

Vision & Hearing Screening and Interventions in General Education Prior to Referral



General Education Vision Screening Guidelines

According to Prevent Blindness America (1998), vision problems affect one out of twenty preschoolers and one in four school-age children. They report that over 80 percent of preschool and school-age children never receive a vision screening. Most persons are visual learners, acquiring approximately 85 percent of all knowledge through vision. Therefore, it is imperative that a possible visual problem be identified as early as possible

Vision screening is the responsibility of the general education program. Each school system in the state of Tennessee is required to conduct system-wide grade level screening. Vision screening is required two times during grades K-3, and twice during grades 4-8. It is recommended that grades K and 2 be screened in the lower grades, and grades 4 and 8 are screened in the upper grades be screened for vision problems. Students in all classrooms in the specified grade level must be screened. This screening does not require parental permission; however, parents should be notified of screening results. Other students who should be screened are those who are new to the school system and those suspected of having a vision problem by their teachers. School systems may utilize school personnel, volunteers, or agencies to conduct their system-wide screening. Minimum procedures for vision screening include distance and near vision acuity. Muscle balance, visual field, depth perception, and color perception may also be included. The *Vision Screening Results Form* may be used to record the results of vision screening. If a student fails any of the areas below, a second screening should be done as confirmation of the problem. This second screening is a continuation of the initial screening and should be administered on a different day, if possible. The practice of confirming the results of the initial screening should reduce errors and/or over-referrals. Failure in one or more of the following areas should be confirmed by a second screening:

- An acuity of 20/40 or less in either eye for distance or near vision for children grades K through 3
- An acuity of 20/30 or less in either eye for distance or near vision for children grades 4 through 12
- A difference of two lines or more between eyes

It is not necessary for students who have already been identified with visual impairments to undergo vision screening and/or a referral to an eye specialist.

REFERRAL FOR EYE EXAMINATION

A vision screening program must include a referral for an eye examination. Follow-up procedures should include appropriate medical examination and intervention. Screening personnel should notify those responsible for follow-up when students fail the screening. Results of the final screening should be recorded in the student's cumulative record.

Distance and near vision screening results are usually reported as visual acuity and represent central field vision. The optimal distance for testing distant visual acuity is twenty (20) feet. Visual acuity is recorded as a fraction in which the numerator represents the test distance and the denominator represents the row of letters that can be read on the chart. For example, acuity of 20/100 indicates that a child reads at 20 feet what the normally seeing child should be able to read from a distance of 100 feet.

METHODS OF SCREENING FOR POSSIBLE VISION PROBLEMS

Screening of Distance Vision

Screening of distance vision may be done in three major ways: 1) screening at optical distance using a stereoscopic instrument, 2) screening at physical distances using a variety of charts or cards which are manipulated by the screening personnel, and 3) photoscreening.

1. Screening using a stereoscopic instrument

Two instruments are typically used for screening at optical distances; the *Keystone Telebinocular* and the *Titmus Vision Tester*. Each instrument includes appropriate cards for assessing near and distance acuity, fusion, muscle balance, depth perception, and color perception when appropriate.

Instructions for conducting screening using the *Keystone Telebinocular* and the *Titmus* are provided with the machines. These instructions should be followed very carefully to ensure valid results. Screening personnel should keep in mind that the two stereoscopic instruments mentioned above tend to over-refer. The screener should select a quiet and private place to conduct the screening. The instrument should be placed on a table close to an electrical outlet. It may be necessary to have an electric adapter and a spare bulb. Forms for recording results should be next to the instrument. Chairs should be provided for the child and the screening personnel.

2. Screening at Physical Distances

Screening at physical distances involves the use of a variety of charts, cards, and other materials that are manipulated by the screening personnel. In this method, screening personnel actually measure the physical distance between the student being screened and the various charts or other instruments being used.

The room selected for vision screening using the second method should be quiet and provide good lighting. If distance screening is to be conducted in the same room as the other areas to be screened, the room must be large enough to accommodate the screening distance indicated on the chart.

The *Snellen Chart* is considered to be the most reliable instrument for vision screening. Unlike the stereoscopic instruments, use of the *Snellen Chart* is less likely to result in over-referral due to failure on the screening. If a stereoscopic instrument is used in the initial screening and a child fails that screening, it would be beneficial to use the *Snellen Chart* or a similar instrument for the second screening.

The tests for distance vision will not detect the child with hyperopia or farsightedness. The *Plus Lens Test* is a more reliable test to detect hyperopia. The child's vision is checked using the *Snellen Chart* or one of the binocular instruments while wearing plus lenses mounted in a small, inexpensive frame. The plus lenses are of 2.25 diopters for all ages. If the child can see the 20-foot line at twenty feet from the chart with both eyes while wearing these lenses, a referral should be made. Many of the stereoscopic instruments provide their own criteria for screening with the *Plus Lens Test* (Harley, Lawrence, Sanford, & Burnett, 2000).

Screening Very Young Children or Children with Multiple Disabilities

Other charts may screen children who are unable to respond to the Snellen Chart because of developmental level or multiple disabilities. The *Snellen E Chart*, the *Apple, House, Umbrella Test* or the *Symbols for 10 Feet Chart* ([Lighthouse International](#)) may be used. Other materials that may be appropriate are the Lea materials and the Home Eye Chart ([Vision Associations](#)) for screening preschool children.

A checklist titled *Guide to Testing Distance Visual Acuity (Prevent Blindness)* is available in an easy-to-use format. It includes a diagram of room set-up, specific instructions for preparing the child, and interpretation of test results.

3. Photoscreening

Photoscreening is currently being used by various agencies such as the Lions Eye Center to detect potential vision problems in pre-literate children, ages six months to four years. The photoscreener takes two black and white pictures of the eye which are later evaluated by eye care professionals.

Screening at Near Distance

Near vision screening is typically conducted by one of two methods: screening using stereoscopic instruments or screening using near vision test cards.

