

# Technology Supports for Struggling Readers

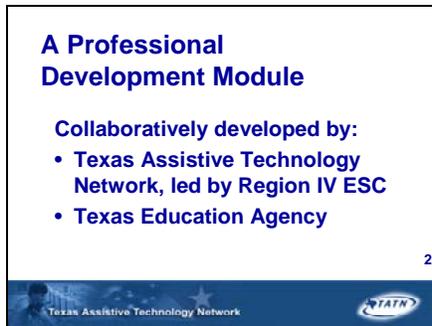


## SLIDE 1

**Note to Presenter:** It is recommended that each participant be provided with a hard copy of the PowerPoint note-taking guide and the *Technology Links for Reading Instruction* resource. Both of these documents can be downloaded from the Texas Assistive Technology Network website at [www.texasat.net](http://www.texasat.net).

**SAY:** Welcome to *Technology Supports for Struggling Readers*. During this presentation, we will discuss reading strategies that research has determined to assist students in learning to read, and we'll look at technology tools that will assist in acquiring and practicing those skills.

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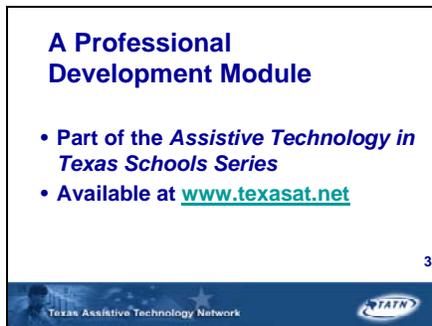
## SLIDE 2

**SAY:** This training module was collaboratively developed by:

The Texas Assistive Technology Network, with leadership provided by Region IV Education Service Center, and the Texas Education Agency.

The developers wish to thank the primary author, Scott Marfilus, and the TATN focus group for their input and delivery.

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## SLIDE 3

**SAY:** This module, "Technology Supports for Struggling Readers," is part of the "Assistive Technology in Texas Schools Series."

The entire training module, which includes the PowerPoint presentation, the trainer notes that accompany the presentation, and the *Technology Links for Reading Instruction* is available at the Texas Assistive Technology Network website at [www.texasat.net](http://www.texasat.net).

You have been provided a copy of the slide set to serve as a note-taking guide. It frees you to concentrate on the presentation and add your own notes rather than copying the slides. You have also been given a copy of *Technology Links for Reading Instruction* which provides you with information on technology tools that support the various areas of reading instruction. This is not an exhaustive reference, but serves as a

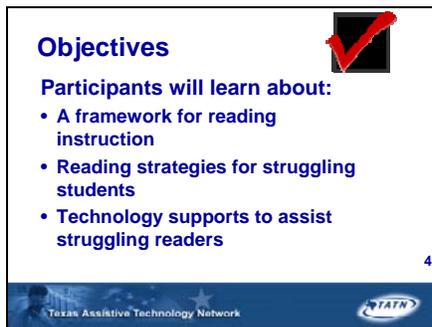
# Technology Supports for Struggling Readers

resource of available technology and descriptions of how that technology supports instruction in reading. Within each section you have been provided with examples of “No Tech/Low Tech” options as well as “Possible Technology Tools.” In many of the areas you could also use multimedia authoring tools to create options customized to a specific student or to specific classroom activities. You will find options in multimedia authoring tools in the section entitled “Common Technology Tools” located at the end of the *Technology Links for Reading Instruction* booklet.

Also notice that at the end of each of the major sections in this document there is an area for you to add tools with which you may be more familiar or that you would like to highlight as a resource currently available in your particular setting.

If everyone has the handouts, let's begin.

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**Objectives** 

Participants will learn about:

- A framework for reading instruction
- Reading strategies for struggling students
- Technology supports to assist struggling readers

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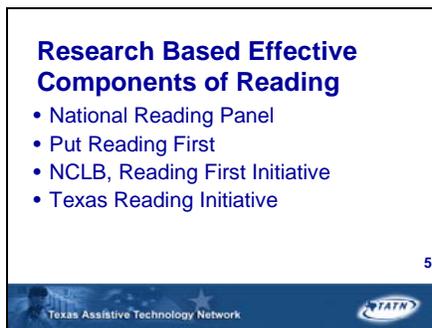
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**SLIDE 4**

**SAY:** During this presentation, you will explore information that will enable you to:

- Understand a framework for reading instruction
- Identify reading strategies that will assist struggling students
- Locate available technology resources that will assist those struggling readers.

**PROCEED TO THE NEXT SLIDE.**



**Research Based Effective Components of Reading**

- National Reading Panel
- Put Reading First
- NCLB, Reading First Initiative
- Texas Reading Initiative

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**SLIDE 5**

**SAY:** The National Reading Panel (NPR) reviewed over 100,000 research studies and published a report in 2000 on the effective components of reading programs. This report can be downloaded from the NPR website.

*Put Reading First: The Research Building Blocks for Teaching Children to Read* (Kindergarten through Grade 3) was developed in 2001 by the Center for the Improvement of Early Reading Achievement (CIERA), funded by the National Institute for Literacy (NIFL). The guide was based on the NPR research and on what researchers have determined to aid in successfully teaching children to read. The document is a free download at the National Institute for Literacy website.

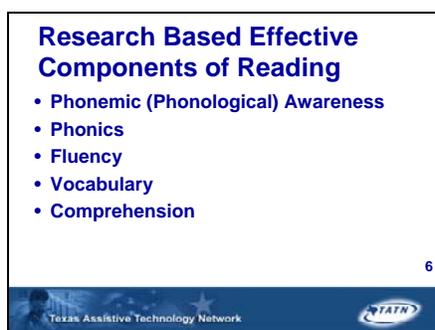
## Technology Supports for Struggling Readers

The No Child Left Behind Act (NCLB), signed in to law in January 2002, includes the Reading First Initiative that is also based on the scientifically –based reading research.

In Texas for many years the Texas Reading Initiative has supported scientifically-based reading instruction and systematic professional development for teachers. Materials developed for the Texas Teacher Academies and the Struggling Reader Institutes were developed by the University of Texas Center for Reading and Language Arts.

For more information on each, please see the list of references for websites in your handout, the *Technology Links for Reading Instruction*.

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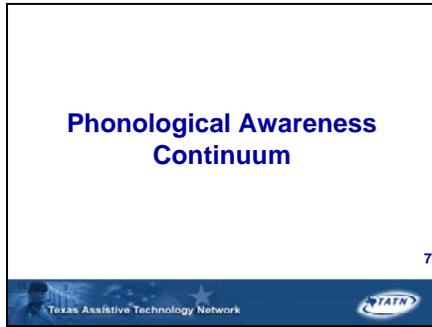
### SLIDE 6

**SAY:** The 5 research based components that have been determined to be important in teaching of reading are phonemic awareness, phonics, fluency, vocabulary and text comprehension.

Phonemic awareness is actually the highest skill level of the phonological awareness continuum. For purposes of this module, we will address the entire phonological continuum. Phonics has been divided into alphabetic understanding, word study and spelling to encompass vocabulary at the elementary level, and word identification at the secondary level.

This workshop will explore each of the component areas and then look at technology solutions to support skill development for each of these areas. The solutions range from low tech to high tech and are meant to provide you with knowledge of the features of technology that support reading instruction. You are encouraged to consider if the technology that you currently have available in your setting already incorporates these features. Many technology tools incorporate multiple features that support students. Our challenge is to know the features that support the desired skills and to know what technology tools provide the needed features.

