

# Using Science and Common Sense to Teach all Adults to Read



Dr. Joseph Torgesen

Florida Center for Reading Research

Adults with Disabilities Symposium, March, 2004

[www.fcrr.org](http://www.fcrr.org)

# Topics for this presentation:

---

1. What are the primary causes of poor reading skills in adults?
2. What are appropriate goals for reading instruction with adults? Goals will be related to what must be taught
3. How can we work most efficiently to increase reading skills in adults?

# Primary causes of poor reading in adults

---

1. May have a learning disability such as dyslexia – received insufficiently powerful instruction—got off to a very poor start and never recovered
2. May have entered school with very poor preparation for learning to read, and been “left behind” because of inadequate instruction—got off to a very poor start and never recovered.
3. May not have valued literacy, may have attended school sporadically, might have generally low learning ability – received insufficiently powerful instruction, got off to a poor start and never recovered.

# What is dyslexia – What causes it?

---

First, let's understand the major challenges in learning to read, and what we know about how normal reading development occurs

# Effective reading instruction must build reading skills in five important areas

Phonemic Awareness

Phonics

Fluency

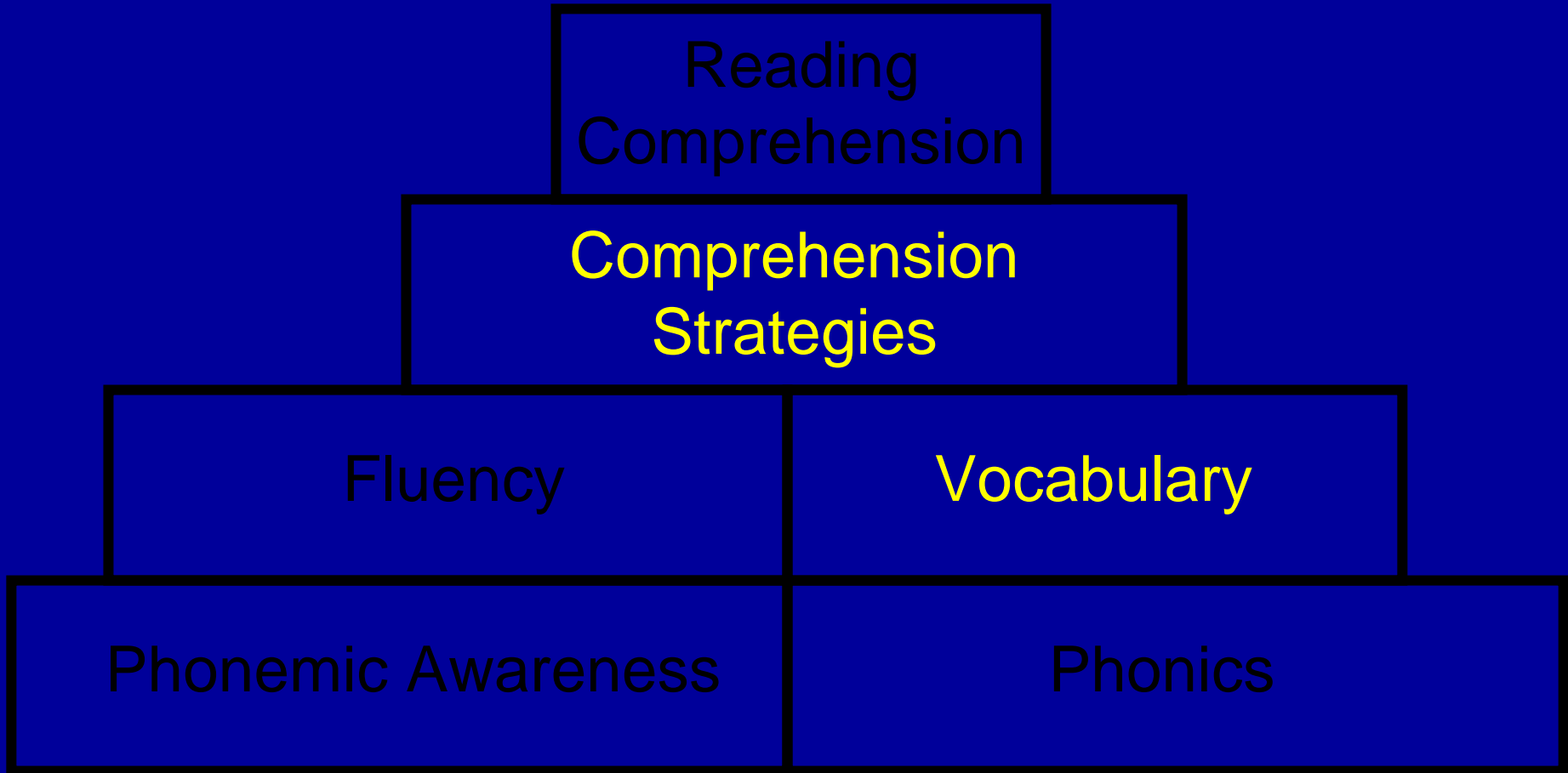
Vocabulary

Comprehension strategies

Identifying words accurately and fluently

Constructing meaning once words are identified

# The Reading Pyramid



# Phonemic Awareness

The ability to notice, think about, or manipulate the individual sounds in words.

(Torgesen, 1998).



# Phonemic Awareness

What is the first sound in *fit*?

What word do you get if you blend the sounds /f/-/l/-/a/-/t/ together

Can you tell me all the sounds in the word scratch?



Phonemic awareness is important in learning to read because it helps beginning readers understand the “alphabetic principle”

What is the alphabetic principle,  
or "Phonics"?

