Audio Supported Reading (ASR)

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What is Audio Supported Reading (ASR)?

• A reading strategy
  – Reading
    • hard copy braille or print
    • electronic braille or print
  – while listening to
    • analog or digital
  – recording of same material
    • http://aim.cast.org/learn/practice/future/audio_supported_reading
Topics to Cover

• Listening Skills
• Audio Reading
• Audio Supported Reading (ASR) Tools
• Materials for Teaching ASR
• Instructional Strategies for ASR
Listening Skills Continuum

• Compilation of many listening skills
• Acquire over time
  – Starting in infancy
  – Continuing from preschool through high school
• Requires deliberate instruction
• Goal
  – Maximize ability to interpret audio input
Listening Skills Continuum

Infants and Toddlers

- Auditory awareness
- Auditory attention
- Sound localization
- Auditory discrimination
Infants and Toddlers

- Auditory memory
  - Concepts and vocabulary
- Receptive & expressive communication skills
- Social listening
Listening Skills Continuum

Preschool and Kindergarten

• **Auditory attention**
  – Maintaining attention
  – Figure-ground discrimination
    • Focus on foreground sound
      – conversation
    • Filter out background noise

• **Auditory discrimination**
Listening Skills Continuum

Preschool and Kindergarten

• Auditory memory
  – Concepts and directions
  – Sequence
• Listening skills for
  – Reading readiness
• Social listening

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Listening Skills Continuum
Elementary School

• Listening and literacy skills
  – Phonemic and phonological skills
  – Listening comprehension
    • Information presented orally
      – Live reader or recorded
Listening Skills Continuum

Elementary School

- Active listening
- Critical listening during oral instruction
- Listening and technology
- Listening and social skills
Listening Skills Continuum

Middle and High School

• Listening in the classroom
  – Active listening
  – Critical listening

• Listening and organizing information
  – From classroom instruction
  – Read aloud
    • Live reader
    • Recorded
Listening Skills Continuum
Middle and High School

- Listening and technology
- Listening and social interactions

Learning to Listen / Listening to Learn

Lizbeth Barclay – Editor

http://www2.afb.org/store/product.asp?sku=978%2D0%2D89128%2D491%2D8&mscssid=WFTX86QNCNUC8NKN47RRHA6R6TM67BWW7

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Audio Reading

• Live readers
• Talking books
  – Analog
  – Digital
• E-books
• Synthesized speech
Audio Supported Reading Tools

- Cassette tape recorder/player
- Digital recorders
- Digital talking book - CDs
- E-book readers
- Accessible PDAs
- Specialized scanning systems
- Talking word processors
- Screen reading / Screen magnification software
Audio Supported Reading Tools

• Cassette tape recorder/player
  – Teacher/parent prepared materials
  – “Read-Along” books
  – Use with hard copy braille / large print or print
Audio Supported Reading Tools

• APH Handicassette II
  - 4 track play/record
  - 15/16 & 1 7/8 play/record
  - variable speed playback
  - variable pitch control
  - tone indexing
  - cue and review feature
  - internal / external microphone
  - AC power/rechargeable battery
Audio Supported Reading Tools

- Digital recorders
  - Accessibility
  - Olympus offers several models
  - Use with hard copy braille or print
Audio Supported Reading Tools

• Digital talking books – CD
  – Learning Ally (RFB&D) - textbooks
  – Variety of players
    • Stand alone
    • Computer based
    • Use with hard copy braille or print
  – Popular titles available from many sources
Audio Supported Reading Tools

- **E-books and e-book readers**
  - Visual only
    - Kindle / Nook, etc.
  - Visual & Auditory
    - ClassMate Reader
    - Tablet PCs
  - Auditory only
    - BookPort, BookSense, Victor Reader Stream
Audio Supported Reading Tools

- Visual & Auditory e-book readers
  - ClassMate Reader
    - 6-7 fonts / up to 20 pt
    - Speech
    - Words highlighted as spoken
Audio Supported Reading Tools

- Visual & Auditory e-book readers
  - Apple iPad / iPhone app
  - Read2Go - Bookshare, $19.99
  - Words highlighted as spoken
Audio Supported Reading Tools

- Auditory e-book readers (use with braille, LP or print)
  - BookPort Plus
  - BookSense
  - Victor Reader Stream
Audio Supported Reading Tools

- Accessible PDAs
  - BrailleNote Apex
  - Braille Sense Plus
  - PAC Mate Omni
Audio Supported Reading Tools