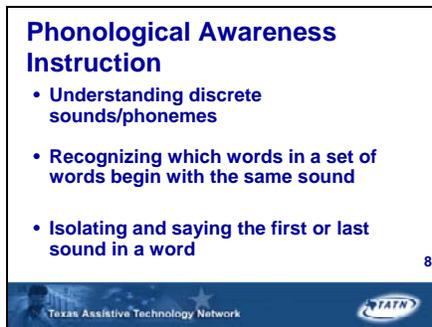
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**SLIDE 7**

**SAY:** The first area we're going to look at is the phonological awareness continuum. This training module will address the full continuum of phonological awareness with the understanding that phonemic awareness is recognized by research as a necessary foundation for reading.

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**SLIDE 8**

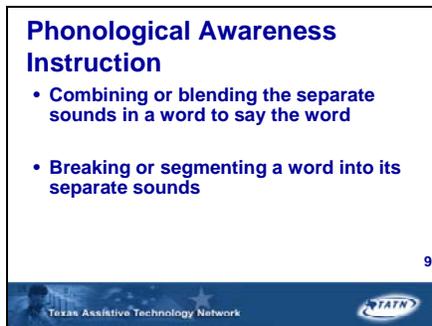
**Phonological Awareness Instruction**

- Understanding discrete sounds/phonemes
- Recognizing which words in a set of words begin with the same sound
- Isolating and saying the first or last sound in a word

**SAY:** Phonological awareness is the ability to understand and hear that a word is made up of a series of discrete sounds, or phonemes. The research shows that phonological awareness is a strong predictor of early success in reading.

This area deals with the ability to hear sounds. For example, a student may be given a list of words to which they identify the words that begin with the same sound. This skill may be expanded to ask students to blend the sounds together to make a word.

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**SLIDE 9**

**Phonological Awareness Instruction**

- Combining or blending the separate sounds in a word to say the word
- Breaking or segmenting a word into its separate sounds

Review the slide.

**PROCEED TO THE NEXT SLIDE.**

**Phonological Awareness**

**Rhyming**

- Identifying and making oral rhymes
- Matching the ending sounds of words starting with the vowel sounds  
(cat, bat, hat, that).

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**SLIDE 10**

**SAY:** Rhyming is a part of phonological awareness where students identify sounds by listening to rhymes and by making rhymes. Students at early grades show the rhyming concept when they create rhymes for objects they find in the classroom such as, chalk talk, blue glue, or stable table.

Part of the rhyming aspect is also being able to hear the endings of sounds. This gets into the concept of word families. In this area of phonological awareness, we're talking about the individual being able to hear the rhymes...not recognize the word families or patterns in print.

**PROCEED TO THE NEXT SLIDE.**

**Phonological Awareness**

**Alliteration**

- Producing groups of words that begin with the same sound  
(Two tired turtles tried to take a trip.)

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**SLIDE 11**

**SAY:** Another part of phonological awareness is alliteration. This is where you take an initial sound and make up a group of words that begin with that sound. Many of you are familiar with these...they were sometimes referred to as tongue ticklers.

Sally sells seashells at the sea shore.

Peter piper picked a peck of pickled peppers.

**PROCEED TO THE NEXT SLIDE.**

**Phonological Awareness**

**Sentence Segmentation**

- Segmenting sentences into spoken words  
(The sentence, "The girl ate two candy bars," segments into six words)

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**SLIDE 12**

**SAY:** As we continue looking at this area and talk about the individual being able to hear parts of words. We also look at having the student listen to a sentence and be able to tell you how many words are in that sentence. This is not to be confused with counting syllables. A student auditorily processes and counts the words in a sentence.

**PROCEED TO THE NEXT SLIDE.**

**Phonological Awareness**

**Syllable Blending and Segmentation**

- Blending syllables to say words  
(/pan/ /cake/ blends to pancake)
- Segmenting words into syllables  
(cactus segments to /cac/ /tus/)

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**SLIDE 13**

**SAY:** We had just talked about sentence segmentation and breaking down how many words make up a sentence, now we are looking at that process from a single word approach. With syllable blending the student would be given the separate syllables in sequence and then see if the student can blend those into a word. Such as saying the syllables with a slight pause in between /win/ /dow/ the student would be able to tell you the word is window.

The reverse happens when you are talking about syllable segmentation. The student is given an entire word and they are asked to tell you what the syllables are. For example you may verbalize the word funny and the student could tell you the syllables were /fun/ /ny/.

**PROCEED TO THE NEXT SLIDE.**

**Phonological Awareness**

**Onset-Rime Blending and Segmentation**

- Separating the initial consonant or consonant cluster (the onset) from the vowel and consonant sounds that come after it (the rime)  
(Shirt segments to the onset /sh/ and the rime /irt/)

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**SLIDE 14**

**SAY:** The onset and rime area takes a look at the initial sound or consonant and separating that from the vowel and consonant sounds that follow it. For example, in the word “fork” the “f” is the onset and “ork” is the rime. These activities assist students later when they are decoding words and looking at the word for similarities such as the word families.

**PROCEED TO THE NEXT SLIDE.**

## Phonological Awareness

Phoneme Blending, Segmentation, and Manipulation

- Blending phonemes into words  
(/m/ /a/ /n/ blends to man)
- Segmenting words into individual phonemes  
(cat segments to /k/ /a/ /t/)
- Manipulating phonemes in spoken words  
(/b/ substituted for /k/ in cat makes bat)

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### SLIDE 15

**SAY:** You can see the progression from working with words in a sentence to syllables, to onset and rime, to working on the individual phonemes themselves. Phonemes are the smallest parts of sound in a spoken word. For example, changing the phoneme /m/ in mat to /h/ makes the word hat.

There are approximately 41 phonemes in the English language. Effective phonological awareness instruction teaches students to notice, think about, and work with sounds in spoken language. Some activities that teachers use may include: phoneme isolation, phoneme identity, phoneme categorization, phoneme blending, phoneme segmentation, phoneme deletion, phoneme addition and phoneme substitution.

**PROCEED TO THE NEXT SLIDE.**

## Technology Can...

Support a student learning to...

- Recognize patterns in words
- Create words from letters, words, pictures or sounds
- Use auditory feedback as words are created or segmented
- Convert words by isolating and changing phonemes

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### SLIDE 16

**SAY:** Technology provides a means of creating words even though a student may not be ready to form letters or to identify the text that forms a word. By incorporating auditory feedback, students may recognize letters or words by their sound rather than by visually discriminating the letters/words. The whole process of understanding how phonemes make words is facilitated as students can independently explore phonemes as they put sounds together to build words or break words apart into sounds.

## Technology Links for Reading Instruction



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[www.texasat.net](http://www.texasat.net)

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### SLIDE 17

**SAY:** As we look at more specific technology tools, you may want to reference the *Technology Links for Reading Instruction* booklet. Remember that *Technology Links for Reading Instruction* is not intended to represent an exhaustive list, but more to provide suggestions of options that are commonly used in classrooms. As all of these technology tools (both low tech and high tech) are intended to supplement good instruction, you are encouraged to first consider the activities that are being used to address the skills and how the student's engagement in these activities might be facilitated with technology supports.