1. Screening using stereoscopic instruments

The same stereoscopic instruments used for distance screening may also be used to screen for near acuity. While these instruments do tend to over-refer, they do offer some advantages over a hand held chart in that they provide for a constant illumination and object distance (Harley, Lawrence, Sanford & Burnett, 2000, p. 126).

2. Screening using Near Vision Test Cards

Near vision is commonly tested using one of several reading cards which are available from a variety of sources. The reading card is ordinarily held at a distance of fourteen inches from the eye. The reading distance for low vision children and illumination should be recorded. Jaeger and point-print denote size which can be used in designing educational material. Jaeger thirteen to eighteen point type is largely used in books for first grade and low vision children (Harley, Lawrence, Sanford & Burnett, 2000, p. 126). Some examples of reading cards that may be used include the *ETDRS Near Chart* ([Prevent Blindness America](#), 1996), *Rosebaum Pocket Vision Screener* and the *Lighthouse Near Vision Acuity Test*. Many of these cards may be obtained through [Prevent Blindness America](#) or [Lighthouse International](#).

Children's Vision Screening Referral Guidelines

Refer the child who shows possible appearance, behavior, or complaint signs of a vision problem.

- Eye(s) turning inward or outward
- Red-trimmed, encrusted or swollen lids
- Styes or infections
- Possible eye injury
- Thrusting head forward
- Squinting or frowning
- Closing or covering one eye
- Blurred or double vision
- Sees blur when looking up after work
- Watering eye(s)
- Upper lid touching or partly covering pupil
- Presence of white pupil when looking directly at the child's eyes, or in photo
- Rigid body when looking at distant objects
- Tilting head to one side
- Excessive blinking
- Headaches, nausea, or dizziness
- Burning, scratchy, or itching eyes
- Unusual sensitivity to light

Guidelines for the distance acuity screening (Snellen Chart)

Age of Student	Starting Line	Refer the child who does not pass the line with one or both eyes when re-screened.
5 years and younger	20/50	20/40
6 years and older	20/40	20/30

Source: Adapted and modified from Prevent Blindness

Hearing Screening

Student Name _____
Last First

Teacher _____ Grade ____ School _____

School System _____ Date _____

Pure Tone Screening

	1000 Hz	2000 Hz	4000 Hz
RIGHT EAR:	_____	_____	_____
LEFT EAR:	_____	_____	_____
	(20 db HL)	(20db HL)	(20 db HL) (Screening Level)

√ = Pass

_____ Pass _____ Could not screen
_____ Rescreen _____ Absent

(Screener's Signature)

Rescreen Date _____

Pure Tone Screening

	1000 Hz	2000 Hz	4000 Hz
RIGHT EAR:	_____	_____	_____
LEFT EAR:	_____	_____	_____
	(20 db HL)	(20db HL)	(20 db HL) (Screening Level)

√ = Pass

_____ Pass
_____ Further testing indicated

(Screener's Signature)

Determination of Need for Evaluation Worksheet

Student Name: _____ Teacher: _____

Step One Answer the following questions **Yes** or **No**:

- _____ Were strategies or interventions recommended?
- _____ Were those interventions/strategies in place for a sufficient length of time?
- _____ Were those strategies/interventions ineffective in remediating the student's progress in his/her deficit academic area(s)?
- _____ Have appropriate general education interventions or strategies been attempted in the student's area(s) of academic difficulty?
- _____ Has the student received consistent remedial instruction over an extended period of time?

Step Two Based on information available in the student's record(s) and through the student's general education teacher, make a preliminary determination that the following factors are not the primary factor causing the student's underachievement.

- _____ Limited English proficiency
- _____ Environmental, cultural or economic disadvantage
- _____ Lack of motivation
- _____ Situational trauma (temporary, sudden, or recent change in the student's life)
- _____ Frequent school transfers which have caused gaps in instruction or adjustment issues
- _____ Lack of regular school attendance
- _____ Medical condition(s)
- _____ Visual, hearing, or motor impairment

Step Three If, after consideration of the above factors, the student exhibits a resistance to instruction based on a continued lack of progress, an evaluation to determine the presence of a learning disability may be appropriate.

Signature(s) of Persons Completing Information

Date

Mathematics Instructional Strategies

If a child is having difficulty because

overall skill levels are lower than grade level:

- Assess the level for instruction.
- Provide small group instruction on needed skills.

of difficulty remembering facts:

- Separate the basic facts into “sets” or “fact families” – each to be memorized successively by the students.
- Make sure that the student has appropriate references/materials to assist in fact calculation.
- Use manipulative objects (e.g., abacus, base ten blocks, number line, etc.).

of inability to read text:

- Align material with the student’s independent comprehension level.
- Highlight key words in math problems.

of difficulty attending to important details:

- Highlight key words in math problems.
- Use a window overlay or Tachistoscope to isolate individual examples.
- Use vertical lines or graph paper to help with organization of productions.
- Reduce the number of problems/information on a page.
- Highlight important information on a page.

of slow completion of work:

- Reduce the number of items to complete.
- Use manipulative objects (e.g., abacus, base ten blocks, number line, etc.).

of problems retaining and sequencing steps for math computations:

- Review on a consistent basis those skills, concepts, tasks etc., which have been previously introduced.
- Use a math reference sheet for the student to keep at his/her desk.
- Verbalize steps of the computations (if this is a strength).
- Use manipulative objects.
- Use color coding, gradually reducing the use of colors as the student demonstrates success.
- Use a calculator.

of failure to visualize concepts:

- Use simple and consistent language.
- Use visualization and verbalization techniques.
- Assess and teach concept terminology.

of inability to solve word problems:

- Use concrete experiences.
- Use verbalization and/or visualization strategies (if these are strengths).
- Use calculator.

of inability to compute time, money and measurement problems:

- Use manipulatives.
- Verbalize the concepts taught (if this is a strength).

of slow completion of work:

- Reduce the number of items to complete.

