ASR instructional Strategies_1_0

My name is Robin Sitten, I'm your eLearning program manager at Perkins eLearning, welcoming you to our webinar series. Today is Wednesday. It's June 8th, 2016. Today's webinar will discuss Audio-Supported Reading, also abbreviated ASR, as an instructional strategy. Perkins eLearning presents webinars like these throughout the year, usually on a monthly basis. You may register to attend live at no fee or view recorded webinars at a time and place that suits your schedule. You can see our entire listing at our website, perkinselearning.org. Today's presentation does cover Audio-Supported Reading, a technology-based approach to teaching reading that enhances a student's access to the text, whether reading in print or in braille. Our presenter, Karen Narvol, will describe how ASR can meet the challenges of students with print-related disabilities when used as an instructional strategy.

Before we get started, let me review a couple of things about the technology. Every month we do have a few newcomers. I've mentioned we've muted your lines to keep noise levels in control. Shortly we'll offer you a question and answer space. And we do encourage you to post your questions as they occur to you throughout the webinar. We'll address them at the end during Q&A. You have-- you won't be able to see other people's questions but we'll try to bundle them together so that everybody gets a chance to ask their questions.

Let me also note that this presentation cites a great many resources, studies and scholarly articles. Karen does provide a resource sheet in the downloadable. So you don't need to worry about trying to keep up with all of the references that are included in the presentation. Simply enjoy the conversation and you can get that material from our site later.

It's my pleasure to introduce today's speaker, Karen Narvol, and to-- thank you, Karen for wading through some of our technical glitch here. Karen is a private Assistive Technology Consultant and a trainer who works with Bookshare and Kurzweil Education. She's been an instructor for the Perkins eLearning online program since 2013. Karen's online class for Bookshare mentors returns this summer. It's called "Bookshare Train-the-Trainer." Last fall, Karen presented a webinar on listening as a reading strategy. You can find more information about Karen and her other offerings on our website in our Watch and Learn Library.

I want to also acknowledge a friend of the show, Ike Presley, who provided his support as well as his content on ASR for this presentation. Ike Presley is a member of the AFB Literacy Team and an active member of AER. He's also a leader in assistive technology assessments and he is with us in spirit today.

Karen, let me welcome you back to Perkins and give you the floor.

Thank you very much, Robin, for that very gracious introduction. There are some big ideas for today's webinar. Students who are blind, have low vision, have physical disabilities or severe learning disabilities often have very serious challenges with reading. And I'm going to describe some of these challenges that the students face when they're accessing and interacting with text. Today's webinar is going to focus on an approach that students with print disabilities can use to

augment and enhance their access to, and use of, text, whether it's braille or print. And this approach is referred to as Audio-Supported Reading, or ASR for short.

And I'll talk about how the use of Audio-Supported Reading can support a student's reading comprehension. And because students who are using Audio-Supported Reading are listening at the same time that they are reading, either in conjunction with electronic print or electronic braille, we as educators need to help them connect listening comprehension to reading comprehension.

And finally, we can't provide reading tools to students without teaching them strategies and techniques for effectively utilizing Audio-Supported Supported Reading. And their success with an ASR approach will depend on careful assessment of their abilities and needs, appropriate selections of audio supported reading tools, effective instruction in both listening and reading comprehension strategies and effective instruction in learning and utilizing the audio-supported reading tools.

Now, we do have a poll and I'll ask Robin to discuss this.

Thanks, Karen. So we'd like to know a little bit more about you and the work you're doing with your students. We've presented a poll on-screen and you can check any of these that apply. I am currently working with students who are using braille, enlarged print, audio, digital text or a combination of formats. And already I can see the combination of formats has wide and away, at about 66% of you who are responding. That just jumped to about 80 and 75. So I see a lot of you are using combinations of different media. Braille is quite high, 25%. And digital text at 37. So Karen, in that order they are a combination of formats. Why-- far and away the next popular answer is digital text, followed by braille and audio. And large print, no votes at all.