**PROCEED TO THE NEXT SLIDE.**

**Tools to Explore**

- Low tech
- Authoring Tools
- Clicker 5
- Teach Me Nouns
- Simon SIO
- Earobics

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**SLIDE 18**

**Note to Presenter:** Choose any applications that you have that would work in this area. You do not have to show these particular titles but try to have a couple examples that include both low tech and high tech. For examples of low tech strategies refer to the *Technology Links for Reading Instruction* chart.

**SAY:** We will look at the features provided in these tools.

**PROCEED TO THE NEXT SLIDE.**

**Word Processing / Authoring Tools**

- See the rhyme
- Hear the rhyme  ight

light night

sight right

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**SLIDE 19**

**Note to Presenter:** You may find this a good opportunity for the group to practice creating more challenging word families.

**Further examples:** -orn family, born, corn, torn, thorn, or -ound family, round, sound, bound, ground, pound

**SAY:** As research shows, our brains are pattern seekers so we look for familiarity in recognizing words. Technology can allow us to easily visually discriminate the patterns that make up words. Many of you are familiar with word families such as the -at, -in, -it, -an. Incorporating visual contrasts (e.g. using color) with technology, we can encourage students to recognize more challenging word families that are available. This strategy may expand the concept for a young learner or may provide a more age appropriate challenge for older learners who are struggling with the concept.

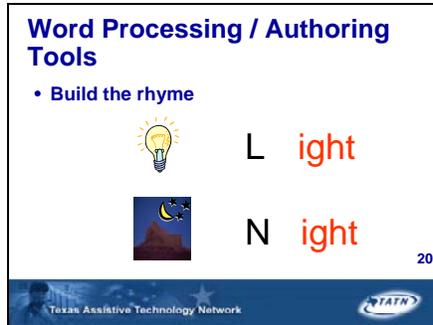
Technology can also provide auditory feedback for a student as they explore the word family. **Click on the audio icon.**

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## Technology Supports for Struggling Readers

**Word Processing / Authoring Tools**

- Build the rhyme



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### SLIDE 20

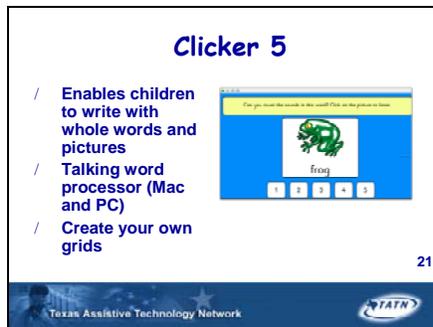
**SAY:** Using technology like word processors which are commonly available, we can encourage students to build words regardless of their current reading level.

Pictures can be added to provide a symbolic representation to words that younger students may begin developing the initial concept of creating words or older students may use as a prompt to build a word from letters.

**PROCEED TO THE NEXT SLIDE.**

**Clicker 5**

- / Enables children to write with whole words and pictures
- / Talking word processor (Mac and PC)
- / Create your own grids



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### SLIDE 21

**SAY:** Clicker 4 allows you to set up customized grids that can act as both a talking word processor and an onscreen keyboard. Grids can be set up to allow individuals to make choices in both initial sounds and then the rhyme. Clicker 4 also has Grids for Learning where they have an activity for alliteration. The model sentence is given to the student and then they have to construct the same sentence by choosing the words. Auditory feedback is provided so they can hear if they were successful. Clicker Grids for Learning has numerous grids that are available for free downloads.

**PROCEED TO THE NEXT SLIDE.**

**Teach Me Nouns**



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### SLIDE 22

**SAY:** SoftTouch offers a series called Teach Me Nouns. These titles are available in Initial Sounds, Medial Sounds, Final Sounds, and Blends. The program offers a variety of input methods and then you can also adjust the choices. You then pick what phonological awareness piece you want the student to focus on such as initials. As the student chooses the initial sound then the picture is displayed as it gives the initial sound. The program then morphs to a line drawing and then into the word. The teacher has control over all of those features in the options menu.

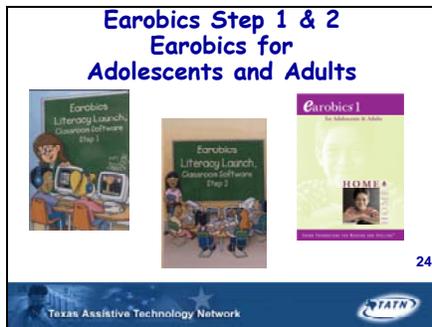
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**SLIDE 23**

**SAY:** Simon SIO from Don Johnston Inc. works through a series of activities where the student would blend words together. At the beginning of the lesson, they are working with the beginning sounds and then later the ending word family. Eventually as they progress, they will combine both initial sound and word ending. They are then asked to spell the word. There is a record keeping feature of Simon SIO that allows you to track students' progress over time. The program also automatically advances as they complete certain activities.

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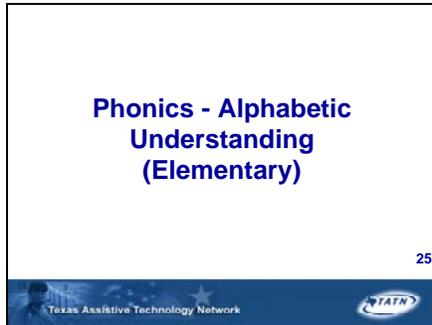


**SLIDE 24**

**SAY:** Cognitive Concepts offers a variety of programs. Earobics Literacy Launch provides rich, diverse language experiences and facilitates the transition from spoken language to print. Cognitive Concepts also has 3 programs called Earobics. They have Earobics Step 1, Step 2 and then Earobics for Adolescents and Adults. These programs will also advance along as the student completes activities. They allow the individual to work on phonological awareness, counting syllables, blending syllables and additional activities that work on phonological awareness through auditory processing.

Earobics Step 1, for pre-K, kindergarten, and some first, has six games and over 300 levels of play.  
Earobics Step 2, for first and remedial second, has five games and nearly 600 levels of play.  
Earobics Step 1 for Adolescents & Adults provides sophisticated, game-style, multimedia instruction, designed to appeal to adolescents and adults who are struggling to read faster, spell better and improve their comprehension.

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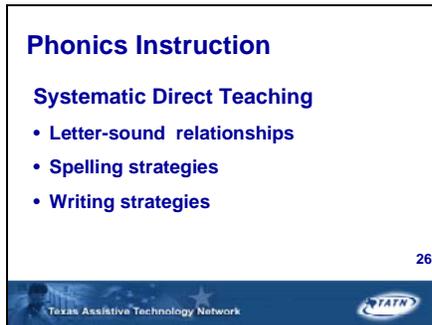


**SLIDE 25**

**SAY:** The second research based component of reading is phonics.

Phonics in the 1990's was kind of frowned upon as whole language came to the forefront in the reading area. The phonics that is looked at here is not just the rule based phonics with which many of us are familiar. It is the teaching of the relationship between the letters of written language and the individual sounds (phonemes) that we just talked about. It helps students realize that the relationship between the written letters and letter sounds is systematic and predictable.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 26**

**SAY:** Research on phonics indicates that phonics needs to be systematically introduced to the students. Individuals need to be taught the relationships between the letters (grapheme) of written language and the individual sounds (phonemes) of spoken language.

Students can then use some of those strategies when they encounter a word they do not know, and they can decode that word using the letter sounds. Students also benefit from this when they are asked to spell a word so that they can get an idea down on paper by writing the word as it sounds.