It involves a kind of knowledge...

Which letters are used to represent  
which phonemes

It is a kind of skill...

Pronounce this word...

blit

fratchet

Why is it important to acquire good phonemic decoding skills (phonics) as a foundation for progress in learning to read?

Because learning to read involves *everyday* encounters with words the novice reader has never before seen in print.

Phonemic analysis provides the most important single clue to the identity of unknown words in print.

In order to begin to use the alphabetic principle in reading, adults must have knowledge and skill in three areas:

---

1. Letter-sound knowledge
2. Basic phonological awareness
3. ability to use context to help identify words once they are partially decoded phonetically.

# Fluency

- The ability to read text
  - quickly,
  - accurately,
  - and with proper expression.

(NRP 2000)



## Facts about reading from scientific research:

To be a fluent reader, one must be able to recognize most of the words in a passage “by sight”

These are iNTirEStinG and cHallinGinG times for anyone whose pRoFEshuNle responsibilities are rEelaTed in any way to liTiRucY outcomes among school cHiLDRun. For, in spite of all our new NaWLEGe about rEeDiNg and reading iNstRukshun, there is a wiDE-SpReD concern that public EdgUkAshuN is not as eFfEktlve as it sHood be in tEechiNg all children to read.

The report of the National Research Council pointed out that these concerns about literacy derive not from declining levels of literacy in our schools but rather from recognition that the demands for high levels of literacy are rapidly accelerating in our society.

## Facts about reading from scientific research:

To be a fluent reader, one must be able to recognize most of the words in a passage “by sight”

Most people must correctly identify and pronounce words 3-8 times before they become “sight words”

Its important to read accurately so that the brain will have a chance to form connections between a word’s spelling in print and its pronunciation and meaning.

