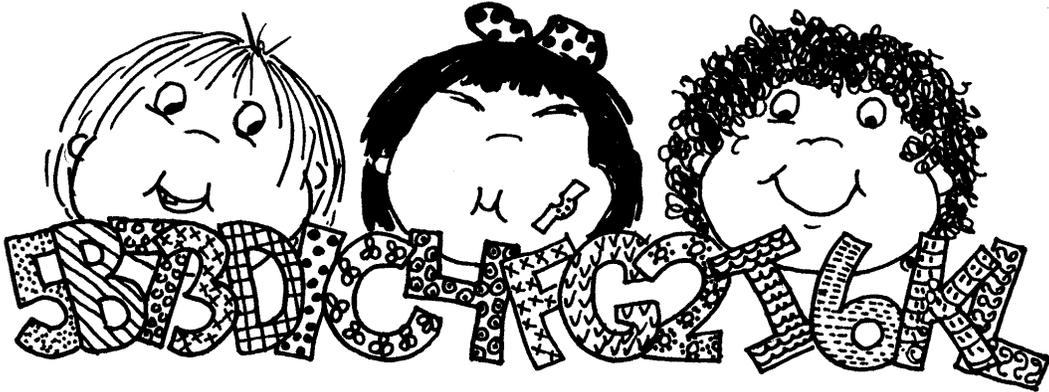


# North Dakota



Scientifically

Based

Reading

Research

# Teacher Tools



NORTH DAKOTA DEPARTMENT OF PUBLIC INSTRUCTION  
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# SBRR Resources

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*National Reading Panel, Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction--Reports of the Subgroups* (2000) (NRP)

<http://www.nationalreadingpanel.org/>

Cost: free

*Report of National Reading Panel, Teaching Children to Read: Summary Report* (2000) (NRP-SR)

<http://www.nationalreadingpanel.org>

Cost: free

*Put Reading First: The Research Building Blocks for Teaching Children to Read* (2001) (PRF)

National Institute for Literacy at Education Publications

<http://www.nifl.gov/>

1-800-228-8813

Cost: free

*The Literacy Dictionary: The Vocabulary of Reading and Writing*

Editors: Theodore L. Harris and Richard E. Hodges (1995) (TLD)

<http://www.ira.org/>

Cost: \$13.50

*Preventing Reading Difficulties in Young Children*

Snow, Burns, and Griffin (1998)

<http://www.amazon.com>

Cost: \$35.00



*Starting Out Right: A Guide to Promoting Children's Reading Success*

Burns, Snow, Griffin, Betty Alberts, Bruce Alberts (1998)

Academy Press: 1-800-624-6242

Cost: \$14.95

## **Definition of Scientifically Based Research**

### **Scientifically Based Research (SBR)**

Research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs and includes research that:

- ◇ Employs systematic, empirical methods that draw on observation or experiment;
- ◇ Involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn;
- ◇ Relies on measurements or observational methods that provide reliable and valid data across multiple measurements and observations, and across studies by the same or different investigators;
- ◇ Is evaluated using experimental or quasi-experimental designs in which individuals, entities, programs, or activities are assigned to different conditions and with appropriate controls to evaluate the effects of the condition of interest, with a preference for random-assignment experiments, or other designs to the extent that those designs contain within-condition or across-condition controls;
- ◇ Ensures that experimental studies are presented in sufficient detail and clarity to allow for replication or, at a minimum, offer the opportunity to build systematically on their findings;
- ◇ Has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective and scientific review. (SBR: P.L. 107-110, Section 9101 (37)A-B).

## **Definition of Scientifically Based Reading Research**

### **Scientifically Based Reading Research (SBRR)**

Research that applies rigorous, systematic, and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties. This includes research that:

- ◇ Employs systematic, empirical methods that draw on observation or experiment;
- ◇ Involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn;
- ◇ Relies on measurements or observational methods that provide valid data across evaluators and observers and across multiple measurements and observations; and
- ◇ Has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective and scientific review.  
(SBRR: P.L. 107-110, Section 1208(6).)

# SBRR Teacher Tools Table of Contents

(This document provides guidance on the five key areas of reading instruction.)

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## ◇ Phonemic Awareness

Phonemic awareness is the awareness of sounds (phonemes) that make up spoken words. (The Literacy Dictionary: 185)

## ◇ Phonics

Phonics is a way of teaching reading and spelling that stresses symbol-sound relationships, used especially in beginning instruction. (TLD: 186)

## ◇ Fluency

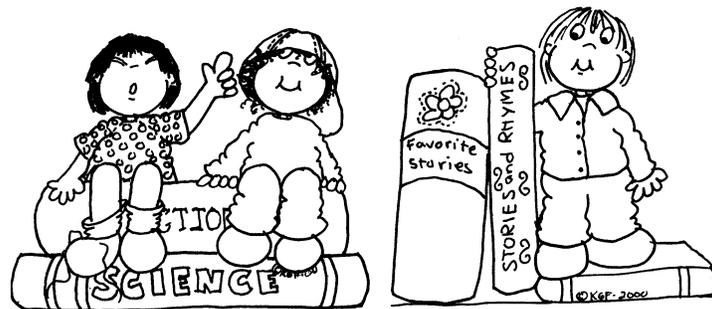
Fluency is the clear, easy, written or spoken expression of ideas. (TLD: 85) Fluency is characterized by speed, accuracy and expression; it is a level of reading expertise beyond word recognition accuracy. (National Reading Panel: 3-1; 3-3)

## ◇ Vocabulary

Vocabulary is a list of words, as in a dictionary or glossary. (TLD: 274)

## ◇ Text Comprehension

“Comprehension is a process in which the reader constructs meaning [in] interacting with text...through a combination of prior knowledge and previous experience; information available in text; the stance [taken] in relationship to the text; and immediate, remembered or anticipated social interactions and communications (Ruddell et al., 1994).” (TLD: 39)



# Part I: Phonemic Awareness Instruction

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## DEFINITION AND RATIONALE OF INSTRUCTION

**Phonemic awareness** refers to the ability to focus on and manipulate phonemes, or distinct sounds, in spoken words (NRP: 2-10). It is the awareness that speech consists of a series of sounds.