Phonics instruction in isolation is not a complete reading program for beginning readers. Along with phonics, students should be solidifying their knowledge of the alphabet, engaging in phonological awareness activities, and listening to stories and informational texts read aloud. They should also be reading texts (both aloud and silently), writing letters, words, messages, and stories.

**PROCEED TO THE NEXT SLIDE.**

**Phonics: Alphabetic Understanding**  
**Letter Sounds**

- Association of a sound with a letter and letter combination in a written word

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**SLIDE 27**

**SAY:** The letter sounds area looks at pairing the sound in a written format. Students need to realize that sometimes a written letter may have more than one sound with which it is associated. This also assists students in early grades to start to apply these rules when it comes to spelling.

**PROCEED TO THE NEXT SLIDE.**

**Phonics: Alphabetic Understanding**  
**Spelling Regular Words**

- Using letter sounds and segmentation to spell words
- Mapping sounds to letters following typical rules

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**SLIDE 28**

**SAY:** During this section students are learning to spell regular words that follow a consonant-vowel-consonant pattern. This is the foundation for developing spelling proficiency. Students can use that knowledge to aid them in mapping sounds to letters to spell words.

**PROCEED TO THE NEXT SLIDE.**

**Phonics: Alphabetic Understanding**  
**Spelling/Reading Irregular Words**

- Spelling words in which some or all of the letters do not represent their most common sounds.  
(e.g. word families: one, none, done)

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**SLIDE 29**

**SAY:** Now we look at teaching students to read and spell high frequency irregular words. Sight words are generally high frequency words that do not follow the typical spelling conventions. These words usually need to be taught as whole units. This recognition and reading of sight words helps with the automaticity of reading.

**PROCEED TO THE NEXT SLIDE.**

**Phonics: Alphabetic Understanding**  
**Sentence Reading**

- Practicing reading regular and irregular words then reading them in the context of a sentence

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## SLIDE 30

**SAY:** When we've reached the point of sentence reading, we take the exercises that the students have done in the spelling of regular and irregular words and now have them recognize those words within the context of the sentence. So the teacher may initially model the reading of the sentence and then the students practice it and read it back. These activities often have the student reading one time for accuracy and the second time for fluency.

**PROCEED TO THE NEXT SLIDE.**

**Technology Can...**

Support a student learning to...

- Pair sounds and letters to form words
- Spell with success
- Practice fluency in reading sentences
- Adapt reading strategies as immediate feedback is received

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## SLIDE 31

**SAY:** Using technology with auditory feedback, students can receive immediate confirmation of a letter sound that allows them to then put sounds together to build words and receive immediate feedback on whether the word they built is spelled correctly. Students also use technology to record sentences they read to play back their recordings for themselves or for others to hear how they are using fluency skills to read. In this area of reading instruction, a key component is the ability to receive immediate feedback for encouragement or correction minimizing a student's use of ineffective strategies.

**PROCEED TO THE NEXT SLIDE.**

**Technology Links for Reading Instruction**



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[www.texasat.net](http://www.texasat.net)

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## SLIDE 32

**Note to Presenter:** At this point reference the Technology Links for Reading handout for participants to identify resources that support students in this area.

**PROCEED TO THE NEXT SLIDE.**

**Tools to Explore**

- Low Tech
- Authoring Tools
- Ultimate Phonics
- WordMaker
- Lexia

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**SLIDE: 33**

**Note to Presenter:** Choose any applications that you have that would work in this area. You do not have to show these particular titles but try to have a couple examples that include both low tech and high tech. For examples of low tech strategies refer to the *Technology Links for Reading Instruction* chart.

**PROCEED TO THE NEXT SLIDE.**

**Word Processing / Authoring Tools**

- See the letter
- Hear the letter sound
- Match the sounds to the picture

b a t

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**SLIDE 34**

**SAY:** In this example, multimedia authoring technology can provide auditory, visual, and animation options to enable a student to see the letter and hear the letter sound by clicking on the letter. The student can be encouraged to click on the letters to build the word or to recognize how the word represented in the picture is broken down into sounds.

**PROCEED TO THE NEXT SLIDE.**

**Word Processing / Authoring Tools**

- Read the text.
- Hear the text.
- See the text in pictures  
(The boy hits the ball with the bat.)

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**SLIDE 35**

**SAY:** In this example, a student can see the letter and hear the letter sound by clicking on the letter. The student can be encouraged to click on the letters to build the word or to recognize how the word represented in the picture is broken down into sounds.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 36**

**SAY:** Ultimate Phonics by Spencer Learning is kind of a no frills software program that allows individuals to take time to hear parts of a word. The program can supplement existing reading programs and provide skill training in specific areas. Ultimate Phonics is a program to teach your children and students to read with phonics. It is a complete program that teaches all of the phonics sounds and rules of English in 262 simple, direct lessons. When they finish, your students will have thoroughly learned to read with phonics. Each lesson can build upon the previous one but it is not essential. You can use an index to go directly to a skill set that you are working on and have the student practice that skill.

The lessons are organized by introducing an idea, pattern, sight word, word list, and then finally using those words in a sentence.

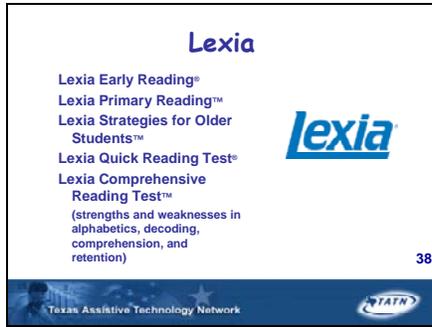
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**SLIDE 37**

**SAY:** WordMaker by Don Johnston is a program that was developed with lots of input from Pat Cunningham and her concept of working with words. This looks at words from a rhyming stand point, initial sounds, ending sound, sorting words, etc. The idea of working with words is manipulating the letters and see what additional word you can make. So if you have the word "it" and put an "s" in front of "it" ....what words do you have? "Sit"

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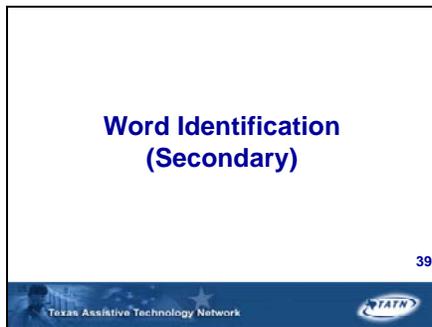


**SLIDE 38**

**SAY:** Lexia has a variety of programs that may aid individuals in the reading process. Lexia's structured approach to developing cognitive skills is helpful for mainstream students as well as those with cognitive difficulties. The software helps to strengthen students' thinking, memory, and problem-solving skills, thereby improving performance in varied subjects such as reading, math, science, and social studies.

They have two assessment packages the Quick Reading Test and the Comprehensive Reading test. These are tools that an individual can use to help identify a student's strengths and weaknesses. The programs will let you know what areas a student has mastered, what areas they need practice in and what areas they need instruction. These areas correspond with their Phonics Based Reading program which was developed by teachers and is based on the Orton Gillingham style of teaching reading.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 39**

**Word Identification**

**PROCEED TO THE NEXT SLIDE.**

**Word Identification**

**Letter/Sound Correspondence**

- Ability to say the sounds for each letter or letter combination that is given

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**SLIDE 40**

**SAY:** In word identification, we are looking at increasing the students' accuracy and rate in identifying letter sounds. This is important as you go from blending, word reading and passage reading.