Specialized Scanning Systems

- Portable
- Stand alone
- Computer based
Audio Supported Reading Tools

Portable Scanning Systems

• Intel Reader
  – Words highlighted as spoken
  – Font & point size
  – Good speech
  – Hard to align

Discontinued
Audio Supported Reading Tools

Portable Scanning Systems

- **ZoomReader (AiSquared)**
  - iPhone app
  - Highlights words as spoken
  - 4x magnifier
Audio Supported Reading Tools

Stand-alone Scanning Systems

- ClearReader+
- EyePal Solo LV
- ReadEasy+
Audio Supported Reading Tools

Computer Based Systems

- **Hardware**
  - Pearl – Freedom Scientific
  - ReadIt Scholar – VisionAid Int.
  - ReadIt Wand – GW Micro
  - Zoom Ex - ABISee
Audio Supported Reading Tools

Computer Based Systems

- **Software**
  - Kurzweil
  - **1000 & 3000**
  - OpenBook
Audio Supported Reading Tools

• Talking Word Processors
  – IntelliTalk
  – Write Outloud

• Text Readers
  – Natural Reader
Audio Supported Reading Tools

- **Screen Reading Software**
  - JAWS
  - NVDA
  - System Access to Go (Keys K-12) Serotek
  - Window Eyes
  - Narrator
  - VoiceOver
Audio Supported Reading Tools

- Screen Magnification / Reader Software
  - iZoom / MagWin
  - Lightning Plus w/speech
  - ZoomText
  - Magic
  - SuperNova (Dolphin, UK)
High Interest Materials

- Making Your Own
  - use indexing / bookmarking
  - mark individual selections
- Newspaper Articles (NFB Newsline & State Radio Reading Service)
- Magazines (National Library Service, NLS)
- Chapter Books (NLS)
- Recording off Internet (ACB Radio)
ASR Materials

• High Interest Materials
  – TV Shows
    • Headline Sports/News
    • Nova
    • Discover Channel
    • History Channel
    • Science Channel
    • National Geographic Channel
    • Animal Planet, etc.
ASR Materials

- **High Interest Materials**
  - Read-A-Long Books
  - Audio Books – Popular
  - Public Library
  - Cracker Barrel (books on CD)
    - Popular books: Harry Potter, Nancy Drew, Goosebumps
  - Library for the Blind
  - Magazines
ASR Materials

- High Interest Materials
  - Radio Programs
    - NPR
      - Fresh Air
      - Morning Edition
      - All Things Considered
      - National Press Club
      - Car Talk
      - Wait, Wait, Don’t Tell Me, etc.
ASR Materials

- High Interest Materials
  - Radio Reading Service
    - Free receiver available
      - classroom
      - individuals
  - Newspapers
  - Magazines
  - Books
- Radio drama
  - Old radio shows
ASR Materials

Intermediate Interest Materials

• Recordings are available / questions

• Listen & Think tapes from APH
  – Levels AR-Auditory Readiness,
  – Level B
  – Level C

• SRA Specific Skill Series
  
  http://www.mcgraw-hill.co.uk/sra/specificskills.htm

• Accelerated reader
ASR Materials

Intermediate Interest Materials

• Other reading skills builders

Low -- Intermediate Interest Materials

• Textbooks & Other Educational Materials
ASR Instructional Strategies

• Similar to visual reading
  – Comprehension
  – Learn what is important
  – Listen for that information
  – Guide listener with pre-reading questions
  – Listen for
    • Who    What    When
    • Where   How    Why
ASR Instructional Strategies

Start with high interest materials

• Locate or record 3-5 minute selections
  – High interest topics
    • “Read Along” books for younger students
    • Use tone indexing or bookmarking between stories

• Prepare simple questions in accessible format
  – Who, What, When, Where
  – Sequential order

• One question per paragraph
ASR Instructional Strategies

Start with high interest materials (3-5 min)
  • Familiarize student with playback device
    – Start, Pause, Stop
  • Student reads questions before listening
    – or read to student
  • Briefly discuss questions
  • Have student re-read first question
Start with high interest materials (3-5 min)

• Tell student they can
  – stop at any time
  – review question

• Tell student to
  – start listening
  – stop when they hear answer to question

• Teacher listens along with student
ASR Instructional Strategies

Start with high interest materials (3-5 min)

- Student provides answer when they hear it
  - verbal, print, braille
  - type on computer, accessible PDA, etc.
  - record on tape or digital recorder