All right, thank you, Robin. Thank you, everyone.

You're welcome.

Students with print disabilities have many challenges with reading. And students who are blind or have low vision are especially disadvantaged when it comes to printed text. They may learn to read using magnified print or braille, but they may achieve reading rates that are one third to one half of average print readers. And this has been documented by several researchers. And as a result of the sensory limitations of visual impairment or blindness, these students will struggle to achieve reading rates comparable to their sighted peers. And the disparity between the reading rates of sighted students and students with visual impairments increases as students move into the higher grades. So as students progress through elementary, middle school and high school, the amount of reading increases dramatically. And as a result, a student's academic performance may be affected by his or her depressed reading rates.

Another challenge faced by some students who are blind is poor tactile efficiency in braille. And this can have an impact on fluency and comprehension. And in addition, many students who are blind or visually impaired have additional disabilities or other needs, such as learning disabilities, which may have a negative effect on their educational achievements.

Other challenges of students with visual impairments include visual fatigue. Also, if a student has poor visual efficiency due to a reduced visual field, due to poor contrast sensitivity or due to a refractive error, such as nearsightedness, farsightedness or stigmatism, reading tasks may be difficult. That student may have to exert more energy trying to see text, rather than gathering meaning from what is being read. And some students are going to experience cognitive overload. And when a student experiences cognitive overload, which means that it's taking much-- too much effort for that student to process units of information involved in reading, then that student's comprehension of text may break down.

Now, students with learning disabilities experience their own set of challenges with reading. Most of the students diagnosed with specific learning disabilities will struggle with the process of reading. Even when they do learn to read, their reading can be labored, they may experience a lot of anxiety, they can easily become frustrated and they often lack self-confidence in their ability to read. And because of their reading challenges, some of these students give up because they feel that they're not capable of success. And this sense of failure can have a significant impact on academic achievement.

And many students with learning disabilities shun reading altogether. Or they only read what truly interests them in books magazines, on mobile devices and on the internet. However, educators have to present material to students that is outside of their realm of interests or their background experience. And our challenge is to make content meaningful for all of our students and give them the tools that they need to feel a sense of success.

So this is where Audio-Supported Reading comes in. What is Audio-Supported Reading? Well, it's a technology-based approach for reading. The student reads text, which is displayed on a computer screen, a device, a refreshable braille display or other medium, while simultaneously listening to an auditory version of that text. And this approach has proven to have many benefits for students with print disabilities. The student is able to use all of the sensory inputs simultaneously to acquire and process information. And the goal is to increase the rate that the student can move through a text.

And as the volume of text and required reading increases, students with print disabilities are often taught to supplement their reading of braille and enlarged print or digital text with recorded or synthesized speech. So supplementation with speech is a tool for increasing access to information to help students compensate for their depressed reading rates.

Now, how does Audio-Supported Reading benefit students with disabilities? Well, for readers were blind, had visual impairments or learning disabilities, a combination of refreshable braille, screen magnification or digital text with text-to-speech screen technology-- screen reader technology-- can really enhance the way the reader's interacting with the text. And Audio-Supported Reading augments the speed with which a reader can acquire information. And today, with the current state of technologies, it means that students can now access text through multiple modalities. They can use braille or print in combination with listening, instead of using those media separately.

Audio-Supported Reading allows a student with a print disability to control the cognitive load of a task. And this will depend on the cognitive and sensory perceptual demands of the reading task and the purpose for the reading. The student may rely more on tactile or visual modalities when interacting with specific types of text, and rely on the auditory modality when interacting with other types of text. So since Audio-Supported Reading allows the student to control the rate at which the text is presented and the modality or the modalities that he or she is going to use during the reading tasks, the reader is more likely to sustain their engagement with the text.