A **phoneme** is the smallest unit comprising **spoken** language. English consists of about 41 phonemes which combine to form syllables and words (NRP: 2-10).

A **grapheme** is the smallest part of **written** language and represents a phoneme in the spelling of words (PRF: 4). A grapheme may be just one letter or multiple letters, each symbolizing one phoneme (NRP: 2-10).

Phonemic awareness is not the same thing as phonics; it deals with sounds in spoken words, whereas phonics involves the relationship between sounds and written symbols.

## PROCEDURES TAUGHT OR PRACTICED

The following activities build children's phonemic awareness (NRP: 2-10):

- **Phoneme Identity**, requires recognizing the common sound in different words; these identical sounds may be at the beginning, middle or end of the word.
- **Phoneme Isolation**, requires recognizing the individual sounds in a word; these may be in the beginning, middle, and end of a word.
- **Phoneme Categorization**, requires recognizing the word with the odd sound in a sequence of three or four words.
- **Phoneme Blending**, requires listening to a sequence of separately spoken sounds (phonemes) and combining them to form a recognizable word.
- **Phoneme Segmentation**, requires breaking a word into its sounds by tapping out or counting the sounds, or by pronouncing and positioning a marker for each sound.
- **Phoneme Deletion**, requires recognizing what word remains when a specified phoneme is removed.

## ASSESSMENT

*The Yopp-Singer Test of Phoneme Segmentation* (Yopp, H.K., 1995, September). A test for assessing phonemic awareness in young children; it assesses the student's ability to isolate and pronounce individual phonemes in words. It was designed for use with English speaking kindergartners. It may also be used at the beginning of first grade and with children experiencing difficulty in literacy acquisition. Students who are already reading need not be given this test, independent reading implies that the reader has phonemic awareness. *The Reading Teacher*, IRA, 49 (1), 20-29.

The previous list of phonemic awareness activities may also be used to assess children's phonemic awareness (NRP: 2-10).

## Part I: Phonemic Awareness Instruction (continued)

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### DEFINITION AND RATIONALE OF INSTRUCTION

**Phonemic awareness instruction helps children learn to read** (PRF: 6).

Phonemic awareness (PA) training benefits not only word reading but also reading comprehension for students learning to read, including preschoolers, kindergartners, and first graders (NRP: 2-40).

**Phonemic awareness instruction helps children learn to spell**. (PRF: 6)

Phonemic awareness helps preschoolers, kindergartners, and first graders learn to spell. PA instruction was found to be ineffective for improving spelling in reading-disabled students. Research indicates that disabled readers have a hard time learning to spell (NRP: 2-41).

Phonemic awareness should be taught in kindergarten and first grade. PA training contributes to children's ability to read and spell in the short and long term (NRP: 2-40).

Researchers have determined that PA training benefits the processes involved in reading real words, pseudowords, and text reading. Phonemic awareness training also benefits spelling skills in normally progressing readers below second grade and in beginners at risk for developing reading problems (NRP: 2-32).

### PROCEDURES TAUGHT OR PRACTICED

Phonemic awareness training that focuses on one or two phonemic awareness skills rather than three or more, has a stronger transfer to reading (NRP: 2-30).

Teaching phonemic awareness with letters helps students to make the connection between phonemic awareness and its application to reading.

Teaching children to blend the phonemes represented by letters is the equivalent to decoding instruction (NRP: 2-41).

Teaching phonemic awareness between 5-18 hours yields the largest effects (NRP: 2-41). Transfer to reading was greatest for studies lasting less than 20 hours (NRP: 2-42).

The most effective way to teach phonemic awareness to children is in small groups (NRP: 2-42).

Phonemic awareness instruction should be relevant, engaging, interesting and motivating in order to promote optimal learning in children (NRP: 2-43).

### ASSESSMENT

Phonemic awareness and letter recognition are the two best predictors of how well children will learn to read (NRP: 2-11).

Teachers should assess phonemic awareness prior to beginning phonemic awareness instruction in kindergarten and first grade (NRP: 2-33).

# Phonemic Awareness Activities

Instruction to increase children's phonemic awareness can include various activities in **blending** and **segmenting** words. Specifically teaching these two types of phoneme manipulation is likely to produce greater benefits to your students' reading than teaching several types.

Your instruction should be **explicit** about the connection between phonemic awareness and reading. For example:

Teacher: Listen: I'm going to say the sounds in the word jam---/j/  
/a//m/,  
What is the word?

Children: **jam**

Teacher: You say the sounds in the word **jam**.

Children: /j/ /a/ /m/.

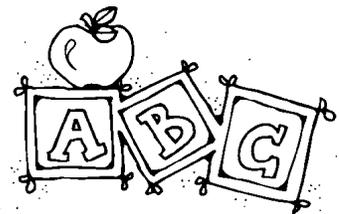
Teacher: Now let's write the sounds in **jam**: /j/, write **j**; /a/, write **a**;  
/m/, write **m**.

Teacher: (Writes **jam** on the board.) Now we're going to read the word **jam** (PRF: 8).

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Develop phonemic awareness through a number of activities including asking children to

- identify phonemes
- categorize phonemes
- blend phonemes to form words
- segment words into phonemes
- delete or add phonemes to form new words, and
- substitute phonemes to make new words (PRF: 5).



## Part II: Phonics Instruction

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### DEFINITION AND RATIONALE OF INSTRUCTION

**Systematic phonics** instruction involves explicitly teaching a prespecified set of letter-sound relations and providing substantial practice for students to read text using these relations to decode words (NRP: 2-92).

Systematic phonics programs include the letter-sound relationships of all consonant letters, short and long vowels, and vowel and consonant digraphs (e. g., oi, ea, ou, sh, ch, th). It may also include initial blends (e.g., st, sm, bl, pr), and final stems (e.g., -ack, -end, -ill, -op) (NRP: 2-99).

Synthetic and larger-unit phonics instruction emphasizes analysis and blending of larger subparts of words [i.e., onsets, rimes, phonograms, spelling patterns] are more effective than nonsystematic phonics instruction (NRP: 2-132).

Systematic phonics instruction is effective when delivered through tutoring, through small groups, and through whole class teaching (NRP: 2-93; 2-132).

### PROCEDURES TAUGHT OR PRACTICED

When teaching explicit, systematic phonics, several different approaches may be used. Some phonics programs combine two or more of these approaches in instruction (NRP: 2-99).