Adaptive Strategies for General Education Interventions

This list of strategies and accommodations may be used to select appropriate interventions when students are having educational difficulties. Implementation of strategies matched to the student's needs can enable most students with educational difficulties to be successful in the general education setting and curriculum.

Environmental Strategies

- Seat close to teacher, board or work area.
- Seat away from distractions (e.g., doorway, noisy heater/fan/air conditioner, high traffic areas, visibly stored manipulatives).
- Seat near well-focused and/or helpful student(s).
- Be sure desk and chair are appropriately sized for the student.
- Provide an alternative work space (e.g., study carrel).
- Arrange classroom to accommodate preferential workgroups: individual, pairs, small groups

Response Strategies

- Allow students to dictate responses when necessary in place of writing.
- Provide alternative assignments to limit writing demands (e.g., oral reports, constructing models, labeled illustrations, demonstrations, etc.).
- Reduce writing requirements (e.g., have students write answers only, answer a limited number of questions, etc.).
- Reduce the number of items of a crowded page or worksheet by cutting the page in half and/or enlarging it.

Note Taking Strategies

- Model what students should write (using overhead projector). Say the words while you write them.
- Provide an outline or organizer so that the student needs only fill in key words and phrases.
- When students are required to fill in a chart or organizer, provide sufficient space to accommodate writing if student's writing is larger than average. (Provide an enlarged organizer if necessary.)

Assessment Strategies

- Review important ideas before the test. Provide a study guide.
- Allow use of notes (make sure student has legible notes).
- Level tests (i.e., students with different abilities may take different parts of the test).
- Read all directions and test items when necessary. It may be necessary to read one item at a time.
- Allow dictation of lengthy responses.
- Consider providing frame paragraphs in place of essay responses or provide a structure for paragraph development.
- Allow alternative response formats - pictures, diagrams, graphic organizers, models, demonstrations, etc.
- Reduce memory demands, provide choices for factual information (e.g., matching, multiple choice, answer box).
- If unit objectives have been modified for a student, test only the selected objectives.

Organizational Strategies

- Establish a consistent daily routine. Post the daily schedule and point out any changes in the routine.
- Minimize transitions throughout the day.
- Have the student use a daily or weekly homework sheet, assignment notebook, or calendar for recording homework.
- Establish a consistent place to post homework assignments and to turn in homework and class work.
- Keep a master list of homework and class work assignments so the student can catch up if an assignment was lost, incomplete, or missed.
- Distribute independent seatwork assignments one at a time or list in order of priority for completion.
- Provide time for organizing materials (e.g., clear clutter from desk, clean out desk, file papers in notebook/binder). Provide assistance as needed.
- Three-hole punch papers that are to be filed in a binder before distributing.
- Have students number or color-code papers to be filed in binder.
- Provide ample opportunities for discussion before students begin a writing assignment. Teach students to jot down key words during discussion.
- Provide/develop a proofreading checklist.
- Give a time frame for completing parts of a long-term assignment and check progress periodically.
- Provide a checklist of materials needed for a class or subject.
- Provide a study guide for each unit.
- Provide frequent opportunities for discussion to ensure understanding.
- Provide a safe environment for verbalizing and responding without fear of ridicule.
- Provide sufficient time for guided practice.
- Summarize key points and review outcomes at the end of each lesson.
- Utilize cooperative learning activities and paired practice when appropriate.
- Do not teach similar skills or concepts on the same day (e.g., latitude/longitude).
- Have student teach skill/concept to other(s).
- Teach associative clues such as mnemonic devices to aid memory.
- Provide a desk copy of board or overhead work to limit far-point copying.
- Color-code, highlight, or box the directions so that they stand out from the rest of the activity and teach students to do the same.
- Use visual “flags” to draw attention to important points, questions, directions, or steps.
- Set aside a few textbooks with main ideas and key words highlighted.
- Provide lower-level materials for independent reading assignments when possible. Use same-topic materials from a lower grade level or re-written text.
- Read directions and passages aloud, if necessary.
- Allow student to use manipulatives as long as necessary for each math concept/skill.
- Teach students to highlight relevant information in a math word problem.

Usual Classroom Interventions

	YES	NO
▶ Has the student participated in daily whole group reading/language arts instruction?		
▶ Have you provided whole group reading/language arts instruction in the following?		
• Shared Reading		
• Phonemic Awareness Skills		
word awareness		
syllable segmenting		
rhyming		
initial and final sounds		
blending		
segmenting		
sound/symbol correspondence		
• Decoding		
graphophonic/visual cues		
syntactic/structure cues		
meaning (semantic) cues		
• Comprehension Strategies		
understanding sentences		
chunking		
selecting important ideas		
understanding figurative language		
connecting sentences		
understanding pronouns		
understanding inferring conjunctions		
understanding other connecting inferences		
understanding the whole		
organize		
summarize		
elaborating		
prediction		
using prior knowledge		
forming mental images		
evaluating and regulating strategies		
selecting strategies		
monitoring comprehension		
using study strategies		
▶ Have you assessed continuously to provide a basis for instructional decisions (i.e., paperback titles, Early Success Readers (Houghton Mifflin), leveled readers, such as Rigby and Wright Group)?		
▶ Have you discussed this child's deficits and documentation of instruction with the special education teacher and/or other support personnel?		

Symptom List for Poor Reading or a Reading Disability

Page 1 of 3

- Late learning to talk
- Difficulty following directions
- Difficulty remembering lists and names
- Pronunciation errors for sounds or words
- Slow vocabulary growth
- Slow to learn the alphabet letter names or forms
- Doesn't "hear" the individual sounds in words
- Can't associate sounds with letters readily
- Can't apply sound-symbol associations fluently
- Gets stuck when blending the sounds together
- Reads too slowly – word by word
- Misreads the same words over and over
- Can't spell by sound
- Can't remember the letters but spells phonetically

Related and overlapping problems: pencil grip, sustained attention to task, controlling impulses, comprehending spoken language, mathematical reasoning.