**PROCEED TO THE NEXT SLIDE.**

**Word Identification**

**Structural Analysis**

- Analysis of compound words, contractions, syllables, root words, affixes, Greek and Latin morphemes

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**SLIDE 41**

**SAY:** When students come to multi-syllable and more complex words, being able to sound the word out by individuals phonemes may not be helpful. By teaching the students the structure of the word (e.g. finding the root word and then looking at the different prefixes and suffixes), the student's ability to decode additional words expands. When students are reading and they come across a word they do not know, they often look for familiar patterns. If they are able to locate the root word and then apply the intended meaning of the prefix and suffix, they can understand how to interpret the word.

**PROCEED TO THE NEXT SLIDE.**

**Technology Can...**

**Support a student learning to...**

- Recognize the parts that make up the word.
- Use context clues to interpret meanings.

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**SLIDE 42**

**Note to Presenter:** At this point reference the *Technology Links for Reading* handout for participants to identify resources that support students in this area.

**SAY:** Using technology, words can be represented in parts by visual contrasts or by auditory clues. Teachers can also easily insert notes either with voice or with text to provide context clues.

**PROCEED TO THE NEXT SLIDE.**

## Technology Supports for Struggling Readers

**Technology Links for Reading Instruction**



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### SLIDE 43

**Note to Presenter:** At this point reference the Technology Links for Reading handout for participants to identify resources that support students in this area.

**PROCEED TO THE NEXT SLIDE.**

**Tools to Explore**

- Low Tech
- Authoring Tools
- Read, Write and Type
- Co:Writer

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### SLIDE 44

**Note to Presenter:** Choose any applications that you have that would work in this area. You do not have to show these particular titles but try to have a couple examples that include both low tech and high tech. For examples of low tech strategies refer to the *Technology Links for Reading Instruction* chart.

**PROCEED TO THE NEXT SLIDE.**

**Word Processing / Authoring Tools**

- See the parts of the word.
- Hear context clues to interpret meanings.



(Baseball is an international sport.)

International  
Inter = between  
Nation = ex:  
United States,  
Japan, China

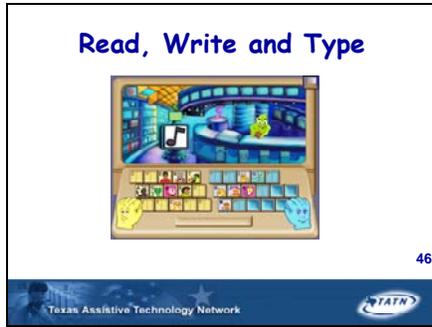
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### SLIDE 45

**SAY:** Using word processing and/or authoring tools, we can show the parts of a word using color coding. We can insert voice/text notes to facilitate a student in interpreting a difficult word.

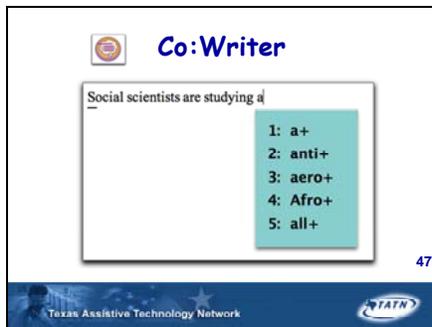
**PROCEED TO THE NEXT SLIDE.**



**SLIDE 46**

**SAY:** Read, Write and Type is a phonetic approach to teaching typing and keyboarding. It is a program that was initially designed by a neuropsychologist. When she tested this with first and second graders, she noticed that they were more likely to have a greater sentence length and to try to type words they didn't know how to spell through sounding it out.

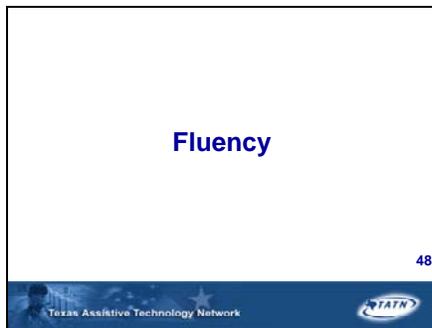
**PROCEED TO THE NEXT SLIDE.**



**SLIDE 47**

**SAY:** Co:Writer, a word prediction program by Don Johnston, Inc., has some features that aid in the teaching of prefixes and suffixes. There are keyboard equivalents that allow you to bring up a list of prefixes or suffixes. The student can choose and then add a root word. The use of these activities along with an electronic dictionary are great ways to have students explore word structure.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 48**

**SAY:** The third research-based reading component is fluency. This is the ability to be able to read text accurately and quickly. When fluent readers read silently, they recognize words automatically. Fluent readers read effortlessly and with expression.

**PROCEED TO THE NEXT SLIDE.**

**Fluency Instruction**

- Bridge between word recognition and comprehension
- Development is gradual over time
- Difference between more fluent readers and less fluent readers

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## SLIDE 49

**SAY:** Fluent readers focus their attention on making connections among the ideas in a text and between these ideas and their background knowledge. Therefore, they are able to focus on comprehension. Fluent readers read with expression as they divide the text into phrases and chunks.

Less fluent readers must focus their attention primarily on decoding individual words. Therefore, they have little attention left for comprehending the text. Less fluent readers may read in more of a monotone.

Many of us could become less fluent readers if we were introduced to a complex medical passage. We would have to take our time and slow down to decode the words that we are reading since they are probably not ones that would be recognized automatically.

**PROCEED TO THE NEXT SLIDE.**

**Fluency**

**Automaticity of Letter Sounds**

- Quickly recognizing letter sounds as a precursor to blending, word reading, and passage reading

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## SLIDE 50

**SAY:** As was mentioned before, the key to fluency is the automaticity of recognizing letter sounds; so the student can blend them to be able to read words and, therefore, passages.

**PROCEED TO THE NEXT SLIDE.**

**Fluency**

**Automaticity of Words**

- Accurately and quickly identifying regular words

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### SLIDE 51

**SAY:** When students recognize words quickly they can read passages with less effort. This automaticity allows them to read with expression. They are not slowing down to think about sounding out a word or decoding it. They can recognize it and allow their eyes to move forward to the next word.

**PROCEED TO THE NEXT SLIDE.**

**Fluency**

**Connected Text**

- Sounding out each word and then reading them together

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### SLIDE 52

**SAY:** Reading of connected text is important for reading comprehension. Students take the time to practice reading a passage allowing them to become comfortable with it. Many readers may have to read the passage up to 4 times in order to be able to read it fluently.

**PROCEED TO THE NEXT SLIDE.**

**Technology Can...**

**Support a student learning to...**

- Practice reading aloud
- Use models to develop fluency skills in reading

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### SLIDE 53

**SAY:** The feedback that a student receives by recording their own reading allows them to independently critique their own read alouds. Prerecorded passages provide students with reading models that they can imitate in their read alouds.

**PROCEED TO THE NEXT SLIDE.**

## Technology Supports for Struggling Readers

**Technology Links for Reading Instruction**

Assistive Technology in Texas Schools Series

Technology Supports for Struggling Readers

TATN

Technology Links for Reading Instruction

[www.texasat.net](http://www.texasat.net)

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### SLIDE 54

**Note to Presenter:** At this point reference the *Technology Links for Reading* handout for participants to identify resources that support students in this area.