There are limitations of audio supports. Students with language processing difficulties may not be able to effectively use the auditory modality to build or to improve their comprehension. These students often have weaknesses in the language areas of semantics or syntax and the higher-level aspects of language. They may have trouble with idioms or making inferences or monitoring their comprehension or their knowledge of text structure. So language processing challenges can limit, or impair, a student's reading comprehension, whether that text is delivered directly or whether it's supported by listening using audio supports. So as a result, not all students with learning disabilities are going to benefit from Audio-Supported Reading in the same ways.

And finally, listening to text can never be a substitute for explicit, carefully targeted instruction for students who are struggling with reading. Audio-Supported Reading is going to make learning possible for many students, but it doesn't necessarily make it easier. Students with print disabilities are still going to have to go through the same procedures to learn educational material as their peers who don't struggle with print. So Audio-Supported Reading is there to help level the playing field for our students with print disabilities.

Careful assessment is critical. Careful assessment of students' needs and abilities is critical when determining the best combination of Audio-Supported Reading tools and features that a student is going to need. And the team should be familiar with the student's current use of technologies and his or her preferred reading medium. And there are many assessments and frameworks that can assess-- can assist teams in making appropriate decisions regarding Audio-Supported Reading tools for individual students. And some of these include the Learning Media Assessment, Functional Media Assessment, the AIM Explorer, the Protocol for Accommodations in Reading, also known as the PAR, and the Student Environment Tasks and Tools Framework, which is referred to as the SETT.

Now, the Learning Media Assessment is an assessment that is generally conducted by teachers of the visually impaired. And this assessment provides a team-- a student's team-- with information about what method or methods the student should use for learning and for literacy. The AIM Explorer is a free, online simulation that combines grade leveled text, digital text, with access features that are common to most text readers and other supported reading software. And this is-- this free, online simulation is available on the National Center For Accessible Educational Materials website. The PAR is a screening tool. And it helps teams compare the effectiveness of reading accommodations for students who are struggling with reading. And it is available on the Don Johnston Company's website. And the SETT is an AT Consideration Model. It's just one of several AT Consideration Models. And it is designed to guide assessment decisions about

assistive technology. And this is-- the SETT is available and information about the SETT is available on Joy Zabala's website.

So along with assessment is determining the tools. So it's important for teams to identify the digital material that the student is going to use during a trial of an Audio-Supported Reading tool. And that digital material should be of high interest to the student and it shouldn't be too challenging when you're first initially exploring ASR tools. Teens should schedule a time and place for the trial, or trials, and that should be a quiet workspace and as free of interruptions as possible.

They're going to gather the components for the ASR trial. And that might include a computer, a laptop, a mobile device, software, refreshable braille display or any other type of a component that's needed for that trial. They'll then carry out, or implement, that trial with the student and document the results. And then they'll analyze the results and do a feature match, which means they're going to match the needs and abilities of the student to the features of the tools that are going to be used to deliver those specialized formats of the reading materials. So once the assessment is completed and the team has determined the tool, or combination of tools, that the student will be using, It's time to introduce the student to Audio-Supported Reading.

So when you first start to introduce Audio-Supported Reading to a student, it's important to identify only those features of that Audio-Supported Reading tool that the student needs initially. And these are things such as how to turn on the device or launch a software application, how to open files, how to use the basic navigation controls to navigate around the text, how to use audio features that best meet the student's needs. And for sighted users, it's going to mean teaching them how to change the size of the text or the size of the document area.

An excellent guide for teachers of students with print disabilities who are learning to use Audio-Supported Reading tools has been developed by Ike Presley. He's the National Project Manager with the American Foundation for the Blind. And this document is going to be available to you with this webinar. This document is titled "ASR Instructional Strategies" and it is available for download, as I said, through this webinar.

Mr. Presley, through this document, offers step-by-step suggestions for introducing Audio-Supported Reading to students. He incorporates many listening strategies to teach students how to use audio to support their listening and reading comprehension. And he does so by choosing high interest materials. And there are different phases that he is going to be using with students. First with narrative text using who, what, when and where questions. Then progressing to how and why questions. And then moving into more high level, more complex texts, to expository text. We're adding more complex questions. So this document is available to you.