Source: Adapted from Straight Talk about Reading

Symptom List for Poor Reading or a Reading Disability

Page 2 of 3

Grades K – 2:

- trouble rhyming
- doesn't know letter names and sounds
- doesn't learn phonics readily
- inconsistent memory for words
- can't remember lists (days, months)
- mispronounces words
- distracted by background noise
- can't retrieve names for colors, objects
- can't spell phonetically
- frustration, avoidance

Grades 3 – 4

- phonic decoding is a struggle
- inconsistent word recognition
- poor spelling, immature
- overreliance on context and guessing
- trouble learning new vocabulary
- symbolic confusion

Symptom List for Poor Reading or a Reading Disability

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Grades 5 – 6

- poor spelling, symbolic errors
- poor punctuation, capitalization
- trouble learning cursive
- overreliant on context to read; decodes poorly
- usually hates to write, avoids reading

GRADES 7 – 8

- slow reading
- cannot decode new vocabulary
- poor spelling
- cannot organize written compositions
- word confusions

Grades 9+

- writing less good than reading comprehension
- poor spelling and “mechanics”
- difficulty learning a foreign language
- slow, minimal, or disorganized writing

Development of Reading

(Chall, 1983; Moats, 1999)

Stage 0: Pre-reading Stage (Kindergarten)

- recognizes whole words without understanding that letters represent speech sounds
- recognizes letters of the alphabet
- recognizes that letters correspond to speech sounds
- begins to sound out beginning consonants

Stage 1: Decoding Stage (Grades 1 and 2)

- recognizes consonant, vowel, digraphs, blends, and r-controlled vowels
- decodes simple words by using phonics (sound-symbol association)
- spells phonetically
- focus is on sounding out and determining what each word is, rather than meaning (“Glued to Print”)
- recognizes print patterns – chunks
- begins to read two-syllable words, word endings

Stage 2: Confirmation of Fluency (Grade 3)

- student is not learning new information, but reinforcing what is already known
- level of automatic decoding is reached, allowing increased speed/fluency of reading to occur

Stage 3: Reading to Learn (Grades 4-8)

- student stops “learning to read” and shifts to “reading to learn”
- comprehension is focus over word recognition
- this period is frequently associated with difficulty for many students because reading materials are more abstract and complex and vocabulary is more difficult

Stage 4: Reading for Multiple Viewpoints (Grades 9-12)

Stage 5: Reading to Construct New Knowledge (Beyond Grade 12)

- reading abilities/comprehension abilities are “refined”
- rate of reading continues to increase
- reader is able to read for a variety of purposes

Stages of Beginning Reading and Spelling Development

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1. EMERGENT READER

Child Knows	Needs to Learn	Strategies
<ul style="list-style-type: none">• a few alphabet letters	<ul style="list-style-type: none">• all alphabet letters	<ul style="list-style-type: none">• alphabet matching, naming, ordering
<ul style="list-style-type: none">• rhyming, clapping syllables	<ul style="list-style-type: none">• phoneme segmentation and blending	<ul style="list-style-type: none">• Sound boxes, say it and move it
<ul style="list-style-type: none">• writing letters in own name	<ul style="list-style-type: none">• writing all letters	<ul style="list-style-type: none">• multisensory practice, with arrows
<ul style="list-style-type: none">• concepts of print	<ul style="list-style-type: none">• letter-sound connections	<ul style="list-style-type: none">• keyword association, feeling the sound, sorting words by sound, building words with letter cards
<ul style="list-style-type: none">• a few icons or signs; can read own name	<ul style="list-style-type: none">• 30-50 known words in print	<ul style="list-style-type: none">• tracing and saying whole words, matching words to pictures, people or objects
<ul style="list-style-type: none">• how a story goes	<ul style="list-style-type: none">• retelling, describing, connecting to own experience	<ul style="list-style-type: none">• wordless books, created books, shared reading

2. PHONETIC SPELLING AND EARLY ALPHABETIC READING STAGE

Child Knows	Needs to Learn	Strategies
<ul style="list-style-type: none"> • 50 words by sight • preprimer reading • consonant sounds in beginning of words • blending/ segmenting three and four sounds orally • spell sounds in words using inventive strategies • attempts to write sentences under pictures • writes letters slowly • retells events/stories 	<ul style="list-style-type: none"> • 100 to 150 sight words • oral reading from leveled text • blending letter-sounds through a new written word • short vowels, silent-e, consonant blends, digraphs • build conventional spelling vocabulary • writing complete sentences • question/statement • write letters fluently • classification and ordering of ideas • elaborated verbal reporting 	<ul style="list-style-type: none"> • build a file box for words • repeated reading of leveled books, partner reading • recognition and spelling of phonic patterns in one-syllable words, practice reading <u>decodable</u> text • sorting by spelling pattern, dictation, use in sentences • create own books, sentence frames, elaboration of subject and predicate, making questions • practice writing whole alphabet • story frames; group composition • retell, reenact, summarize, predict what is read

3. BEGINNING TO MIDDLE FIRST GRADE LEVEL

Child Knows	Needs to Learn	Strategies
<ul style="list-style-type: none"> • knows short vowel patterns, silent-e, diagraphs, blends • reads word by word • sight vocabulary + 100 • primer level reading • enjoys being read to • writes with no plan 	<ul style="list-style-type: none"> • vowel teams, diphthongs, r-controlled forms, syllable patterns • fluency to 60-70 words per minute in graded text • recognition vocabulary +200 • second primer level • independent reading • plan and organize ideas for writing 	<ul style="list-style-type: none"> • word sorting, building with letter cards, reading words with a partner, nonsense word decoding, practice in decodable text • partner reading, rereading easy books, taped reading at easy level • computer practice, cloze exercises, word games, multisensory techniques • guided reading of literature in small groups • take-home books, graphs of books read • use graphic organizers for sequencing ideas, writer's chair for audience connection