**PROCEED TO THE NEXT SLIDE.**

**Tools to Explore**

- Start-to-Finish
- Talking word processors
- Scan and read systems

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### SLIDE 55

**Note to Presenter:** Choose any applications that you have that would work in this area. You do not have to show these particular titles but try to have a couple examples that include both low tech and high tech. For examples of low tech strategies refer to the *Technology Links for Reading Instruction* chart.

**PROCEED TO THE NEXT SLIDE.**

**Word Processing / Authoring Tools**

- Record yourself as you read
- Listen to the reading model

The Secret Garden  
by Francis Hodgson Burnett  
CHAPTER I THERE IS NO ONE LEFT

When Mary Lennox was sent to Misselthwaite Manor to live with her uncle everybody said she was the most disagreeable-looking child ever seen. It was true, too. She had a little thin face and a little thin body, thin light hair and a sour expression. Her hair was yellow, and her face was yellow because she had never been in India and had always been ill in one way or another. Her father had held a position under the English Government and

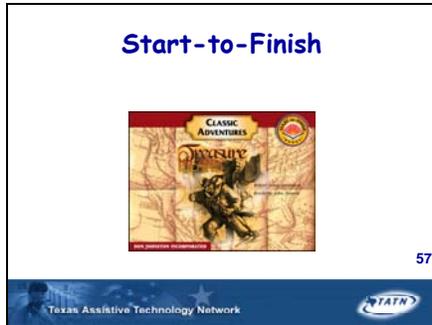
56

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### SLIDE 56

**SAY:** In this example, a student can see the letter and hear the letter sound by clicking on the letter. The student can be encouraged to click on the letters to build the word or to recognize how the word represented in the picture is broken down into sounds.

**PROCEED TO THE NEXT SLIDE.**

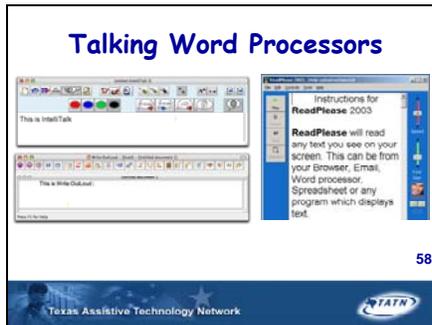


**SLIDE 57**

**SAY:** Start-to-Finish is a series that has been developed by Don Johnston and currently consists of 3 levels. The Gold Library focuses on students learning to read. Then the Blue Library focuses on students who are reading to learn. These books are available in a multi-format structure. Each book is provided in paperback form, audio cassette and on CD. The CD has an actual person reading the passage so the students can practice reading along with meaning.

The students can also listen to a sentence, paragraph or chapter as often as they need to. At the end of each chapter there are quizzes available to challenge a student's comprehension of the text. In the Blue Library the company has introduced a fluency practice area. The student can listen to a passage and then when they are ready they can read that same passage while recording their voice. The teacher is given feedback as to how long it took to read the passage. These sound files can be archived to document a student's progress in reading fluency.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 58**

**SAY:** Talking word processors that provide synthetic text to speech are a nice way to have the students listen to and read along with a passage, so they can get their re-reads in. There are a number of talking word processors on the market. Read Please is a free one for the PC. It can be downloaded at [readplease.com](http://readplease.com). It will speak any text typed in to it, pasted into it or any text file you open with it.

**PROCEED TO THE NEXT SLIDE.**

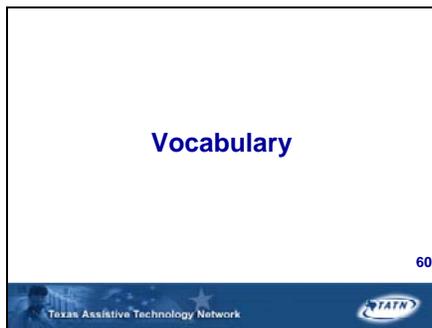


**SLIDE 59**

**SAY:** Scan and read systems are integrated programs that allow you to scan in information from a textbook, magazine, newspaper or other source. The computer after scanning it in then goes through a process of converting the material to text that the computer can then speak and read back to the student. Many of the scan and read systems also have the ability to read the web so web pages can now be accessible to students.

Some of the scan and read systems include WYNN from Freedom Scientific, Kurzweil from Kurzweil Education Systems, Read and Write Gold from TextHelp, and Scan and Read Pro from Premiere Assistive Technology, which makes their products available to schools through a grant system.

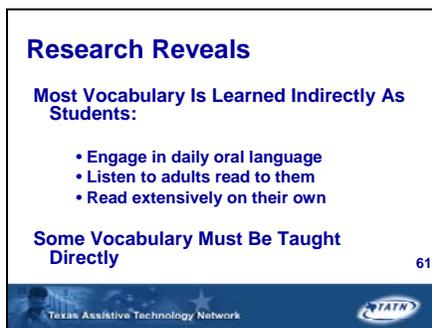
**PROCEED TO THE NEXT SLIDE.**



**SLIDE 60**

**SAY:** Vocabulary is another of the research-based components of effective reading instruction. If we do not know the meaning of words as we read, we are not able to comprehend the text.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 61**

**SAY:** The research shows that as individuals we utilize four different vocabulary sets. We use one set when we're listening. Another set when we are speaking, another set when we're reading and yet a fourth set when we're writing.

The majority of vocabulary is learned indirectly from listening to others use language or reading something in print. Some vocabulary needs to be taught directly so that students can comprehend the material they are reading and/or so they understand that some words have multiple meanings. Such as "It's cool outside" or "Wow, that's cool!"

**PROCEED TO THE NEXT SLIDE.**

**Research Reveals**

**Effective Word-Learning Strategies**  
**Include Using:**

- Dictionaries and other reference aids to learn word meanings and to deepen knowledge of word meanings
- Information about word parts to figure out the meanings of words in text
- Context clues to determine word meanings
- Word parts (suffixes, prefixes, base words)

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**SLIDE 62**

**SAY:** We want to instruct our students and teach them the skills they would need to be able to independently learn new words and expand their vocabulary. This would be through the use of low tech dictionaries but also electronic reference tools. The previously discussed area of word structure has a basis in the teaching of vocabulary.

**PROCEED TO THE NEXT SLIDE.**

**Vocabulary**

**Recognizing and Understanding Words**

- **Introducing**
  - new vocabulary
  - targeted words
  - basic concepts

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**SLIDE 63**

**SAY:** As we discussed previously with the teaching of new words, a teacher needs to determine which vocabulary needs to be taught. These might be new words that have an impact on the teaching of a new concept, or something that may be targeted because it is a high frequency word that the students will see repeatedly throughout their reading passages.

**PROCEED TO THE NEXT SLIDE.**

**Vocabulary**

**Synonyms and Antonyms**

- Learning words that have similar meanings to the target words and that have opposite meanings

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**SLIDE 64**

**SAY:** Synonyms and antonyms are a great way to have students explore words that have similar word meanings and also to explore opposite meanings. Microsoft Word has a synonyms or thesaurus built into it which can help students explore word meaning.

**PROCEED TO THE NEXT SLIDE.**

**Vocabulary**

**Definitions**

- Using categories and descriptors to define targeted words

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**SLIDE 65**

**SAY:** The ability to define words is a critical step in vocabulary development. In this area the students are taught strategies to define words by category and at least one descriptor. The students are then asked to relate the word to their own personal experiences therefore linking it to prior knowledge. Effective instruction in this area will allow the student to encounter the new vocabulary words multiple times in different settings.

