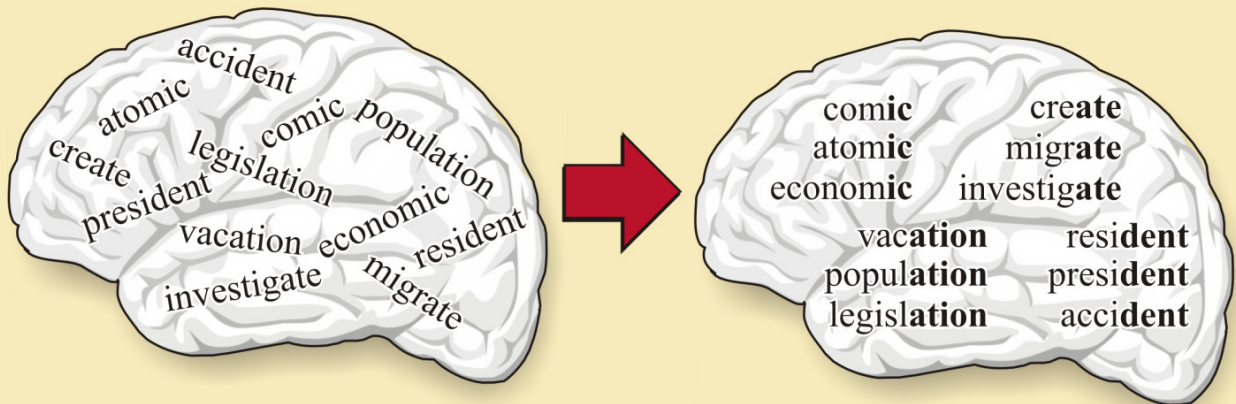


# HOW TO **SHORT-CIRCUIT** READING INTERVENTION



**MIDDLE AND HIGH SCHOOL STRUGGLING READERS**

- **Make Dramatic Reading Improvement**
- **Connect to Core Curriculum Textbooks**
- **Succeed in School**

**INCLUDES CLASSROOM LESSONS**

**Matthew Glavach, Ph.D.**



**HOW TO**  
**SHORT-  
CIRCUIT**  
**READING INTERVENTION**

**Matthew Glavach, Ph.D.**

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# Introduction

*“If you only have a hammer, you tend to see every problem as a nail.”*

Abraham Maslow

*How to Short-Circuit Reading Intervention* is a book about a new reading intervention program that connects struggling-reader middle school and high school students to core textbooks such as science, social studies, mathematics, and English, while dramatically improving their reading. The book describes the program, including strategies and materials that made up the program and research and experiences that led to its remarkable successes.

More than half the students in the high school reading laboratory, where I, the author of the book, used the program, made three to six years’ reading growth in one year and most were successful in core academic classes. The program may be the only program using words taken directly from core textbooks and organized by identical endings into a reading intervention program specifically for middle school and high school students.

In the book, I present the following information.

- How I created an adult-like reading intervention program that students liked. I no longer heard student comments about not wanting to do “this baby work”.
- How I had students at different reading levels all working in the same instructional program on the same lesson. Student reading levels ranged from two to five years below expected grade levels.
- How I increased reading interest and motivation with students who were defeated and overwhelmed by the high school curriculum. A large number of the students were second language learners.
- How I used reading research, music research (although the program contained no music), and new brain research findings to short-circuit reading intervention and to connect students to core textbooks.

The book, *How to Short-Circuit Reading Intervention*, is an outcome of a research article by the author published in *Academic Leadership*, in 2005, entitled “Closing the Gap: A New Model for Adolescent Reading Intervention.”

# CHAPTER 1

## Looking at Adolescent Reading

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### Finding Many Struggling Readers

Reading is the most important skill needed in school, yet many adolescents struggle with reading. Research shows that the number of students in grade four and above who cannot adequately read to learn from print exceeds 25 percent and in some urban schools is as high as 60 percent.<sup>1</sup> Educators, concerned about the lack of reading skills among middle school and high school students, are searching for solutions because reading failure at this level limits access to school success.

