reading success
- Are necessary but not sufficient for learning to read

**COMPONENTS OF
PHONOLOGICAL PROCESSING**

- Storage of phonological information in long term memory (Glr)
- Retrieval of phonological information in Glr
- Use of phonological codes in short term memory (Gsm)
- Explicit awareness that words have parts
- Speech sound production

COUNT THE PHONEMES

- | | |
|-----------|--------------|
| ■ Sun | ■ Started |
| ■ Grass | ■ People |
| ■ Deeply | ■ Station |
| ■ Thought | ■ Everything |
| ■ Laughed | ■ Christmas |
| ■ Quickly | ■ Psychology |

**PHONOLOGICAL PROCESSING
SKILLS:**

- Have family linkage
- Are pre-requisite to and facilitated by instruction in phonics
- Visual cues and learning to spell help
- Children with poor phonological processing skills have poor word attack and, ultimately, poor reading comprehension

1. paper	a. village	b. survey	c. contain	d. sleigh
2. rose	a. dazzle	b. anxiety	c. azure	d. tissue
3. push	a. overlook	b. jump	c. should	d. soup
4. return	a. smashed	b. two	c. listen	d. castle
5. glad	a. physician	b. usual	c. reception	d. has
6. this	a. both	b. their	c. thunder	d. mother
7. factor	a. similar	b. restore	c. never	d. create
8. Stephen	a. of	b. soften	c. phrase	d. several
9. nurse	a. prefer	b. percent	c. journey	d. cure
10. thin	a. there	b. gather	c. sympathy	d. thousand

REVERSE THE WORDS

■ PIN	■ TEACH
■ TUB	■ TALK
■ SICK	■ ICE
■ TIME	■ CHECKS
■ JUDGE	■ VOTES
■ CUTS	■ CHANCE
■ FACE	■ ENOUGH
■ EASY	

NAMING SPEED

- Ability to name a sequence of letters, numbers, objects
- Differentiate dyslexic readers from average and other poor readers
- Are present in poor readers across languages

NAMING SPEED

- Phonological process or different cognitive process
 - Serial vs. isolated
 - What is involved in rapid naming of printed symbol?
 - Lack of automaticity in word recognition and poor reading comprehension
 - Effect on reading development
-

PRESCHOOL

- Most studies tend to over-predict children at risk
 - Ecological variables
 - Exposure to print, familiarity
 - Family history
 - Language factors
 - Phonological awareness
 - Object naming speed
 - Multi-faceted assessments are more accurate
-

KINDERGARTEN

- Letter name knowledge
 - Phonological processing
 - Awareness
 - Analysis
 - Synthesis
 - Rapid naming
 - Serial
-

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Seven horizontal lines for writing.

Blank rectangular box with a horizontal line near the top and a horizontal line near the bottom.

Seven horizontal lines for writing.

EARLY PRIMARY

- Development of skills important to word recognition
- Invented and correct spellings
- Fluency measures
- Literacy Screening Battery (Flynn,
- Provide tools to help teachers identify students at risk

Seven horizontal lines for writing.

STRONGEST PREDICTORS OF READING LEVEL

- Reading comprehension is best predicted by:
 - word recognition
- Word recognition is best predicted by:
 - nonsense word reading
- Nonsense word reading is best predicted by:
 - phonological processing
 - rapid naming

MEASURES

- Phonological Abilities Test
- TOPA
- Dyslexia Early Screening Test
- DIBELS
- Local CBM measures
- Standards based benchmarks
- Informal measures

KEY CONCEPTS FOR EARLY SCREENING

- Assess accuracy and fluency
- Repeated monitoring
- Multi-dimensional
- Provide teachers with knowledge regarding early reading development
- Target intervention at foundational skills

ARE STUDENTS ACHIEVING FOUNDATIONAL SKILLS?

- Good, Simmons, Kame'enui (2001)
- Establish benchmarks
- Use benchmarks to determine students at risk of not achieving next benchmark
- Importance of fluency as opposed to accuracy
- Other studies

CONTINUUM OF SKILLS (Good, Simmons, Kame'enui)

- Kindergarten
 - Phonological awareness (onset rhyme fluency, phonemic segmentation fluency)
 - Letter name fluency
 - Phonemic segmentation
- First Grade
 - Letter Name and Phonemic segment. continue
 - Alphabet principle (nonsense word fluency)
 - Accuracy and fluency with connected text (oral reading fluency)
- Second Grade
 - Accuracy and fluency with connected text (oral

ASSESSMENT BY RESPONSE TO INTERVENTION

- Torgeson Two Tier Model (LD White Papers)
 - Intervention determined by level of achievement
 - Monitor effects of intervention
 - Response to intervention determines if LD

Three Tiered Model

- Assessment by response to intervention
- Tier 1
 - Provide classroom support
- Tier 2
 - Provide more intensive support
- Tier 3
 - Consider special education
- Monitor and evaluate at all stages