**PROCEED TO THE NEXT SLIDE.**

**Vocabulary**

**Elaboration**

- Using descriptive words to describe objects and actions

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**SLIDE 66**

**SAY:** As students are becoming comfortable defining new words they are asked to elaborate on the target words. This is first done by having students list words that describe a picture. Then they are asked to insert details into an existing sentence. Finally the students are asked to produce a new sentence with at least one of the new descriptor words.

**PROCEED TO THE NEXT SLIDE.**

**Vocabulary**

**Context**

- Using the words surrounding an unknown word to figure the new word's meaning

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**SLIDE 67**

**SAY:** Students are taught to use the surrounding words to figure out the pre-selected new word's meaning. Then they are asked to use it in a sentence. This strategy is important to assist students when they encounter a word that they do not know their own.

**PROCEED TO THE NEXT SLIDE.**

## Technology Supports for Struggling Readers

**Technology Can...**

Support a student learning to...

- Search word meanings
- Explore new words
- Elaborate on immediate vocabulary

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### SLIDE 68

**SAY:** Technology makes looking up the meaning of a word fast and efficient. Students receive immediate feedback as they search electronic dictionaries for word meanings, have talking dictionaries provide the correct pronunciation of a word, and use electronic thesauri to consider synonyms and antonyms that expand on the vocabulary they are using in a document.

**PROCEED TO THE NEXT SLIDE.**

**Technology Links for Reading Instruction**



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### SLIDE 69

**Note to Presenter:** At this point reference the *Technology Links for Reading* handout for participants to identify resources that support students in this area.

**PROCEED TO THE NEXT SLIDE.**

**Tools to Explore**

- Franklin Spell Checker
- Language Master
- Reading Pen
- Highlighting tape
- Magnetic Poetry
- Read & Write Gold
- American Heritage English Dictionary
- Scan and Read systems

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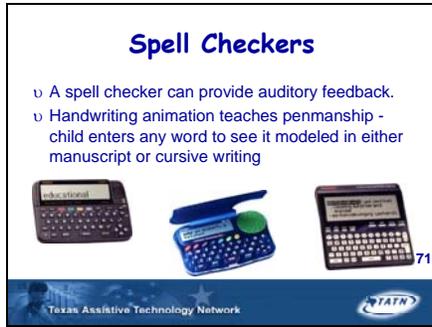
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### SLIDE 70

**Note to Presenter:** Choose any applications that you have that would work in this area. You do not have to show these particular titles but try to have a couple examples that include both low tech and high tech.

**PROCEED TO THE NEXT SLIDE.**



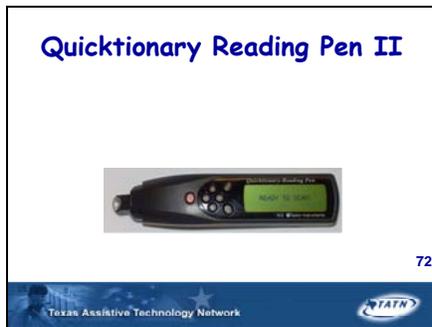
**SLIDE 71**

**SAY:** Franklin makes a number of devices that can allow the student to look up the definition of words. Some of these devices have the ability to provide auditory feedback. For the students who have difficulty reading some of the definitions, the use of a device with auditory feedback may provide access to the definition.

These devices also have different dictionary sizes. The Speaking Homework Wiz has an approximate 44,000 word dictionary, where as the Franklin Language Master has a 220,000 word dictionary. This will allow you to match the dictionary size to the student's ability.

Generally in education we buy the less expensive ones, and they tend to be the ones without auditory feedback. We want to look at making sure we provide some speaking dictionaries to aid all learners.

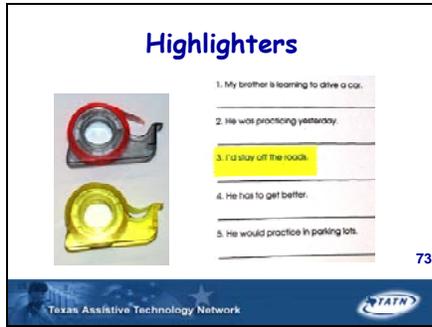
**PROCEED TO THE NEXT SLIDE.**



**SLIDE 72**

**SAY:** The Quicktionary Reading Pen II by Wizcom is a handheld Scanner. It allows you to scan a single word or a line of text and then have it spoken to the user. A good steady hand is important to ensure correct scanning. If a word is scanned in, then the student could look up the definition of the word; and if need be, they could hear that definition be spoken. The pen has the capability of keeping track of the last 80 words that were scanned in. This allows a teacher to go back and view what words the student had questions on.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 73**

**SAY:** Highlighters and highlighter tape is a great way to have students go through and locate their targeted vocabulary words in the reading passage. This is sometimes done as a class activity where the teacher asks the students to locate the words. When one student finds it they tell the other students where it is located such as in the 3rd paragraph, 2nd line, 5th word. Then all of the students highlight that word.

With the use of highlighter tape it is removable so the students can use it again for the next reading passage.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 74**

**SAY:** Magnetic Poetry has a variety of kits available. One of the kits that would assist in this area of vocabulary development is the flip kit. If the students have created words in a sentence using some words from the flip kit, they can turn the word over to see how it affects the meaning of the sentence. For example, if they use the word “smart,” the word on the flip side is “brilliant.” If they use the word “crazy,” the word on the flip side is “demented”.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 75**

**SAY:** Scan and read systems are integrated programs that allow you to scan in information from a textbook, magazine, newspaper or other source. The computer after scanning it in then goes through a process of converting the material to text that the computer can then speak and read back to the student. Many of the scan and read systems also have the ability to read the web so web pages can now be accessible to students.

Some of the scan and read systems include WYNN from Freedom Scientific, Kurzweil from Kurzweil Education Systems, Read and Write Gold from TextHelp, and Scan and Read Pro from Premiere Assistive Technology, which makes their products available to schools through a grant system.

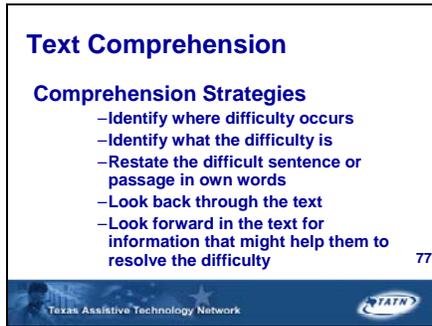
**PROCEED TO THE NEXT SLIDE.**



**SLIDE 76**

**SAY:** The final area that we will look at is text comprehension. This is the process of being able to make meaning out of the printed word. Comprehension develops through a series of reading strategies.

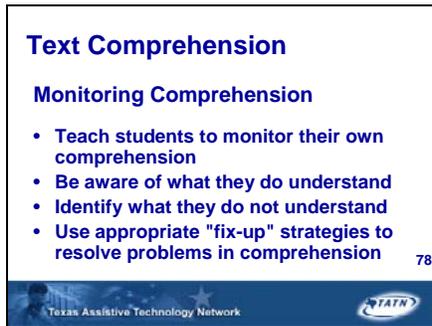
**PROCEED TO THE NEXT SLIDE.**



**SLIDE 77**

**SAY:** These are just a few of the comprehension strategies that may be taught. Some others include using prior knowledge by previewing a story and having the students do a "walk through" to make connections between the story and what they already know. They are also taught to make predictions based on what they are currently reading. Another strategy is having the students ask questions that will assist them in focusing their attention to the text.