Following are the identified phonics approaches.

Children may be taught:

- **Synthetic Phonics** - to convert letters (graphemes) into sounds (phonemes) and then blend the sounds to form recognizable words.

- **Analytic Phonics** - to analyze letter-sound relations once the word is identified and avoids having children pronounce sounds in isolation to figure out words.

- **Phonics-through-spelling** - to transform sounds into letters to write words.

- **Embedded Phonics** -to use sound-letter correspondences along with context cues to identify unfamiliar words encountered in text.

- **Analogy Phonics** - to use parts of already known written words to identify new words.

- **Onset-rime Phonics** - to use onsets (initial letters) and rimes (initial vowel and following consonants) in one-syllable words to decode words (NRP: 2-99).

### ASSESSMENT

*The Names Test* (Cunningham, P., 1990, October). A quick assessment of a student's ability to decode unfamiliar words. It assesses how well students decode words that are apt to be in their listening vocabularies but not in their sight vocabularies. It was designed for use with English speaking second grade students or beyond. It may be given to students in grades two, three, or four at the beginning of the year. *The Reading Teacher*, IRA, 44 (2), 127.

*The San Diego Quick Assessment* (Lapray, M. H. & Ross, R. R., 1969). This quick test provides an approximate instructional reading level for students who are asked to read graded word lists. The test was designed to give an estimate of a student's reading ability. *Journal of Reading*, IRA, 12, 305-307.

## Part II: Phonics Instruction (continued)

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### DEFINITION AND RATIONALE OF INSTRUCTION

Systematic phonics instruction for kindergarten and first grade:

- a) enhances the growth of word-reading skills
- b) supports increased reading comprehension
- c) produces reading growth in students identified as at-risk for reading failure (NRP: 2-133)
- d) improves spelling skills (does not apply to students above first grade) (NRP: 2-134).

Systematic phonics instruction for second through sixth grade students with reading disabilities:

- a) enhances the growth of word-reading skills of students with reading disabilities for students with average IQs and reading difficulties
- b) supports increased reading comprehension of reading disabled students
- c) helps to remediate reading difficulties but has not been shown to improve the reading of low-achieving readers (students with difficulties in multiple subjects who may have below average IQs (NRP: 2-133).

### PROCEDURES TAUGHT OR PRACTICED

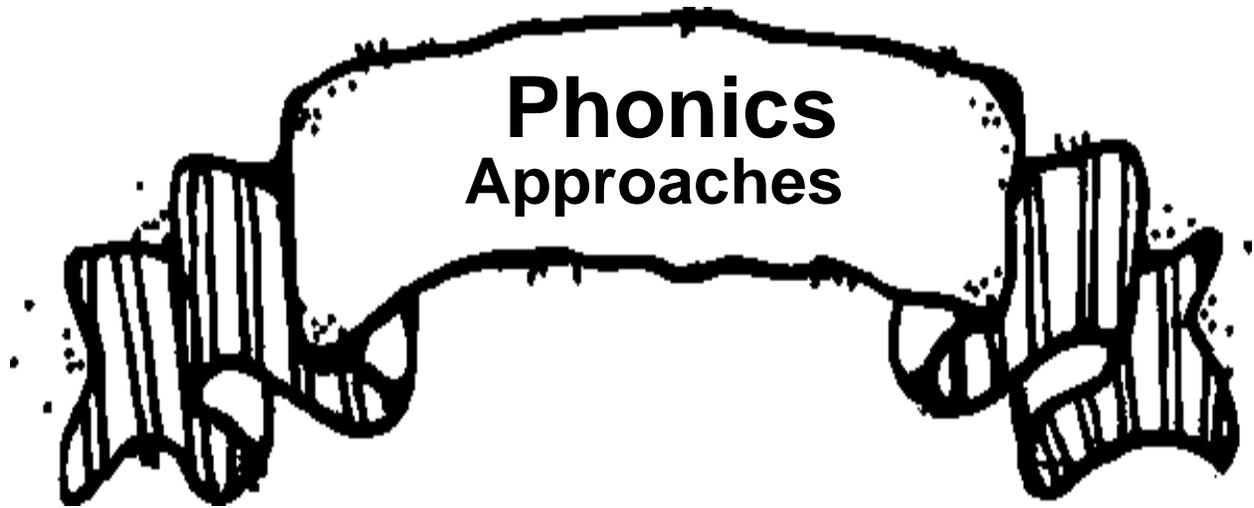
Phonics teaching is a means to an end. The goals of phonics instruction are to provide children with the knowledge of letter-sound information and to insure that they know how to apply this knowledge in their reading and writing (NRP: 2-96). Phonics instruction should be integrated with other reading instruction to create a balanced reading program. Phonics should not become the dominant component in a reading program, neither in the amount of time devoted to it nor in the significance attached (NRP: 2-97).

Systematic phonics instruction for kindergartners must include instruction in letter knowledge and phonemic awareness. The biggest impact on growth in reading occurs when it begins in kindergarten or first grade before children have learned to read independently (NRP: 2-93; 2-133).

### ASSESSMENT

*Phonics Patterns Diagnostic Test* (Fry, E., 1995). This test is designed to quickly find the phonics development of any student, child, or adult. The test was designed to assess the student, teach to discovered pattern needs, test more categories later, and so on. The student is asked to read a nonsense word from categories (vowel sounds) that contain differing rimes (vowel plus final consonant). If the student can recognize the rime, the student should be able to sound out each nonsense word. *Phonics Patterns: Onset and Rime Word Lists*, Teacher Created Materials, Inc., 1999, 55-56.

Teachers should assess their students' needs and select the types and amounts of phonics suited to those needs, placing students into flexible instructional groups in order to pace instruction (NRP: 2-97).



### **Synthetic phonics**

Children learn how to convert letters or letter combinations into sounds, and then how to blend the sounds together to form recognizable words.

### **Analytic phonics**

Children learn to analyze letter-sound relationships in previously learned words. They do not pronounce sounds in isolation.

### **Analogy-based phonics**

Children learn to use parts of word families they know to identify words they don't know that have similar parts.

