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

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<table>
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<th>Year</th>
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# NAEP Results for 4th Grade

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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
**RESEARCH BASED MODEL FOR ASSESSMENT OF READING DIFFICULTIES**

![Diagram of the research-based model for assessment of reading difficulties.](image)

**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
- Grass
- Deeply
- Thought
- Laughed
- Quickly
- Started
- People
- Station
- Everything
- Christmas
- 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
REVERSE THE WORDS

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

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
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
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