*...reading failure at this level results in limited access to school success.*

### Connecting Students to Core Textbooks

Many middle school and high school students' successes in core academic classes are limited because they cannot read the textbooks. Emphasis in middle school is on learning new vocabulary and organizing, summarizing, and interpreting information.<sup>2</sup> Successful students decode and understand difficult words; have rich general and content-area vocabularies found in science, history, and mathematics core textbooks; read fluently; and implement strategies for understanding textbooks. But other students are frustrated and unmotivated, find reading difficult, and do not like to read. Therefore, they are unskilled in vocabulary, sentence structure, and text organization.<sup>3</sup> They seldom read books, newspapers, and magazines, and they are not prepared for the increasing requirements of core textbooks.

*Students who are three, four, five, and more years behind in reading have an immediate need to short-circuit reading intervention...*

Dictates for the students go beyond improving basic reading skills one or two years. Students who are three, four, five, and more years behind in reading have an immediate need to short-circuit reading intervention, to close the reading gap, and to have access to core textbooks.

# CHAPTER 2

## Beginning a High School Reading Intervention Program

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### Designing and Implementing an Intervention Program in a High School Reading Laboratory

The idea of beginning a reading intervention program began when administrators of a public high school asked me (a high school teacher and researcher) to participate in designing and implementing a federally funded, Title I, reading laboratory at the 1600-student high school with many students reading far below grade level and not able to access the school's core classes.

#### Assessment Instruments

I reviewed current school-wide assessment data. For students scoring in the lowest quartile, I administered individual reading assessments including the *Brigance Oral Word Recognition Test* to determine each student's reading level for individual words, the *Brigance Oral Reading Test* to determine each student's reading level for oral passage reading, and the *Brigance Reading Comprehension Test* to determine each student's reading comprehension grade level.<sup>4</sup>

#### Assessment Results

I assessed 90 students of which 65 students qualified for the reading laboratory. Qualifying students scored between grades two and seven in oral word recognition (with approximately 90% scoring between grades four and six). Students scored between grades three and eight in oral passage reading (with most scoring between grades four and eight). Oral word recognition scores averaged two to four years lower than oral passage reading scores; however, oral

*Oral word recognition scores averaged two to four years lower than oral passage reading scores...*

*Test results indicated a consistent relationship between low oral word recognition scores and poor oral passage reading.*

passage reading grade level scores did not reveal that most students struggled to read the passages fluently. Test results indicated a consistent relationship between low oral word recognition scores and poor oral passage reading.

### **Interest, Attitude, and Feeling Assessment**

At middle school and high school levels, attention to affective concerns such as student attitudes, feelings, and interests must be taken into consideration because they play a large role in student reading success. Middle school and high school students who have experienced years of reading frustration are so concerned with embarrassment, failure, criticism, and ridicule, that they use much energy escaping them. Acting out and misbehaving are ways of escaping reading frustration. After years of reading failure, students have little faith in their abilities for educational accomplishment. Their interest levels have moved beyond their reading skills, and books read by their peers are no longer accessible to them.

*...reading and understanding the "big words" was their greatest reading difficulty.*

Conversations with students during reading assessments revealed how reading difficulties had affected them. I asked students, "What do you find most difficult about reading?" and "How has reading affected you in school?" Students appeared confident, yet resistant to discussing the questions. Their confidence dispelled as they talked about their reading difficulties. Most students said that reading and understanding the "big words" was their greatest reading difficulty. In telling how reading difficulty affected them in school, they told about feeling fear and embarrassment when having to read aloud, and in core classes, about saying nothing rather than exposing their inadequate reading skills. Cope<sup>5</sup> notes that unrehearsed oral reading is the single most negative experience reported by adolescents about their entire school experience.

## Reading Intervention Program Instruction

The 65 students who qualified participated in the reading laboratory, usually 15 with one teacher, for five hours a week, a 1-hour block and a couple of 2-hour blocks. A computer software program delivered much of the reading laboratory instruction at individual learning stations. This instruction method was chosen with the thought that it would be more interesting and adult-like to older struggling readers.

The software program, an expensive, well-designed, individualized program with lessons for five reading levels, focused on vocabulary and comprehension. Students could be placed in their reading levels and have their progress monitored through computer printouts of lesson scores. The lesson presentations were almost exclusively visual and often were based on books and skills with which students were familiar from elementary school.

Other reading laboratory instruction included weekly 1-hour explicit phonics lessons, focusing mostly on single-syllable words, and silent reading and response writing using the reading laboratory's extensive library with appropriate reading levels and a wide range of book titles of interest to students.