### **Phonics through spelling**

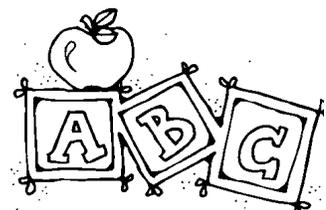
Children learn to segment words into phonemes to make words by writing letters for phonemes.

### **Embedded phonics**

Children are taught letter-sound relationships during the reading of connected text.

### **Onset-rime phonics instruction**

Children learn to identify the sound of the letter or letters before the first vowel (the onset) in a one-syllable word and the sound of the remaining part of the word (the rime) (PRF: 13).



## Part III: Fluency Instruction

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### DEFINITION AND RATIONALE OF INSTRUCTION

**Fluency** is the ability to read a text accurately and quickly. When fluent readers read silently, they recognize words automatically. They group words quickly to help them gain meaning from what they read. They read aloud effortlessly and with expression (PRF: 22).

Fluency is important because it provides a bridge between word recognition and comprehension. Because fluent readers do not have to concentrate on decoding the words, they can focus their attention on what the text means (PRF: 22).

Currently, no research evidence is available to confirm that instructional time spent on silent, independent reading with minimal guidance and feedback improves reading fluency or overall reading achievement. Although this activity's value has neither been proved nor disproved, the research suggests that there are more beneficial ways to spend in-class instructional time (PRF: 25).

### PROCEDURES TAUGHT OR PRACTICED

Provide students with models of fluent reading. Model how to read the text, and have the students reread it (PRF: 26).

Repeated and monitored oral reading improves fluency and overall reading achievement. Students who read and reread passages out loud as they receive guidance and/or feedback become better readers (PRF: 24).

Researchers have found several techniques to be effective including the reading and rereading of text a number of times (usually four times) until a certain level of fluency is reached, and practicing oral reading through the use of audiotapes, tutors, peer guidance, or other means (PRF: 24).

Students should practice reading text that is at their independent reading level (with 95% accuracy, or misread only about 1 of every 20 words). The text to be reread orally should be short--probably 50-200 words, depending on the age of the child (PRF: 27).

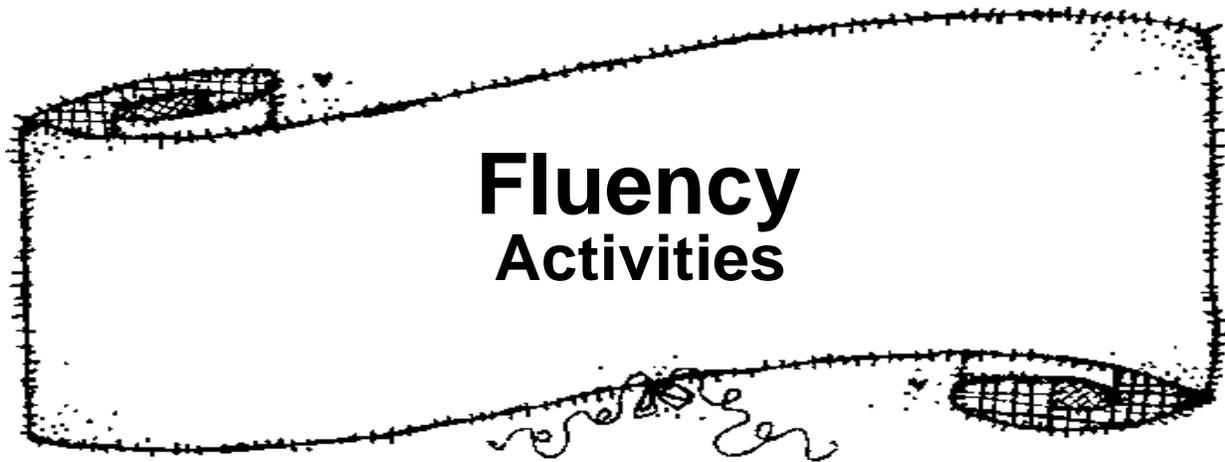
### ASSESSMENT

Assess students formally and informally to assure they are making adequate progress.

Measure fluency with miscue analysis, running records and Informal Reading Inventories (IRI) (PRF: 30).

*Oral Reading Fluency Test* (Hasbrouck, J.E. & Tindal, G., 1992, Spring). This test assesses the student's ability to fluently read an unfamiliar passage, using a one-minute timing of grade-level material. It is designed for students in grades two through five. "Curriculum-Based Norms in Oral Reading Fluency for Grades two Through five," *Teaching Exceptional Children*, The Council for Exceptional Children, 24 (3), 43.

Take timed samples of students reading and compare their performance (number of words read correctly per minute) with published oral reading fluency norms or standards (PRF: 30).



# Fluency Activities

## **Student-adult reading**

Reading one-on-one with an adult, who provides a model of fluent reading, helps with word recognition, and provides feedback.

## **Choral reading**

Children reading aloud simultaneously in a group.

## **Tape-assisted reading**

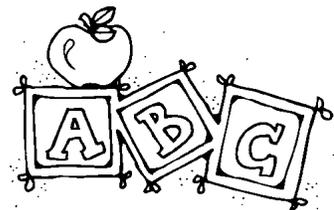
Children reading aloud simultaneously or as an echo with an audio-taped model.

## **Partner reading**

Children reading aloud with a more fluent partner (or with a partner of equal ability) who provide a model of fluent reading, helps with word recognition, and provides feedback.

## **Readers' theatre**

Children rehearsing and performing before an audience of a dialogue-rich script derived from a book (PRF: 27-28).



## Part IV: Vocabulary Instruction

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### DEFINITION AND RATIONALE OF INSTRUCTION

Evidence of the importance of vocabulary was presented by Davis (1942) who noted that comprehension comprised two “skills:” word knowledge or vocabulary and reasoning in reading (NRP: 4-15).

The Panel states “both vocabulary and comprehension involve the meaning of the text, albeit at different levels. Vocabulary is generally tied closely to individual words while comprehension is more often thought of in much larger units” (NRP: 4-15).

Researchers distinguish between many different “vocabularies,” for example, “receptive” versus “productive” vocabularies, and oral versus reading versus writing vocabularies (NRP: 4-15/16).

**Receptive Vocabulary**  
Vocabulary that we can understand when we listen to others speak or see it presented in text (NRP: 4-15).