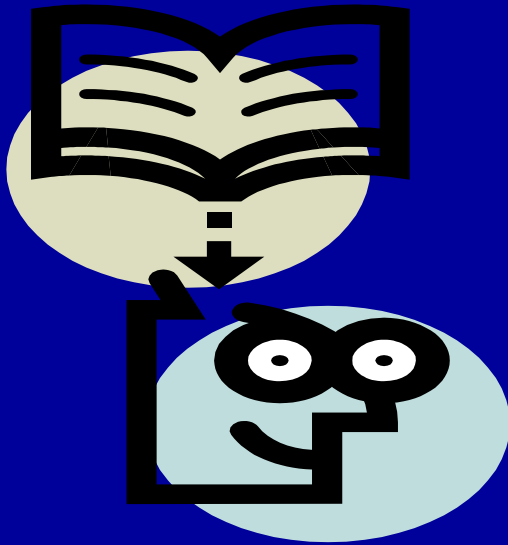
## Facts about reading from scientific research:

The most efficient way to make an “accurate first attempt” at reading a new word is:

First, do phonemic analysis and try an approximate pronunciation

Then, close in on the exact right word by selecting a word with the right sounds in it, that also makes sense in the passage

# Vocabulary



The knowledge of the meanings and pronunciation of words that are used in oral and written language.

# Comprehension Strategies

- Thinking activities that are used to increase comprehension or repair it when it breaks down



Putting it all  
together – What  
is required for  
proficient  
comprehension?



# What we know about the factors that affect reading comprehension

Proficient comprehension of text is influenced by:

Accurate and fluent word reading skills

Oral language skills (vocabulary, linguistic comprehension)

Extent of conceptual and factual knowledge

Knowledge and skill in use of cognitive strategies to improve comprehension or repair it when it breaks down.

Reasoning and inferential skills

Motivation to understand and interest in task and materials

Word reading fluency and accuracy

X

Knowledge and Strategies for Linguistic  
comprehension

X

Motivation and interest

=

Reading Comprehension

# The development of proficient reading skill: the ideal developmental path

K 1 2 3 4 5 6 7 8 9 10 11 12



Alphabetic  
Principle  
and other  
word  
reading  
strategies



Acquisition of  
Fluency



Development of Vocabulary, Knowledge and Thinking Skills

Development of attitudes—-----motivation, interest, curiosity

# What is dyslexia – What causes it?

---

Now, we are ready to understand the specific kind of reading difficulty shown by dyslexics

Common problems in learning to read--

1. Difficulty learning to read words accurately and fluently
2. Insufficient vocabulary, general knowledge, and reasoning skills to support comprehension of written language
3. Absence or loss of initial motivation to read, or failure to develop a mature appreciation of the rewards of reading.

The nature of the underlying difficulty for most children who have problems acquiring accurate and fluent word reading problems

Weaknesses in the phonological area of language ability

inherent, or intrinsic, disability

lack of certain types of language experience

Expressed primarily by delays in the development of phonological awareness

## Extreme difficulties mastering the use of “phonics” skills as an aid to early, independent reading

- difficulties learning letter-sound correspondences
- difficulties with the skills of blending and analyzing the sounds in words (phonemic awareness).

## Slow development of “sight vocabulary” arising from:

- limited exposure to text
- lack of strategies to reliably identify words in text

Children who experience difficulties acquiring accurate and fluent word reading skills show two kinds of difficulties with word reading

**When asked to read grade level text:**

1. The child cannot recognize a sufficiently high proportion of the words easily, at a single glance, to support fluent reading. Too many of the words fall outside the child's "sight vocabulary."
2. The child does not employ efficient strategies to accurately and quickly identify unknown words. Use of phonemic decoding strategies is particularly impaired.