- If student does not provide answer
  - Stop playback
  - Ask leading questions
  - Guide them to answer
ASR Instructional Strategies

Start with high interest materials (3-5 min)

• After answering first question
  – Student reads next question
  – Continues listening to recording

• Repeat these steps

• Finish story

• Ask student to re-tell story
  – In their own words
ASR Instructional Strategies

Start with high interest materials (3-5 min)

• Prepare additional selections
  – student’s preferred reading medium;
    • braille
    • large print
    • regular print with optical device

• Repeat steps above

• Continue using different selections

• Student consistently achieves > 80% accuracy
ASR Instructional Strategies

Continue high interest materials (3-5 min)

- Begin using one question for every 2 paragraphs
- Student learns to listen for longer time before hearing answer
- Begin providing questions out of sequence
- Return to one question per paragraph
- Sample order:
  - Paragraph 2, 1, 3, 5, 4, 6, etc
ASR Instructional Strategies

Continue high interest materials (3-5 min)

- Ask student what kinds of questions are being asked
- Guide student’s understanding
  - questions are asking:
    - Who
    - What
    - When
    - Where
ASR Instructional Strategies

Continue high interest materials (3-5 min)

- Record longer passages and stories
  - Use short articles from magazines
  - Return to sequential questions
  - One question for every two paragraphs
- Have student read question before listening
- Remind about pausing to re-read questions
ASR Instructional Strategies

Continue high interest materials (3-5 min)

- Start introducing some
  - How and
  - Why questions
- Re-introduce non-sequential questions
- Continue till > 80% accuracy
ASR Instructional Strategies

Continue high interest materials (3-5 min)

- Next phase
  - Move on to short chapters in books

- With each new phase
  - Return to
    - Sequential questions
    - One pre paragraph
    - Expand to one per 2-3 paragraphs
    - Bring in non-sequential questions
    - Continue to > 80% accuracy
ASR Instructional Strategies

Continue high interest materials (3-5 min)

- Next phase
  - Don’t provide questions before reading
  - Ask student to stop after x number of paragraphs
  - Ask two or three simple sequential questions about content just heard
  - Once student demonstrates proficiency, start asking non-sequential questions
ASR Instructional Strategies

Continue high interest materials (3-5 min)

• Next phase
  – Ask student to read a selection at home
  – Discuss the content with student
  – Try not to make it a quiz
  – Just a discussion between friends

• Objective: provide experiences that allow students to realize that accessing information through the use off ASR can be fun way to learn about things they want to learn about
ASR Instructional Strategies

Intermediate Phase

• Introduce reading selections: less than high interest

• Consult reading / LD specialists
  – locate selections with prepared questions
    • Example: SRA Specific Skills for Reading, [www.mcgraw-hill.co.uk/sra/specific-skills-for-reading.htm](http://www.mcgraw-hill.co.uk/sra/specific-skills-for-reading.htm)

• Learning Ally may have recorded

• Look for materials that have been recorded
ASR Instructional Strategies

Intermediate Phase

• **Student listen to recording**
  - follows in braille
  - large print
  - print with magnification

• **Use steps in Phase 1**

• **Continue until student consistently achieves >80% accuracy**
ASR Instructional Strategies

Phase 3 – Schoolwork & Textbooks

• Record, or acquire recordings
  – social studies or literature textbooks
• Begin with last week’s chapter
• Ensure success on first experience
• Use same strategies as with high interest materials
ASR Instructional Strategies

Phase 3 – Schoolwork & Textbooks

• Create outline of chapter
  – headings
  – sub-headings
  – blanks for answers to questions

• 1 – 2 questions per sub-section of chapter

• Student inserts text in appropriate places

• Adds additional information they think is important
ASR Instructional Strategies

Phase 4 – e-files & synthesized speech

• Prepare e-files similar to Phase 1
  – use with
    • text reading software
    • screen reading software.

• Provide basic technology instruction
  – start, stop, pause, continue
  – repeat steps in Phases 1-3 using synthesized speech
    • hard copy braille / large print / print w/magnification
ASR Instructional Strategies

- Dealing with visual distraction
  - use a blank study carrel
  - read along with print / braille copy
  - control speed
  - take notes
Thanks For Coming
For additional information see the Technology section of the American Foundation for the Blind web site at:

www.afb.org

American Foundation for the Blind
Expanding possibilities for people with vision loss