**Productive Vocabulary**  
Vocabulary we use when writing or speaking to others (NRP: 4-15).

### STRATEGIES TAUGHT OR PRACTICED

The Panel suggests that a variety of direct methods of vocabulary instruction can be taught and indirect vocabulary learning emphasized (NRP: 4-27).

The Panel does not recommend any one method over another. Rather, effective vocabulary methods emphasize multimedia aspects of learning, richness of context in which words are learned, active student participation, and the number of exposures to words that learners will receive (NRP: 4-27). The Panel offers these implications for practice:

- Vocabulary should be taught both directly and indirectly. Direct instruction prior to reading a passage significantly affects student comprehension of the text (NRP: 4-24; 4-25).
- Repetition and multiple exposures to vocabulary is important.
- Vocabulary words should be learned in rich contexts, a large portion should come from content learning materials (NRP: 4-25).

### ASSESSMENT

The Panel found that the more closely the assessment matches the instructional context, the more appropriate the conclusions about the instruction will be. Therefore, practitioners (teachers) should put this to practice and develop tests/instruments that are sensitive to the vocabulary changes that they are seeking to foster (NRP: 4-24; 4-27).

The Panel noted that standardized tests did not seem to be sufficiently sensitive to vocabulary changes to use them as dependent measures. Standardized tests appear to be useful for general screening pretests (NRP: 4-24). Instruments that match vocabulary instruction provide better information about the specific learning of the students related directly to that vocabulary instruction (NRP: 4-27).

## Part IV: Vocabulary Instruction (continued)

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### DEFINITION AND RATIONALE OF INSTRUCTION

#### Oral Vocabulary

Words that are recognized in speaking or listening.

- Listening Vocabulary--  
The words we need to know to understand what we hear.
- Speaking Vocabulary--  
The words we use when we speak.

#### Reading Vocabulary

Words that are used or recognized in print.

- Reading Vocabulary--  
The words we need to know to understand what we read.
- \*Sight Vocabulary--  
A subset of reading vocabulary that does not require explicit word recognition processing (decoding).
- Writing Vocabulary--  
The words we use in writing (NRP: 4-15; 4-16).

Vocabulary that is *recognized* is often different from vocabulary that is *produced*.

Three types of words to be taught, include (PRF: 42):

- \*Important words
- \*Useful words (frequently seen and used); and
- \*Difficult words (multiple meaning words).

### STRATEGIES TAUGHT OR PRACTICED

The Panel offers these additional implications for practice (NRP: 4-26):

- Research shows the efficacy of restructuring vocabulary tasks (such as, revising learning materials or group learning) in order that students fully understand the task and the components of vocabulary learning, rather than focusing only on the words to be learned. This seems to be most effective for low-achieving or at-risk students.
- Students who actively engage in learning vocabulary demonstrate increased gains.
- Computer technology offers different modalities for learning vocabulary and, consequently, helps ensure more effective vocabulary learning.
- Vocabulary words can, and should, be learned through incidental and indirect ways. Repetition, richness of context, and motivation may add to the efficacy of incidental learning.

### ASSESSMENT

The Panel suggests using more than a single measure for sound evaluation. Assessing vocabulary growth would best be done with teacher-generated instruments as one component of evaluation (NRP: 4-24).

## Part IV: Vocabulary Instruction (continued)

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### DEFINITION AND RATIONALE OF INSTRUCTION

The Panel notes that direct vocabulary instruction include:

- specific word instruction; and
- word-learning strategies (NRP: 4-15 to 4:35).

According to *Put Reading First*, specific word instruction, or teaching individual words, can deepen students' knowledge of word meanings. In-depth knowledge of word meanings also helps students understand what they are hearing or reading. Additionally, it can help them use words accurately in speaking and writing (PRF: 36).

Word-learning strategies include (PRF: 37):

- how to use dictionaries and other reference aids to learn word meanings and to deepen knowledge of word meanings
- how to use information about word parts to figure out the meanings of words in text; and
- how to use context clues to determine word meanings.

### STRATEGIES TAUGHT OR PRACTICED

The Panel offers these vocabulary instructional methods

- (NRP: 4-33 to 4-35):
- Keyword Method
  - Semantic Mapping
  - Contextual Analysis
  - Sign Language
  - Wide Reading
  - Deriving Word Meanings
  - Elaborate/Rich Instruction
  - Roots/Affix Analysis
  - Dictionary/Glossary
  - Frayer Model
  - Task Clarification
  - Computer/Multimedia Instruction
  - Text Revision
  - Interactive Vocabulary Techniques
  - Passage Integration Training
  - Concept Method
  - Pre-Instruction of Vocabulary Words
  - Association Methods
  - TOAST Program
  - Basic Mnemonic Techniques
  - Decoding Instruction.

### ASSESSMENT

- Teacher-generated activities/tests
- Detection of inconsistencies in vocabulary understanding or use in a passage
- Recall of vocabulary word(s)
- Long-term maintenance of vocabulary words and use
- Creative thinking
- Standardized vocabulary tests

# Vocabulary Activities

## **Using word parts**

Teaching children some common prefixes and suffixes (affixes), base words, and root words.

## **Using dictionaries and other reference aids**

Teaching children to use dictionaries, glossaries, and thesauruses to help broaden and deepen their knowledge of words. The most helpful dictionaries include sentences providing clear examples of word meanings in context.

## **Repeated exposure to words**

At every opportunity, draw attention to words: in newspapers, magazines, at museums, in television, movies or the Internet.

## **Direct instruction**

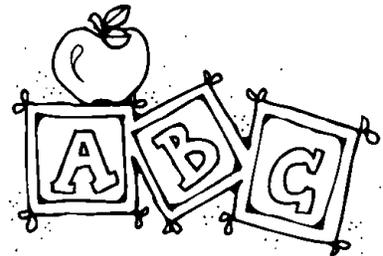
This helps students learn difficult words, such as words that represent complex concepts that are not part of the students' everyday experiences.

## **Instruction with active engagement**

Children learn words best when they are provided with instruction over an extended period of time and when that instruction has them work actively with the words. The more students use new words and the more they use them in different context, the more likely they are to learn words.

## **Foster word consciousness**

Call their attention to the way authors choose words to convey particular meaning. Encourage students to play with words by engaging in word play, such as puns or palindromes (PRF: 36-37).