# How does the new “science of reading” help us understand dyslexia?

---

A new science based definition --

“Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction.” (Lyon & Shaywitz, 2003)

# How does the new “science of reading” help us understand dyslexia?

---

A new science based definition --

“Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction.” (Lyon & Shaywitz, 2003)

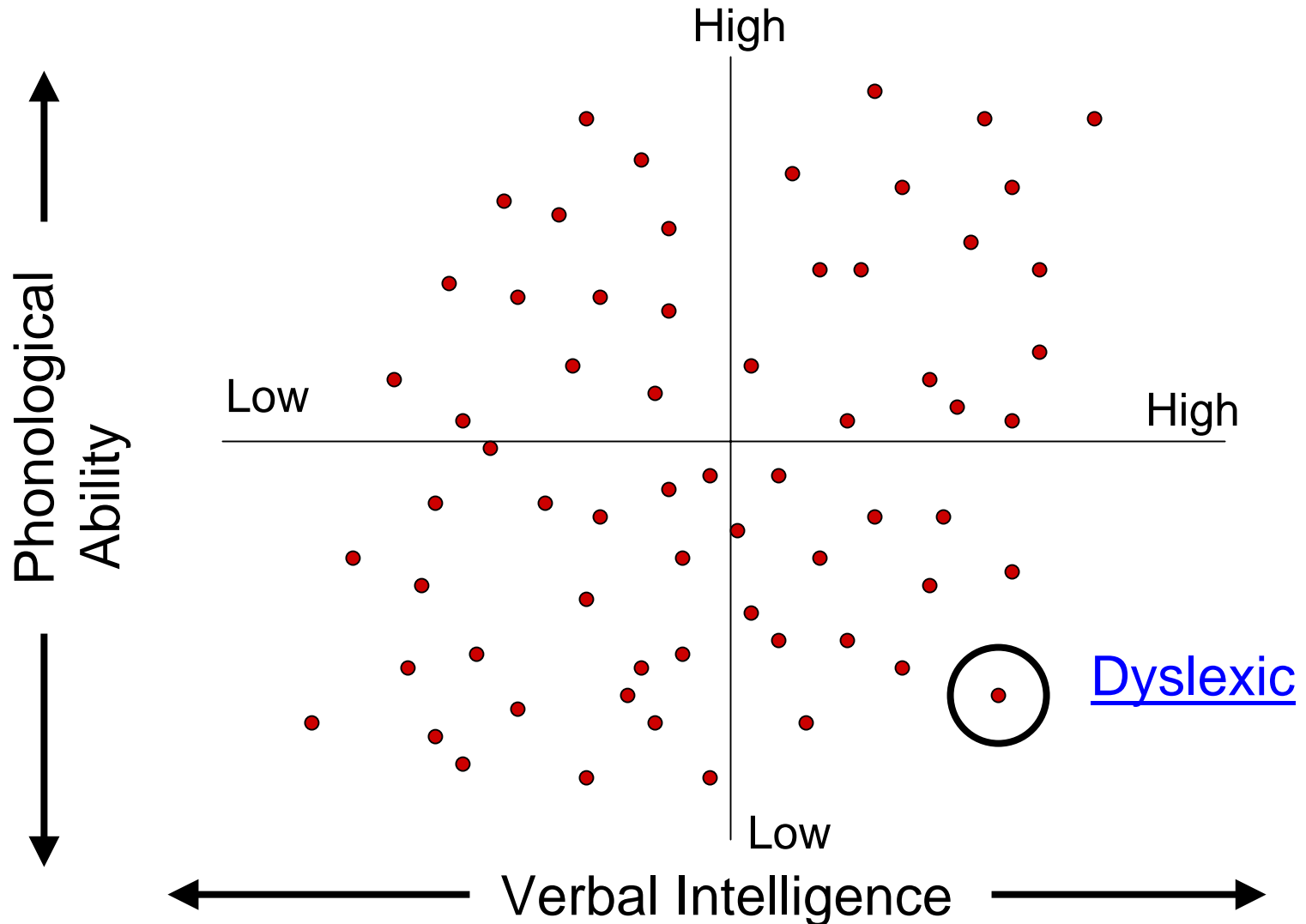
Must an individual have general intelligence in the average range to be diagnosed as dyslexic?