4. ORTHOGRAPHIC STAGE (About Grade 2)

Child Knows	Needs to Learn	Strategies
<ul style="list-style-type: none"> • beginning to read with fluency (60-80 w.p.m.) • writes more than one sentence but no logical structure • recognizes most one syllable word patterns • spells regular one syllable words and 50 – 100 basic sight words • overuses common vocabulary • unfamiliar with punctuation beyond the period and question mark • writes about own experiences in “train of thought” style • retells without summarizing or extracting main idea 	<ul style="list-style-type: none"> • increase fluency to 80+ w.p.m. • using connecting words and paragraph sequence • recognition of closed, open, r-controlled, vowel team, consonant-le, and silent-e syllables in longer words • spell compounds, words with endings, vowel team words, more variant patterns • more variety in speaking, writing, reading • use of comma, capitals, exclamation, quotations • gain more control over flow of ideas, use a plan • paraphrase, summarize, predict, question, connect 	<ul style="list-style-type: none"> • rereading familiar books, alternate oral reading with partner, tape reading • supply connecting words to unlinked sentences • syllable identification and classification, syllable combining, syllable division • word sort, test-study-test in organized program, use in writing and proofreading • antonyms, synonyms, classification, definition, context use • dictations, proofreading, group composition • stages of writing process encouraged individually and modeled by teacher • guided discussion, reader response, teacher modeling of strategies

Interventions for Reading Fluency

There has been much written about interventions to increase fluency both from NICHD publications and from Orton Gillingham. The most recent edition of Perspectives (published by the International Dyslexia Association, 2002) featured Fluency as the topic for the entire journal. Many children pass the Phonemic Awareness section of the Comprehensive Test of Phonological Processing (CTOPP), but fail Rapid Naming and therefore, we are often called upon to make recommendations for improving reading fluency. Below are several to consider.

Fluency training

1. Repeated reading: students read short meaningful passages until a satisfactory level of fluency is achieved. This is similar to developing musical or athletic abilities until they can be performed with adequate speed and smoothness. Teaching methods could include:
 - a. student reads orally along with an audio tape or computer
 - b. setting time criteria for passage and read until time, speed criterion is met
 - c. paired reading with a peer
 - d. paired reading with an adult
2. Training in automaticity – quick retrieval allows more time and energy to be available for comprehension.
 - a. encourage focusing on multi-letter units within words
 - b. teach orthographic patterns in English words, write word segments on flash cards and use in drill and practice in “Construct a Word” games
 - c. drill and practice for speedy recognition and recall the most frequently used non-content words (i.e., for, to, been, but, the, and, that, with, so)
3. Because of the cumulative effects of slow retrieval speed (letter by letter, then word to word), fluency in reading will be problematic. Decoding mastery needs to be teased apart from fluency. Fluency will take longer to improve and may always be an issue to some degree.

For Readers Who Lack Fluency

When reading out loud beginning readers of any age - whether six or sixty – often read in an uneven, hesitant fashion. It's safe to assume that the same hesitancy characterizes their silent reading. It is very important that they develop greater reading fluency, which is characterized by a well-paced, unhesitant delivery. Lack of fluency is a critical deterrent to reading comprehension. An effective means of helping students gain fluency is through three variations of modeling. "Modeling", as used, here refers to any activity that demonstrates how to read a passage aloud fluently, and then offers support to the "doer" in doing it. The variations in supported reading are called:

1. Echo Reading
2. Shadowed Reading, and
3. Assisted Reading.

The first - Echo reading – should be practiced before the second and the third. The variations are described below.

Echo Reading: A teacher or tutor reads the first sentence of a short paragraph that is at or slightly above the reading level of the target learner(s). The teacher reads with excellent fluency and expression at a moderate rate. One to five learners are directed to follow along in the same text. After one or two readings of the first sentence by the teacher, the learners read it with the teacher - using the same fluency, expression, and speed. They work with the sentence until all of them read it together appropriately. Finally, the group reads it without the teacher. Then each succeeding sentence is handled in the same way. Ultimately, the group proceeds to reading the entire paragraph together without the teacher, with appropriate expression, fluency, and speed. This activity should be performed frequently but should only last twenty minutes or so each time. Each learner's goal should be to replicate the teacher's performance with precision while reading. For some, working with the teacher is best. Others profit from group work.

Shadowed Reading: This is a group activity. A group of three to ten learners who have practiced Echo Reading are asked to listen to a short passage at an appropriate level of difficulty, following along in their copy of the text. Then the group tries to read it together, smoothly and at a reasonably good pace. The teacher also reads, providing a "lead voice" for each group. Learners should voice every word they can, but may omit words if unsure. Hearing others voice these words helps them learn. Each step in this activity is important and should not be omitted.

STEP 1: The teacher reads the entire selected text.

STEP 2: The learners follow along with their finger or card.

STEP 3: The teacher and learners read the text together.

STEP 4: The group re-reads as needed.

The group of learners is constantly reminded that everyone must try to read as many words as possible. Some learners need extensive encouragement to read out loud. They might be allowed to read in a very low voice at first and encouraged to read louder gradually. Because several voices are reading together (with the teacher providing the lead voice), less able readers' voices are "shadowed." As a result their mistakes are covered. Gradually less able readers tend to gain confidence and improve. This is a method for modeling good reading of a passage, then supporting the learners as they read. The lead voice can be gradually lessened.

Assisted Reading: After many sessions of Echo Reading and Shadowed Reading, it is time for solo reading on a one-on-one basis with a special twist. Because the major goal of these activities is to promote fluency, the following technique is employed in Assisted Reading:

STEP 1: One reader and the teacher sit side by side.

STEP 2: The teacher reads over the passage at a reasonable pace.

STEP 3: The reader follows the text carefully.