# Part V: Comprehension Instruction

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## DEFINITION AND RATIONALE OF INSTRUCTION

**Comprehension** has come to be viewed as “the essence of reading” (Durkin, 1993). Although comprehension of text is now regarded as essential to reading and learning, comprehension as a process began to receive scientific attention only in the past 30 years (NRP: 4-39).

Comprehension strategies are procedures that guide students as they attempt to read and write. The goal of training students to use specific cognitive strategies is the achievement of competent and self-regulated reading (NRP 4-40).

*Two strategies that improve memory:*

- **Mental Imagery**

Readers imagine what they are reading and code what they imagine with a keyword cue (NRP: 4-77). A mental image is “a perceptual representation or ideational picture of a perceptual experience, remembered or imagined” (TLD: 152).

- **Mnemonic (Keyword)**

Readers generate an interactive image between the proxy (a word or a picture) and the information covered in the text (NRP: 4-77).

## STRATEGIES TAUGHT OR PRACTICED

Of the 16 comprehension strategies identified by the Panel, **seven improve comprehension** in normal readers. These seven strategies are (in alphabetical order):

- **Comprehension Monitoring**
- **Cooperative Learning**
- **Graphic and Semantic Organizers**
- **Question Answering**
- **Question Generation**
- **Story Structure**
- **Summarization.**

Additionally, the Panel also identified *two strategies that improve memory* for text and recall of individual sentences or paragraphs. These are alternative ways to understand and represent text. (NRP: 4-42/43). These strategies are:

- **Mental Imagery**

Readers construct visual images to represent a text as they read it. The text is often a short passage or a sentence. This strategy not only improves memory but also improves inferential reasoning about written text (NRP: 4-75).

- **Mnemonic (Keyword)**

Readers use keywords as organizers to learn unfamiliar concepts. Although both good and poor readers benefit from this procedure, good readers seem to benefit more (NRP: 4-77).

## ASSESSMENT

### **Mental Imagery**

- Teacher designed activities or tests
- Recall
- Short-answer questions

### **Mnemonic (Keyword)**

- Teacher designed activities or tests
- Recall

## Part V: Comprehension Instruction (continued)

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### DEFINITION AND RATIONALE OF INSTRUCTION

**Comprehension Monitoring** Readers learn how to be aware of their understanding of the material (NRP-SR: 15).

**Cooperative Learning** Students learn reading strategies together (NRP-SR: 15). Cooperative learning is defined as any pattern of classroom organization that allows students to work together to achieve their individual goals (TLD: 45).

**Graphic and Semantic Organizers** Readers make graphic representations of the material to assist comprehension (NRP-SR: 15). Graphic organizers (diagrams or other pictorial devices) include maps, webs, graphs, charts, frames, or clusters. Semantic organizers (i.e., semantic maps or semantic webs) are graphic organizers that use lines to connect a central concept to a variety of related ideas and events (PRF: 50).

**Question Answering** Readers answer questions posed by the teacher and receive immediate feedback (NRP-SR: 15).

### STRATEGIES TAUGHT OR PRACTICED

**Comprehension Monitoring** Readers, in grades two through six, learn to monitor how well they comprehend, become aware of what they do understand and do not understand, and learn “fix-up” strategies to resolve problems as they arise (NRP: 4-71).

**Cooperative Learning** Readers learn to work together and discuss reading materials and the use of reading strategies with their peers (NRP: 4-6; 4-45; 4-71/72).

**Graphic and Semantic Organizers** Readers learn to use a systematic, visual graphic to organize the meanings and relationships of ideas found in text (NRP: 4-6; 4-74/75).

**Question Answering** After reading a passage, readers learn to answer questions posed by the teacher and learn strategies for finding answers (NRP: 4-6; 4-86/87). This strategy, which is most effective for students in grades three through eight, requires understanding that some information may be text explicit (stated explicitly), text implicit (implied), or scriptal (part of the reader’s prior knowledge or experience) (PRF: 51).

### ASSESSMENT

**Comprehension Monitoring** Learning of comprehension monitoring itself.

- Teacher designed activities/tests
- Textbook generated lessons/tests
- Detection of inconsistencies in logic of an argument or meaning of a passage.
- Recall
- Long-term maintenance of comprehension monitoring
- Self-esteem
- Creative thinking
- Standardized comprehension tests
- Metacomprehension Strategy Index (MSI) - a multiple-choice questionnaire

**Cooperative Learning**

- Teacher designed tests
- Analyses of peer talk during cooperative learning
- Summarization
- Prediction

**Graphic and Semantic Organizers**

- Teacher designed tests
- Summaries
- Text recall
- Standardized tests

**Question Answering**

- Teacher designed tests
- Recall
- Short answer questions
- Look back in text to answer question
- Standardized tests

## Part V: Comprehension Instruction (continued)

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### DEFINITION AND RATIONALE OF INSTRUCTION

**Question Generation**  
Readers ask themselves questions (e.g., what, when, where, why, what will happen, how, who) about various aspects of the story or text (NRP-SR: 15; NRP: 4-6).

**Story Structure**  
Readers use the structure of the story as a means of helping them recall story content in order to answer questions about what they have read (NRP-SR: 15). A story is “an imaginative tale shorter than a novel but with a plot, characters, and setting, as a short story.” A “story map” is “a time line showing the ordered sequence of events in a text” or “a semantic map showing the meaning of relationships between events or concepts in the text, regardless of their order.” (TLD: 243/244).

### STRATEGIES TAUGHT OR PRACTICED

**Question Generation**  
Question generation during reading benefits reading comprehension in terms of memory and answering questions based on text as well as integrating and identifying main ideas through summarization. It may be used as part of multiple-strategy instruction (NRP: 4-88/89).

**Story Structure**  
Knowledge of episodic content (setting, initiating events, internal reactions, goals, attempts, and outcomes) helps readers learn to ask and answer who, what, where, when, and why questions about the plot and, in some cases, map out the time line, characters, and events in stories. Readers learn that stories are systematically organized into episodes and that the plot of a story is a set of episodes. Although this strategy benefits all kinds of readers, it is more beneficial for less able readers (NRP: 4-88; 4-91/92).