**PROCEED TO THE NEXT SLIDE.**



**SLIDE 78**

**SAY:** It is important for the reader to be able to monitor themselves, see where the break down occurs and then determine what strategies they need to use to resolve the problem. If a child says they don't understand what this means, that shows that they are thinking about their reading.

**PROCEED TO THE NEXT SLIDE.**

**Comprehension**

**Literal Comprehension**

- Understanding what is explicitly stated or clearly implied in the text

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**SLIDE 79**

**SAY:** Students here are asked to answer direct questions about the passage they are reading. This passage may be a narrative passage the student was asked to read. Initially the questions are asked after shorter reading passages and then gradually longer passages as they increase generalization.

**PROCEED TO THE NEXT SLIDE.**

**Comprehension**

**Implicit Comprehension**

- Understanding a meaning that is intended or suggested by the author but not stated

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**SLIDE 80**

**SAY:** This expands on the area of literal comprehension. The students are starting to make inference as to what the author may have intended to convey but may not have said literally.

**PROCEED TO THE NEXT SLIDE.**

**Comprehension**

**Story Retell**

- Recalling events from a passage and retelling it

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**SLIDE 81**

**SAY:** The introduction of the format for story retell gives the students the ability to retell events that can be applied to sentences, paragraphs and passages, This retell can be accomplished orally or introduced in a written format of the story retell. This strategy of story retell allows the student to become accurate in summarizing and monitoring their understanding while reading.

**PROCEED TO THE NEXT SLIDE.**

**Comprehension**

**Story Grammar**

- Understanding story grammar elements (main characters, setting, problems, important events, solutions and themes)

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**SLIDE 82**

**SAY:** Getting the students to look at story grammar assists them in focusing on key elements of a reading passage. The format may have them look at the beginning of the story “What happened first?” then the middle “What happened next?”, and finally the end “What happened last?”

Students can expand to looking at the questions “who, what, when, where, and why.” Another story structure has the students looking at the setting, the characters, the problem and important events. From there they look at the solutions and finally determine the theme.

**PROCEED TO THE NEXT SLIDE.**

**Comprehension**

**Sequencing**

- Sequencing events in short decodable passages

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**SLIDE 83**

**SAY:** With sequencing we are looking at assisting students in organizing and comprehending the text they are reading. Through these activities of sequencing a teacher can sometimes see where a student may be having difficulty with comprehending the text they are reading. Sequencing could be done verbally or by having the students number the sequence of the sentences or by having the students expand sentence prompts into rewriting the passage they just read.

**PROCEED TO THE NEXT SLIDE.**

**Comprehension**

**Main Idea**

- Determining the main idea of a passage

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**SLIDE 84**

**SAY:** Students are taught the definition of a main idea and through a number of strategies they locate it.

A strategy they may use that help them focus is

Tell about the parts of the story.

The parts are the details.

Tell about all of the parts in just a few words.

When you tell about all of the parts in just a few words, you tell the main idea.

**PROCEED TO THE NEXT SLIDE.**

**Technology Can...**

Support a student learning to...

- Look up meanings of difficult words or unfamiliar phrases
- Sequence events in a story
- Discriminate the parts of a passage

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## SLIDE 85

**SAY:** Using the features of technology that we have previously discussed, students can further develop their reading skill as auditory or pictorial supports are combined with text to assist students in comprehension. Immediate feedback is provided as they sequence the events in a story and visual cues are provided to breakdown the parts of a story.

**PROCEED TO THE NEXT SLIDE.**

**Technology Links for Reading Instruction**



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## SLIDE 86

**Note to Presenter:** At this point reference the *Technology Links for Reading* handout for participants to identify resources that support students in this area.

**PROCEED TO THE NEXT SLIDE.**

**Tools to Explore**

- Inspiration
- Kidspiration
- Picture It
- Writing With Symbols 2000
- Communicate: In Print
- News-2-You
- Scan and read systems

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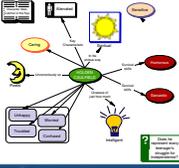
## SLIDE 87

**Note to Presenter:** Choose any applications that you have that would work in this area. You do not have to show these particular titles but try to have a couple examples that include both low tech and high tech. For examples of low tech strategies refer to the *Technology Links for Reading Instruction* chart.

**PROCEED TO THE NEXT SLIDE.**

**Inspiration**

↳ An easy-to-use tool designed to map out ideas in a visual diagram



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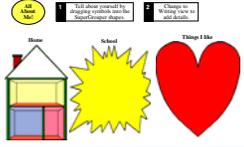
**SLIDE 88**

**SAY:** Inspiration is a visual tool that allows you to diagram story maps, concept maps and webbing on the computer in an electronic format. A story structure template can be set up that helps direct the students into locating the parts of the story. For some students who do not work well in a linear outline format, the use of the visual diagram may assist in allowing them to get the overall picture of the reading passage.

**PROCEED TO THE NEXT SLIDE.**

**Kidspiration**

↳ An easy-to-use tool for younger students designed to map out ideas in a visual diagram



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**SLIDE 89**

**SAY:** Kidspiration is made by the company, Inspiration Software. It is geared towards students in grades K-6 and allows you to do the same activities as Inspiration, but it has an easier user interface.

**PROCEED TO THE NEXT SLIDE.**

**Software for Picture Support**



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**SLIDE 90**

**SAY:** For some students who may need additional support in comprehending text, you may want to look at programs that provide text to picture symbol support. Communicate in Print published by Widgit Software Ltd. and Picture It from Slater Software are two programs that allow you to enter text and, for every word that it has in its library, a picture will appear. The concept here is not that you teach the student that this is the word for \_\_\_\_; but that if they are reading and have difficulty in knowing what a word is, they can use the picture support to figure it out.

**PROCEED TO THE NEXT SLIDE.**

## Technology Supports for Struggling Readers

**News-2-You**

<http://www.news-2-you.com>

- Weekly Publication
- 9-16 pages
- 3-4 of current events
- Joke
- Recipe
- Activity Page
- Additional Pages to Personalize



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### SLIDE 91

**SAY:** News-2-You is a weekly newsletter publication that has the picture symbol support already included. Since it is a weekly newsletter it includes stories that the students have heard covered on the news or heard their parents talk about. So it involves current topics giving the student the background knowledge they would need to comprehend the text.

**PROCEED TO THE NEXT SLIDE.**

**Scan and Read Systems**

- WYNN 4
- Kurzweil 3000 v 10.0
- Read and Write Gold 8



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### SLIDE 92

**SAY:** Scan and read systems are integrated programs that allow you to scan in information from a textbook, magazine, newspaper or other source. The computer after scanning it in then goes through a process of converting the material to text that the computer can then speak and read back to the student. Many of the scan and read systems also have the ability to read the web so web pages can now be accessible to students.

Some of the scan and read systems include WYNN from Freedom Scientific, Kurzweil from Kurzweil Education Systems, Read and Write Gold from TextHelp, and Scan and Read Pro from Premiere Assistive Technology, which makes their products available to schools through a grant system.

**PROCEED TO THE NEXT SLIDE.**



### SLIDE 93

**SAY:** In conclusion, we have presented a range of possible solutions. You can see where some of the software may be in more than one area. You are encouraged to look at the existing tools and titles you have within your own district. Determine what areas they would assist students in the reading process and begin to implement them to benefit students who struggle with the reading process.

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