STEP 4: The reader starts reading alone, but at any pause or stumble the teacher quickly supplies the word or phrase and the teacher repeats it and moves on. Note that this is the opposite of the technique frequently used, which is to ask the reader to sound out the word. Stopping to sound out words tends to impede fluency instead of promote it, although it certainly can help readers learn to sound out words. Working with learners to sound out words is important, but the process shouldn't be practiced at a time when the promotion of reading fluency or reading with expression is the primary goal of the learning session. Different versions of modeling in the teaching of reading are sometimes referred to as "Duet Reading" or the "Neurological Impress Method." Whatever the name, effective modeling and extensive oral practice are very important to the development of a successful reader. Beginning readers (whether children or adults) need to develop fluency or the ability to read smoothly with appropriate intonation. Beginning readers also need to develop a sight vocabulary. The fluency activities described above help learners achieve both these goals.

Scientifically-based Research Components of Classroom Reading Instruction

(Adapted from *Put Reading First: The Research Building Blocks for Teaching Children to Read* by Armbruster, Lehr, Osborn, 2001)

5 Critical Components of Reading Instruction	Definition	Why is it important?	Activities/ Instructional Programs
<p>Phonological Awareness</p>	<p>An auditory skill that involves understanding the different ways in which spoken (oral) language can be divided into smaller components and manipulated (Chard and Dickson, 1999)</p> <p>Broad term that includes phonemic awareness</p>	<ul style="list-style-type: none"> ◆ Foundation of normal developmental sequence of acquiring reading and spelling skills ◆ Poor phonological awareness with accompanying poor decoding skills is the core characteristic of poor reading (Lyon, 1995) ◆ 80-90% of students with poor reading skills have poor phonological awareness skills (Shaywitz, 1992) 	<p><u>Activities (list not comprehensive)</u></p> <ul style="list-style-type: none"> • Identifies and makes oral rhymes • Segments spoken sentences into words • Segments spoken words into syllables • Identifies and works with onsets and rhymes (b-ag, sw-im) • Identifies spoken words with similar initial sounds • Identifies spoken words with similar ending sounds • Blends up to 3 or 4 orally-presented phonemes into correct word <hr/> <p><u>Instructional Programs (list not comprehensive)</u></p> <p><i>Teaching Reading: Language, Letters, and Thought</i> LARC Publisher (Chapter 2)</p> <p><i>Ladders to Literacy – A Preschool Activity Book</i> Brookes Publisher</p> <p><i>Phonemic Awareness in Young Children</i> by Adams Brookes Publisher</p> <p><i>Sounds Abound Program</i> by Catts and Olsen LinguiSystems</p>

5 Critical Components of Reading Instruction	Definition	Why is it important?	Activities/ Instructional Programs
<p>Phonemic Awareness</p>	<p>Ability to hear, identify, and manipulate the individual sounds (phonemes) in spoken words</p> <p>Ability to recognize that words are made up of discrete segments of speech sounds (phonemes). This awareness then leads to the ability to perceive and manipulate sounds (phonemes) within words, which is critical for both reading (decoding) and spelling (encoding).</p> <p>Highest or most sophisticated level of phonological awareness</p>	<p>Improves student's word reading and reading comprehension</p> <p>Helps students learn to spell</p> <p>Most effective when students are taught to manipulate phonemes by using letters of the alphabet</p> <p>Instruction is most effective when focus in on one or two types of phoneme manipulation rather than several types. Blending and segmenting skills appear to be the best for predicting reading success.</p> <p>Phonemic awareness training can help almost all students learn to read, including very young children (preschoolers) and older less able readers, as well.</p> <p>NOTE Phonemic Awareness training is <i>not</i> a complete reading program.</p>	<p><u>Activities (list not comprehensive)</u> Activities that build skills: phoneme isolation, identification, categorization, blending, segmentation, deletion, addition, and substitution (from easiest to most difficult)</p> <ul style="list-style-type: none"> • recognize words that begin with the same sound • isolate the first or last sound in a word • blend separate sounds in the word, to say the word • segment the word into its separate sounds <hr/> <p><u>Instructional Programs (list not comprehensive)</u> <i>Teaching Reading: Language, Letters, and Thought</i> by Brody LARC Publisher (Chapter 3)</p> <p><i>Ladders to Literacy – A Kindergarten Activity Book</i> by Notari-Syverson, O'Connor, Vadasy. Brookes Publisher</p> <p><i>Phonemic Awareness in Young Children</i> by Adams Brookes Publisher</p> <p><i>Sounds Abound Program</i> by Lenchner and Podhajski LinguSystems</p> <p><i>Sounds Abound</i> by Catts and Olsen LinguSystems</p> <p><i>Road to the Code</i> by Blackman Ball, Black Tangel Brookes Publisher</p> <p><i>Read Well</i> by Sprick Sopris West</p> <hr/> <p><u>Instructional Software (list not comprehensive)</u> <i>Phonemic Awareness</i> (CD-ROM) by LocuTour Multimedia LinguSystems</p> <p><i>Earobics</i> Cognitive Concepts</p>