*Although the computer presentation excited the students initially, most quickly lost their enthusiasm when they realized it was the same material with which they had worked before but now it was on the computer*

Although, initially, the computer presentation excited the students, most quickly lost enthusiasm when they realized the material was the same kind of material with which they had worked in previous grades, but now it was on a computer screen. A student who had missed most of the questions one week, while discussing her results from the printout, said, "I didn't know you checked these. I just pushed the buttons because I was bored." Still, computer lessons and feedback and the weekly printouts of students' scores kept most students on task.

Because computer-assisted instruction as a delivery system for information had many advantages, I was



surprised to hear negative student responses. But I had noticed that many students preferred learning with other students. They did not like being isolated at individual learning stations.

## Noticing a Core Textbook Reading Ability Gap

Reading laboratory students could choose to bring their core textbooks from science and other classes to the reading laboratory for help on assignments during class breaks or after class. On becoming familiar with the textbooks, I observed the large gap between the students' reading levels and their abilities to read the textbooks. I typed some textbook passages into a software program that gave general reading levels and found that many passages were at grade levels 13 and 14, one and two grade levels beyond high school.

## Considering a Reading Intervention Program Change

At the end of the first year of the reading laboratory, reading posttests indicated that most students had made one year's progress in oral word recognition and oral reading fluency. The test results would have been encouraging if most students had not been three, four, five, and more years behind their reading grade levels and struggling in their core classes. By the middle of the first quarter of the second year, the following question begged an answer: "Is there a way to short-circuit the reading intervention process and to connect students to the core textbooks so that they can succeed in school?"

*By the middle of the first quarter of the second year, the following question begged an answer...*

# CHAPTER 3

## Researching a New Reading Intervention Program

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### Reviewing Core Textbooks

I began researching the new reading intervention program, atypically, by reviewing middle school and high school core textbooks to determine the reading requirements. I theorized that when I had identified the reading requirements, perhaps I could create a program to address them. The textbook review showed textbook meaning was carried by multisyllable words, many technical, the kinds of words that students had difficulties decoding and understanding. (See Core Textbook Sample Words, below)

*...when I had identified the reading requirements, perhaps I could create a program to address them.*

#### **Core Textbook Sample Words**

genetic nuclear solar ecosystem  
classification diversity dangerous galaxy  
skeleton appendage scientific dehydrate

explorer amendment conquer legislature  
suffrage expansion revolution democracy  
terrorism colonial domestic emancipate

fiction nonfiction punctuate synonym biography  
grammar fantasy summary selection classic  
singular abbreviation juncture acceptable

centimeter circumference congruent decimal  
factor divisor equation multiple multiplication  
rectangle quotient subtraction rectangular

## Finding Consistent Word Patterns

While reviewing core textbooks, I looked for consistent patterns in the words. I focused on vowel sounds, prefixes, and rhyming patterns.

### Vowel Sounds

Organizing multisyllable words by vowel sounds is difficult because multisyllable words often contain the irregular vowel (schwa) sound in the unaccented syllable. The schwa sound, similar to a short a vowel sound, can be represented by different vowel letters. It is the most dominant sound in multisyllable words and causes much reading and spelling difficulty. Below are some examples of the schwa sound in multisyllable words. (See Schwa Sounds, below.)

- Vowel Sounds
- Prefixes
- Rhyming Patterns

### Schwa Sounds

a bove

skel e ton

a rith me tic

### Prefixes

Prefixes are word parts like **un**, **re**, and **pre** added to the beginnings of words. In addition to vocabulary development, prefixes have a regular letter-sound correspondence that is useful in spelling and decoding. Prefixes speed up reading because they are read as sound units rather than separate sounds. I included prefixes in the program, but there were not enough of them to be the focus of the program. (See Prefixes, below.)

### Prefixes

preview

multiply

prejudge

multicellular

prejudice

multilingual

# Discovering Patterns in Multisyllable Words

## Suffixes

*...the consistent parts of most multisyllable words were the ends, the suffixes.*

During the core textbook review, I noticed that the consistent parts of most multisyllable words were the ends, the suffixes. In the English language, variations of words are built by adding suffixes. The results are words with identical endings. (See Suffixes, below.)