---

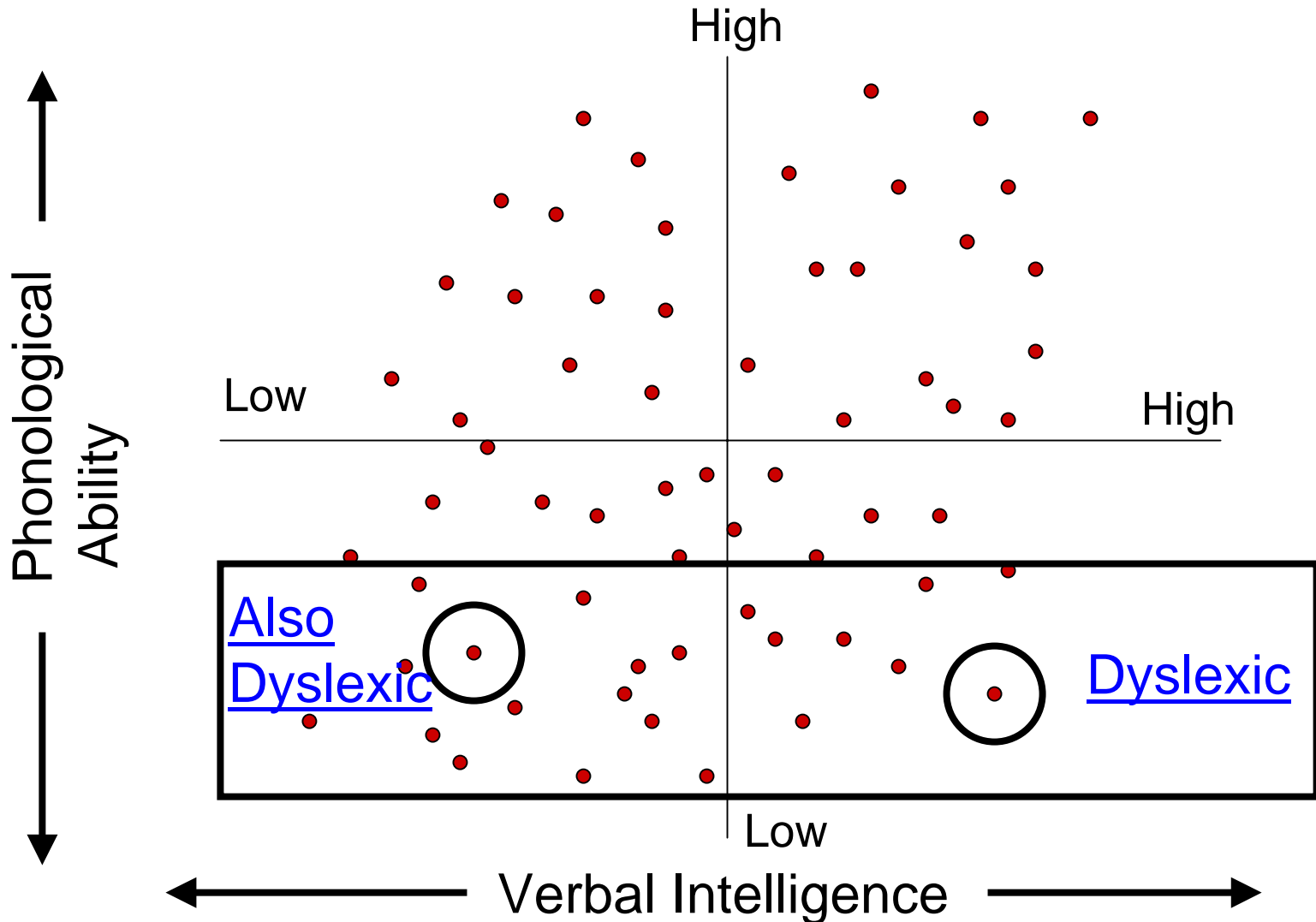
**NO**

Individuals with both higher and lower intelligence can have the type of phonological problems that occur in dyslexia

# Phonological Language Ability is not highly Correlated with General Verbal Ability as measured by IQ tests



# Phonological Language Ability is not highly Correlated with General Verbal Ability as measured by IQ tests



Can students with dyslexia learn to read?