### ASSESSMENT

**Question Generation**

- Quality of questions generated
- Teacher feedback
- Self-assessment
- Question answering

**Story Structure**

- Teacher designed activities/tests
- Retell the story (recall)
- Short-answer questions

## Part V: Comprehension Instruction (continued)

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### DEFINITION AND RATIONALE OF INSTRUCTION

#### **Summarization**

Readers integrate ideas and generalize from the text information (NRP-SR: 15). A summary is “a brief statement that contains the essential ideas of a longer passage or selection” (TLD: 247).

### STRATEGIES TAUGHT OR PRACTICED

#### **Summarization**

Summarization improves memory of what is read, both in free recall and in answering questions. The reader attempts to identify and write the main or most important ideas that integrate or unite the other ideas or meanings of the text into a coherent whole. In addition, the reader has to ignore irrelevant details. This strategy is part of reciprocal teaching (NRP: 4-6; 4-92/93/94).

### ASSESSMENT

#### **Summarization**

- Recall of expository or narrative text
- Question answering with open or multiple-choice answers



# Text Comprehension Activities

## **Effective comprehension strategy instruction is explicit, or direct.**

- **Direction explanation**  
The teacher explains to students why the strategy helps comprehension and when to apply the strategy.
- **Modeling**  
The teacher models, or demonstrates, how to apply the strategy, usually by “thinking aloud” while reading the text that the students are using.
- **Guided practice**  
The teacher guides and assists students as they learn how and when to apply the strategy.
- **Application**  
The teacher helps students practice the strategy until they can apply it independently (PRF: 53).

## **Comprehension monitoring**

Students should be aware of what they **do** understand, identify what they **do not** understand, and use appropriate “fix-up” strategies to resolve problems in comprehension (PRF: 49). The goal of comprehension monitoring is to develop awareness by readers of the cognitive processes involved during reading. Readers learn to become aware of whether they are understanding a text and what steps they should take to correct comprehension difficulties (NRP: 4-70).

**Before reading**, they might clarify their purpose for reading and preview the text.

**During reading**, they might monitor their understanding, adjusting their reading speed to fit the difficulty of the text and “fixing up” any comprehension problems they have.

**After reading**, they check their understanding of what they read (PRF: 49).



# Text Comprehension Activities

**The teacher** demonstrates awareness of difficulties in understanding words, phrases, clauses, or sentences.

**Students are taught to:**

- Formulate what it is that is causing them difficulty in understanding.
- Use think-aloud procedures that show the readers and the teacher where and when understanding difficulties occur.
- Look back in the text to try to solve a problem. Restate or paraphrase a text in terms more familiar to readers. Look forward (“watch for information”) in a text to solve a problem (PRF: 49).

**Cooperative learning**

- The aim of cooperative learning is to teach children to read together with a partner. Readers learn to read aloud with a partner and to listen to the partner’s reading. Readers are given activities that teach them strategies for effective reading comprehension.
- The readers become independent of the teacher and learn to tutor each other. This reduces the amount of time that the teacher spends with a student.
- Students are taught and allowed to participate in partner reading, summarization of paragraphs, and turn-taking in making predictions. Oral reading and listening is done by reader and peers.
- Training is given, and students learn to carry out activities that follow the self or partner reading, including word recognition (decoding), story structure, prediction, and story summary activities related to texts.
- Teachers show readers how to create graphic organization of ideas.
- Teachers may provide graphic metaphors such as making an umbrella for main ideas and putting details below the topic (NRP: 4-72).



# Text Comprehension Activities

## Graphic and semantic organizers

- Readers are instructed to make graphic representations of text material. Graphic organizers include semantic maps, expository maps, story maps, story schema, and graphic metaphors.
- Graphic organizers visually (spatially) represent superordinate and more important subordinate ideas of a passage, story, or exposition.
- Spatial (graphic) metaphors are assumed to facilitate learning and memory of text and making of well-organized summaries.
- Teachers show readers how to construct maps of expository passages by locating the title or main concept in the center of a circle and then writing in the related ideas from a survey of the text for main ideas.
- Teachers show readers how to make box diagrams of a story, for example, problem box-action box-results box and filling in the content of the boxes (NRP: 4-74).

## Summarization

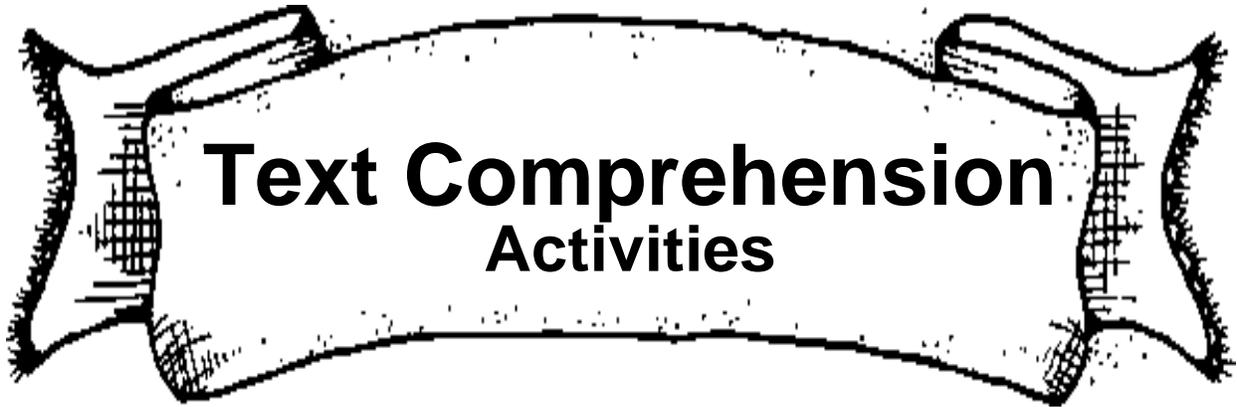
- A summary is a synthesis of the important ideas in a text. Summarizing requires students to determine what is important in what they are reading, to condense this information, to put it into their own words. Instruction summarizing helps students:
  - identify or generate main ideas
  - connect the main or central idea; and
  - remember what they read (PRF: 53).