5 Critical Components of Reading Instruction	Definition	Why is it important?	Activities/ Instructional Programs
<p>Phonics</p>	<p>The study and use of sound/spelling correspondences and syllable patterns to help students identify written words (Honig, Diamond, Gutlohn, 2000)</p> <p>A reading approach in which students learn the relationships between letters and sounds of our written language</p> <p>Students learn correspondences between letters and letter sounds for the purpose of “decoding” written symbols</p> <p>In systematic and explicit phonics instruction, letter-sound relationships are taught through direct instruction in a clearly defined sequence.</p> <p>The major sound/spelling relationships of both consonants and vowels are taught.</p> <p>Programs generally include materials for practice in applying knowledge of these relationships as students read and write. The books are referred to as Decodable Texts, in which most of the words are words the student can decode by using the letter-sound relationships they have learned or are learning. In spelling activities, students are encouraged to spell words and write their own stories with the letter-sound relationships they are learning.</p>	<p>Leads to the understanding of the alphabetic principle (i.e., the systematic and predictable relationship between written letters and spoken words)</p> <p>Systematic and explicit phonics instruction significantly improves students’ word recognition, spelling, and reading comprehension</p> <p>Systematic and explicit phonics instruction is most effective when it begins in kindergarten or first grade from varying social and economic levels.</p> <p>Systematic and explicit phonics instruction is especially beneficial for students who are having difficulty learning to read and who are at-risk for developing reading disabilities.</p>	<p><u>Activities (list not comprehensive)</u></p> <p>Instruction will include activities such as:</p> <ul style="list-style-type: none"> • matching letters/sounds. sorting pictures/words with initial letter, final letter • blending sounds to read words (real and nonsense words) • read aloud charts, stories, passages of CVC, CVGe, blends, vowel-teams, word families, diphthongs, digraphs, etc. • dictate words and sentences incorporating the letter-sound features being studied • pair students for practice reading decodable text stories aloud <p><u>Instructional Programs (list not comprehensive)</u></p> <p><i>Reading Reflex</i> by McGuinness and McGuinness The Free Press</p> <p><i>Concept Phonics</i> by Fischer Oxton House</p> <p><i>Lanugage!</i> By Greene Sopris West</p> <p><i>Explode the Code</i> by Hall & Price Educator’s Publishing Service</p> <p><i>Wilson Reading System</i> by Wilson Wilson Language Training</p> <p><i>Phonics from A to Z: A practical Guide</i> by Blevins Scholastic</p> <p><i>Decodable Texts</i> The Wright Group EZ2 Reward Decodable Books</p>

5 Critical Components of Reading Instruction	Definition	Why is it important?	Activities/ Instructional Programs
Fluency	The ability to read a text accurately and quickly	<p>Fluency frees students to understand what they read. Without having to labor over unknown words, more capacity is available to focus on meaning of the text.</p> <p>Can be improved through implicit training</p>	<p><u>Activities (list not comprehensive)</u></p> <ul style="list-style-type: none"> • Model fluent reading • Multiple readings (3 to 4 times) of continuous text • Measures of rate and accuracy are both important • Choral reading, echo reading, shared reading, partner reading, repeatedly reading, student-adult paired reading, tape assisted reading • Provide student with texts that are compatible with his/her independent level of reading* <p>*independent level text – Student reads with no more than 1 error in 20 words (95% accuracy)</p> <p><u>Instructional Programs (list not comprehensive)</u></p> <p><i>Teaching Reading: Language, Letters, and Thought</i> LARC Publisher (Chapters 5, 6)</p> <p><i>Read Naturally</i></p> <p><i>Great Leaps</i> by Campbell & Mercer Diarmuid, Inc.</p> <p><i>Teaching Reading: Sourcebook for kindergarten through eighth grade</i> by Honig, Diamond, & Gutlohn Arena Press, Chapter 11.</p>

5 Critical Components of Reading Instruction	Definition	Why is it important?	Activities/ Instructional Programs
<p>Vocabulary</p>	<p>The words we must know to communicate effectively include both oral and reading vocabulary</p> <p>The body of words students must understand in order to read texts fluently and with understanding</p> <ul style="list-style-type: none"> • Oral Vocabulary – words that we use in speaking and recognize in listening • Reading Vocabulary – words we recognize or use in print 	<p>Beginning readers use their own oral vocabulary to make sense of the words they see in print</p> <p>Readers must know the meaning of most of the words to understand what they read</p>	<p><u>Activities (list not comprehensive)</u></p> <p>Can be developed both directly and indirectly</p> <p>Read aloud to students, encourage independent wide reading, explicit teacher-specific words and concepts, strategies for learning new words, roots, affixes</p> <p>Kindergarten and 1st – Identify and sort common words into basic categories (colors, shapes, animals), describe common objects, classify grade-appropriate categories of words.</p> <p>Grades 2 and 3 – Begin learning common synonyms, antonyms, use individual know words in compound words to unlock unknown compound words, learn homophones and homographs and how they help determine meaning, use a dictionary to locate word meanings.</p> <p>Grades 4 and 5 – Identify and apply knowledge of word origins, derivations, synonyms, antonyms and idioms to determine meanings of words and phrases. Learn to use a thesaurus to identify related words.</p> <p><u>Instructional Programs (list not comprehensive)</u></p> <p><i>Teaching Reading: Language, Letters, and Thought</i> LARC Publisher (Chapter 9)</p> <p><i>Teaching Reading: Sourcebook for kindergarten through eighth grade</i> by Honig, Diamond, & Gutlohn, Arena Press, Chapter 14</p>

5 Critical Components of Reading Instruction	Definition	Why is it important?	Activities/ Instructional Programs
<p>Comprehension and Background Extension</p>	<p>The reason for reading</p> <p>Text comprehension is purposeful and active.</p>	<p>Text comprehension can be developed by teaching comprehension strategies:</p> <ul style="list-style-type: none"> • through explicit instruction. • through cooperative learning. • by helping students know when and how to use strategies. 	<p><u>Activities (list not comprehensive)</u> <u>These 6 strategies appear to have strong research base:</u></p> <ol style="list-style-type: none"> 1. teaching to monitor comprehension 2. teaching how to see graphic and semantic organizers 3. teaching how to use questioning to guide reading and learning 4. teaching ways to generate questions 5. teaching story structure 6. teaching summarization <p><u>Teach by:</u> Direct explanation, modeling, guided practice, feedback, application</p> <p>Encourage students to use their prior knowledge to relate to the text (new info to the known info) and use mental imagery.</p> <p><i>Activities: Directed Reading Thinking Activity (DRTA), Question-Answer-Relationships (QAR), Reflect and Respond, Retellings, K-W-L Charts (What I Know, What I Want to Know, What I Learned)</i></p> <p><i>Teaching Reading: Sourcebook for kindergarten through eighth grade by Honig, Diamond, & Gutlohn Arena Press, Chapters 16, 17, 18.</i></p> <hr/> <p><u>Instructional Programs (list not comprehensive)</u> <i>Bridges to Reading Comprehension Steck-Vaughn</i></p> <p><i>Developing Reading Strategies</i></p> <p><i>Steck-Vaughn SRA Specific Skills Series SRA/McGraw-Hill</i></p> <p><i>Reading Comprehension Series by Tiersch-Allen Continental Press</i></p>

Resources: General Education Intervention Strategies

How to Reach and Teach All Students in the Inclusive Classroom: Ready to Use Strategies, Lessons and Activities for Teaching Students with Diverse Learning Needs. Sandra F. Reif and Jule A. Heimburge. (1996). Prentice-Hall Trade.