---

Yes

But they require skillful and relatively intense instruction.

Its also important to note that dyslexia comes in many degrees of severity from mild to severe

Can phonologically based word reading problems be caused by factors other than neurobiological weaknesses?

---

Yes

Students who come to school with a lack of necessary language experience in the home also show deficient phonemic awareness, and can end up with the same type of problems as dyslexic students

# What must we teach adults if we want them to become good readers?

---

1. We must teach them the knowledge and skills required to identify unknown words in text
2. We must help them learn to accurately recognize many thousands of words “at a single glance
3. We must help them to understand the meanings of the words they will be encountering in their reading material
4. We must help them to “think about meaning” at the same time they are identifying the words, so they can comprehend

Do adults really need to learn to read in the same way that young children do?

---

Our best answer to the question at present is YES.

In order to become skilled readers, adults need to learn the same set of skills and knowledge that are required for reading growth in children

However, adults come to us with many different goals and levels of skill, so we need to have individualized plans

# Goals for adult literacy instruction

---

I want to read to my children....

I want to be able to read the bible....

I want to go to technical school.....

I want to read the newspaper.....

I want to not have to depend on my wife to read my manuals for me....

I want to get my GED....

# What are the most serious challenges faced by adults who have not yet acquired good reading skills?

---

1. They still do not understand how letters are used to represent the sounds in words and cannot reliably “decode” print accurately.
2. Their reading is so slow and labored that they do not enjoy reading, and they have difficulty concentrating on the meaning of what they read
3. Their background knowledge and vocabulary are so limited that it is hard for them to understand what they read

No matter what the goal, we want them to be able to read with reasonable accuracy

---

If they are extremely weak in phonics – we need to identify what they don't know and teach it to them.

Phonographix, Lindamood

If they have 3<sup>rd</sup>- 4<sup>th</sup> grade skills, we need to teach them how to attack multisyllable words and apply word analysis in context

The DISSECT strategy- Strategies  
Intervention Model

# Word Identification Strategy

- Discover the context
- Isolate the prefix
- Separate the suffix
- Say the stem
- Examine the stem
- Check with someone
- Try the dictionary

Do we need to teach phonemic awareness as an oral language skill to adults to prepare them for “phonics”?

---

Probably not

Except in extreme cases of phonological disability (dyslexia), adults should be able to acquire phonemic awareness through good phonics instruction

If we want them to read more fluently, we must help them to read more words “by sight”

---

Learning to read lots of words “at a single glance”

Focused practice with words from the 1,000 most frequent – “Teacher’s Book of Lists”

Focused practice with words from the kind of texts they will be reading

Repeated, timed reading of phrases and paragraphs from the texts they will be reading

Words likely  
to be  
encountered  
for the first  
time in first  
grade

animal

faster

happy

never

time

sleep

rabbit

Words likely  
to be  
encountered  
for the first  
time in  
second grade

amaze

beach

comfortable

example

interesting

grease

stiff

sweep

## 3<sup>rd</sup> Grade FCAT passage

\_\_\_\_\_ the middle \_\_\_\_\_, it was the  
\_\_\_\_\_ for a \_\_\_\_\_ to wear his full  
set of \_\_\_\_\_ whenever he  
\_\_\_\_\_ in \_\_\_\_\_ - even in times  
of \_\_\_\_\_! When a \_\_\_\_\_ believed  
he was \_\_\_\_\_ friends, he would  
\_\_\_\_\_ his \_\_\_\_\_. This \_\_\_\_\_  
of \_\_\_\_\_ showed that the  
\_\_\_\_\_ felt \_\_\_\_\_ and safe.