# Text Comprehension Activities

## Question answering

- Question-answering strategy instruction assists students learning from a text. A question focuses the student on particular content and can facilitate reasoning (e.g., answering why or how).
- In content questions, the information available in the text determines, in great part, the student's ability to answer the questions. Teaching students to look back in the text when they cannot answer a question facilitates their learning.
- Students can learn to discriminate questions that can be answered based on the text vs. those that are based on their own knowledge and require the generation of inferences or conclusions.
- Questions after the reading of a passage can lead to reprocessing of relevant text after the reader fails to answer the questions.
- Teachers ask students questions during or after reading passages of text.
- Teachers ask students to look back to find answers to questions that they cannot answer after one reading.
- Teachers ask students to analyze questions with respect to whether the question is tapping literal information covered in the text, information that can be inferred by combining information in the text, or information in the reader's prior knowledge base.
- Questions often come at the end of a science and social studies text or in workbooks to accompany texts. These may be used in question answering (NRP: 4-87).



# Text Comprehension Activities

## **Question generation**

Teaching students to ask their own questions improves their active processing of text and their comprehension. By generating questions, students become aware of whether they can answer the questions and if they understand what they are reading. Students learn to ask themselves questions that require them to integrate information from different segments of text. For example, students can be taught to ask main idea questions that relate to important information in a text. In content questions, the information available in the text determines, in great part, the student's ability to answer the questions. Teaching students to look back in the text when they cannot answer a question facilitates their learning (PRF: 53).

Question generation also enables the student to be actively involved in reading to be motivated by his own queries rather than those of the teacher in question answering (NRP: 4-10).

## **Story structure**

In story structure, a reader sees the way the content and events of a story are organized into a plot. Students learn to identify the categories of content (setting, characters, initiating events, internal reactions, goals, attempts, and outcomes) and how this content is organized into a plot. Often students recognize the way the story is organized by developing a story map. This strategy improves students' comprehension and memory of story content and meaning (TLD).

Teachers can be prepared to teach story structure through the use of questions and graphic organizers (story maps). They should not teach story grammar categories per se but rather should focus on the characters, the setting, what happened, how characters felt, what they thought, what they wanted to do, what they did, and how things turned out.

When the reading material is narrative, question answering and generation strategies can be used by teachers to draw out the content and organization of stories crucial to the students building a representation of the episodic structure and causal relationships.

The use of questions to learn story structure can be a part of a program of instruction of comprehension strategies in natural reading or content areas (NRP: 4-112).

# SBRR Related Web Sites

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## **North Dakota Department of Public Instruction**

Useful Sites on SBRR

<http://www.dpi.state.nd.us/title1/resource/sbrrlink.shtm>

## **George W. Bush's "Leave No Child Behind"**

<http://www.nationalreadingpanel.org/Publications/nochildleftbehind.htm>

## **National Reading Panel**

<http://www.nationalreadingpanel.org/>

## **Center for the Improvement of Early Reading Achievement**

<http://www.ciera.org/>

## **Five Traits of Reading**

Paula Rogers

<http://ndreadon.utma.com/fivetraits.htm>

## **Partnership for Reading**

The Language of Literacy-Some Commonly Used Terms

<http://www.nifl.gov/partnershipforreading/glossary/glossary.html>

## **National Assessment of Educational Progress**

<http://nces.ed.gov/nationsreportcard/sitemap.asp>

## **Four Blocks**

<http://www.wfu.edu/~cunningh/fourblocks/>

## **International Reading Association**

<http://www.reading.org>

## **Position Statement on Excellent Reading Teachers**

<http://www.ira.org/positions/excellent.html>

## **Position Statement on Phonemic Awareness**

<http://www.ira.org/positions/phonemic.html>

## **Position Statement on Phonics**

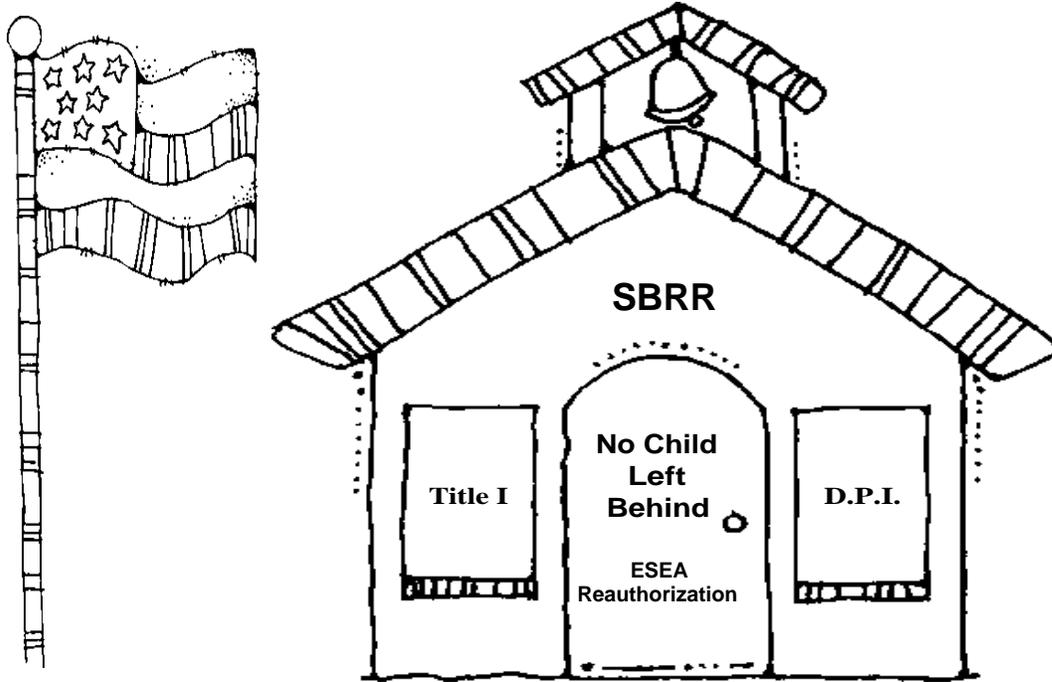
<http://www.ira.org/positions/phonics.html>

## **Position Statement on Beginning Reading Instruction**

[http://www.ira.org/positions/begin\\_reading.html](http://www.ira.org/positions/begin_reading.html)



# North Dakota SBRR Teacher Tools



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