### **Suffixes**

portable  
flammable  
enjoyable

*...words with identical endings, the important feature that I could use in organizing words for a reading intervention program.*

Suffixes also carry meaning, and their primary function is changing words into different parts of speech (nouns, verbs, and adjectives, for example), but I was not choosing to use suffixes for their meanings. Instead, I was choosing suffixes for being words with identical endings, the important feature that I could use in organizing words for a reading intervention program. Suffixes such as -ion could be made useful for decoding by adding the letter t and the letter s for identical endings. (See Suffixes and Identical Patterns, below.)

### **Suffixes and Identical Patterns.**

million    station    vision

For most of the suffix words that I could use, the suffix was the identical ending. (See Suffixes, below.)

### **Suffixes**

language    president    abundant    intelligence

statementment  
 apartmentment  
 enjoymentment  
 employmentment  
 amendment  
 governmentment  
 experimentment

I determined that organizing multisyllable words by identical patterns could have instructional and cognitive advantages.

(a) There can be greater focus on other syllables because the ending syllables are identical and continually repeated.

(b) Repeating the identical ending strengthens learning the word endings because the pattern is continually repeated. “The brain’s neural networks respond in a pattern. . . the more often a specific pattern is fired in response to a stimulus, the more firm the nerve assembly becomes.”<sup>6</sup> and

(c.) Most identical word endings are pronounced as whole sounds, which increases reading speed because students do not have to slow down to sound out each letter of the endings.

feature      creature      adventure

I began organizing key core text words to determine the most frequent endings. (See Frequent Ending Patterns and Examples, below.)

### Frequent Ending Patterns and Examples

le	(table <u>e</u> )	al	(natur <u>al</u> )
er	(center <u>er</u> )	ion	(rebell <u>ion</u> )
or	(doct <u>or</u> )	sion	(conclus <u>ion</u> )
ar	(gramm <u>ar</u> )	ate	(communic <u>ate</u> )
y	(libert <u>y</u> )	tion	(civilizati <u>on</u> )
y	(justif <u>y</u> )	ous	(mysteri <u>ous</u> )
ure	(measur <u>e</u> )	ery	(discover <u>ery</u> )
ture	(legislat <u>ure</u> )	ory	(territori <u>ory</u> )
age	(percentag <u>e</u> )	ary	(vocabular <u>ary</u> )
ment	(amend <u>ment</u> )	able	(biodegrad <u>able</u> )
ent	(continent <u>ent</u> )	ible	(invisi <u>ble</u> )
ant	(abund <u>ant</u> )	ic	(scientific <u>ic</u> )

## Rhyming Patterns

While reviewing the core textbooks, and looking at groups of multisyllable words (See Words Grouped by Common Endings below.), I noted that words with identical endings such as those in Group B were easier to read than words in group A because they rhymed. Most rhyming words have similar sound and letter patterns.

### Words Grouped by Common Endings

#### Group A

plastic  
article  
hesitate  
technical

#### Group B

plastic  
elastic  
fantastic  
scholastic

Many multisyllable words with the same suffixes or identical endings have the same accented vowels and they rhyme. (See Multisyllable Words That Rhyme, below.)

### Multisyllable Words That Rhyme

education, calculation, vaccination

Like music, multisyllable words have rhythm. Each syllable has a beat. Rap singers produce different rhythms by their use of rhyme and by the way that they pronounce the words. Notice the rhythm created when reading multisyllable rhyming words. (See Multisyllable Rhyming Words, below.)

### Multisyllable Rhyming Words

creation frustration celebration conversation  
demonstration transportation destination  
liberation motivation population  
violation communication participation  
cooperation anticipation explanation

I concluded that there could be advantages to using rhyming patterns and rhythm for learning multisyllable words. The rhyme and rhythm could ease transition to larger words. (See From *Core Reading*, Rapid Word Reading, Lesson 16, and Lesson 21, page 16.)

## Contemplating A New Reading Intervention Program

I chose the language features of suffixes, identical word endings, word patterns, rhyming, and rhythm to create a new reading intervention program using core textbook words to increase students' general reading abilities and core textbook reading abilities.

*...perhaps my reading intervention could accomplish in months something that for younger students would take years..*

Kurt Fischer at the Harvard Graduate School of Education states that children experience two growth surges between the ages of 5 and 12. The first occurs around age 6 or 7 and the other around age 11 or 12. Both surges appear to support emerging cognitive capacities.<sup>7</sup>

Because middle school and high school students have greater knowledge of language and are more advanced cognitively, perhaps my reading intervention could accomplish in months something that for younger students would take years.

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