## 3<sup>rd</sup> Grade FCAT passage

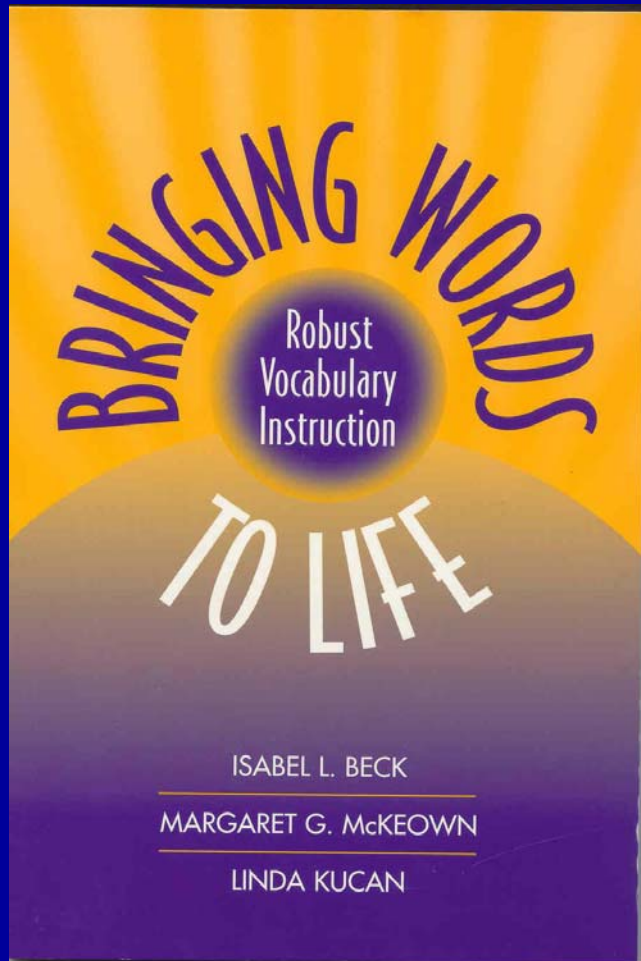
During the middle ages, it was the custom for a knight to wear his full set of armor whenever he appeared in public - even in times of peace!

When a knight believed he was among friends, he would remove his helmet.

This symbol of friendship showed that the knight felt welcome and safe.

If we want them to read more complex text  
with understanding....

Teach vocabulary and reading strategies



Bringing  
Words to Life

Isabel Beck

M. McKeown

L. Kucan

Guilford Press

## Big ideas from “Bringing Words to Life”

Individual differences in vocabulary have a powerful impact on reading comprehension beginning about third grade

Research has discovered much more powerful ways of teaching vocabulary than are typically used in classrooms

A “robust” approach to vocabulary instruction involves directly explaining the meanings of words along with thought-provoking, playful, interactive follow-up.

# Helping adults to increase their reading comprehension using research-based strategies

## Before Reading

Activate prior knowledge

Preview headings

## During Reading

Visual imagery

Comprehension monitoring

## After Reading

Summarize in own words

Ask clarifying questions

# The “Paragraph Shrinking” activity

---

## Learning to identify and state the main idea

1. Name the who or what (the main person, animal, place, or thing the selection is about)
2. Tell the most important thing about the who or what
3. Say the main idea in 10 words or less

## What can we expect from high quality interventions with adults?

Most should be able to acquire beginning word analysis strategies relatively quickly (15-60 hrs), depending on where they start, which will increase their reading accuracy and independence

Reading fluency will take longer to acquire, and will depend a lot on their willingness to practice

Comprehension will increase as their reading accuracy and fluency grows, and will also be helped as they learn to think actively while they read

# A concluding thought....

There is no evidence for a biological "critical period" in the development of reading skills that makes it harder for adults to learn than children

However, we all know that it will take steady determination and sufficient time and practice for illiterate adults to become fluent readers

But, its not the most difficult thing we could be faced with...

*The End*

[www.fcrr.org](http://www.fcrr.org)

Science of Reading