Put Reading First: The Research Building Blocks for Teaching Children to Read, September 2001. The Partnership for Reading: National Institute for Literacy; National Institute of Child Health and Human Development and U.S. Department of Education. EXR0007B. (html Version). National Institute for Literacy at ED Publishers. P.O. Box 1398, Jessup, MD 20794-1394. Phone 1-800-228-8813. Available in print and online at <http://www.nifl.gov/partnershipforreading/publications/Cierra.pdf> (Adobe Acrobat) or http://www.nifl.gov/partnershipforreading/publications/reading_first1.html

This booklet summarizes for teachers what researchers have discovered about how to teach children to read successfully. It describes the findings of the National Reading Panel Report and provides analysis and discussion in five areas of reading instruction: phonemic awareness; phonics; fluency; vocabulary; and text comprehension. Each section suggests implications for classroom instruction as well as other information.

Put Reading First: Helping Your Child Learn to Read. September 2001. The Partnership for Reading: National Institute for Literacy, National Institute of Child Health and Human Development, and U.S. Department of Education. EXR0006H. Available in print and online at http://www.nifl.gov/partnershipforreading/publications/Parent_br.pdf (Adobe Acrobat) or http://www.nifl.gov/partnershipforreading/publications/reading_first2.html (html Version).

This brochure, designed for parents of young children, describes the kinds of early literacy activities that should take place at school and at home to help children learn to read successfully. It is based on the findings of the National Reading Panel.

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The ADD Intervention Manual. Stephen B. McCarney. (1993). Hawthorne Educational Services. 800 Gray Oak Drive, Columbia, MO 65201.

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The Tough Kid Book: Practical Classroom Management Strategies. Ginger Rhode, William R. Jenson, & H. Kenton Reavis. (1996). Sopris West. 1140 Boston Ave., Longmont, CO 80501.

The Tough Kid Tool Box. Ginger Rhode, William R. Jenson, & H. Kenton Reavis. (1994). Sopris West. 1140 Boston Ave., Longmont, CO 80501.

Teaching Kids with Learning Disabilities in the Regular Classroom: Classroom Strategies and Techniques Every Teacher Can Use to Challenge and Motivate Struggling Students. Susan Winebrenner. (1996). Free Spirit Publications.

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Phonemic Awareness in Young Children: A Classroom Curriculum. Marilyn Adams, Barbara R. Foorman, IngVar Lundberg, & Terri Beeker. 1998: Paul. H. Brookes.

Road to the Code: A Phonological Awareness Program for Young Children. Benita A. Blachman, Eileen Wynne Ball, Rochella Black, & Darlena M. Tangel. (2000). Paul H Brookes.

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Phonemic Awareness Activities for Early Reading Success: Easy Playful Activities That Prepare Children for Phonics Instruction. Wiley Blevins. (1997). Scholastic.

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Academic Therapy Publications. 20 Commercial Boulevard, Novato, CA 94949-6191.

Albert Whitman & Co. 6340 Oakton St., Morton Grove, IL 60053-2723.

Children's Press/Grolier. 90 Sherman Turnpike Rd. Danbury, CT 06816. 800-621-1115.

Communication Skills Builders. 555 Academic Cr., San Antonio, TX 78204. 800-211-8378. Fax 800-232-1225.

Continental Press, Inc. Elizabethtown, PA 17022-2299. 800-233-0759.

Critical Thinking Books and Software. P.O. Box 448, Pacific Grove, CA 93940. 800-458-4849. Fax 408-393-3277.

Curriculum Associates, Inc. P.O. Box 2001, North Billerica, MA 01862-0901. 800-225-0248. Fax 508-667-5706.

Duvall Publishing. 422 West Appleway, Coeur d'Alene, ID 83814.

EDC Publishing. 10302 B. 55th Place, Tulsa, OK. 74146.

Educators' Publishing Service. 31 Smith Place, Cambridge, MA 02138-1000. 800-225-5750. Fax 617-547-0412.

Read Naturally. 2329 Kressin Avenue, St. Paul, MN 55120. 800-788-4085 Fax 612-452-9204. Web: READNAT@aol.com.

Recorded Books, Inc. 270 Skipjack Road, Prince Frederick, MD 20678. 800-638-1304.

Recordings for the Blind and Dyslexic. 20 Roszel Road, Princeton, NJ 08540. 800-221-4792. Fax 609-987-8116. Web: <http://www.rfbid.org>.

Remedia Publications. 10135 East Via Linda #D124, Scottsdale, AZ 85258-5312.

Scholastic, Inc. 555 Broadway, New York, NY 10012. 800-724-6527.

SRA/McGraw-Hill. 250 Old Wilson Bridge Road, Suite 310, Worthington, OH 45085. 888-SRA-4KIDS.

Steck-Vaughan Co. P.O. Box 26015, Austin, TX 78755. 800-531-5015.

Therapy Skill Builders. 555 Academic Court, San Antonio, TX 78204. 800-211-8378. Fax 800-232-1223.

Twins Publications. PO Box 6364, Columbia, SC 29260-6364. 803-782-1781. Fax 803-787-8508.

Write Source/D.C. Heath. 181 Ballardvale St., Wilmington, MA 01887. 800-235-3565.

Write Track Educational Consultants and Publishers. 16 Charnwood Dr., P.O. Box 875, Suffern, NY 10901. 914-368-2795. 800-845-8402. Fax 914-357-5327.