Students who are using Audio-Supported Reading need to have good listening comprehension skills. And as teachers, we can help scaffold for that. A good reader is going to possess a robust vocabulary. They're going to understand the syntactical structure of language. And they're going to be able to build good mental models while they're reading. And the student also has to have good working memory. And they have to be able to focus and pay attention in order to retain pertinent information. Using comprehension-- or I should say, listening comprehension is going

to engage the same language processes that are used to comprehend printed text. But the reader doesn't have to experience the cognitive demands that are required for decoding text.

Now, these are examples of common vocabulary and comprehension strategies that are often used in classrooms to promote students' vocabulary development and comprehension skills. And children have to be taught to monitor their comprehension and to know how and when to use effective strategies to support comprehension. I'm going to be talking about the read aloud strategy and how it can be used to scaffold listening comprehension for students who are using Audi-Supported Reading.

The read aloud strategy can be used to engage a student listener, while building background knowledge, learning vocabulary, learning about text structure, increasing comprehension skills and fostering critical thinking. And a read aloud can be used to model the use of reading strategies that can aid in a student's comprehension of text. So by using read alouds, teachers can scaffold listening comprehension for learners who are using text-to-speech synthesis and human-narrated accessible educational materials. And this strategy is particularly useful for younger students, but it can also be used with older students who are just beginning to utilize Audio-Supported Reading tools.

And elements of the read aloud strategy for introducing Audio-Supported Reading are found in Ike Presley's ASR instructional text strategies document that is provided with this webinar. So you can find a lot of these in that document.

Now it's important for students to identify important information and make connections between ideas while they're reading. And read alouds provide opportunities for teachers to teach text structures to students, both narrative and expository. And through read alouds, teachers can help students explore the elements of the text. So as students are listening to different texts, they are going to learn how to apply a different text structure depending on what they've heard. Is a story book, that is, if it's narrative. Or if it's an information book, that is, if it's expository text. And teachers can then help students transition from the teacher read aloud to having the text read aloud to them using text-to-speech synthesis provided by the Audio-Supported Reading tool.

Now this is an example of a read aloud narrative text by the teacher. Students should receive instruction on these strategies. And that would include direct explanations of the strategy, modeling by the teacher and guided practice using the strategy and the application of the strategy in reading texts. And these strategies, through a read aloud and through many other strategies, they help students monitor their comprehension of what they do and don't understand. They teach students to use graphic and semantic organizers, such as concept maps or other conceptual organizers, to help focus on the concepts in the text and the relationships among those concepts.

This strategy also-- and other strategies also-- help students generate questions and seek answers to the questions in the text. And that often sets a purpose for reading. It helps them focus attention on what is being read. It encourages comprehension monitoring. And it helps them relate new information from the text to prior knowledge. It also helps to teach students to recognize the structure of the text, so that they can determine the elements of the text themselves.

And it guides students to summarize the information that they read as a way of monitoring their comprehension and extracting and articulating the key ideas.

In many of the same ways that you have a read aloud for narrative text, you have for expository text. So the teacher is going to guide the student through with a number of strategies, by introducing the book, taking a picture walk, activating background knowledge, using a graph modeling, using a graphic organizer and teaching vocabulary. And then there might be a first read aloud of the text and there might be a second read out of the text. So the first read aloud, the teacher might be focusing on text structure. The second might be the teacher is reviewing a topic and the student is listening to new information and adding to their graphic organizer or their chart. And then, after reading, the student is going to retell. And so retelling means that the student is going to restate key ideas. And they're going to make inferences. They're going to analyze. They are going to draw conclusions. They're going to evaluate. So retelling reinforces that story structure and the language and the imagery that's used in the text.

Once the student has reviewed listening strategies-- teachers, it's important for teachers to connect those listening strategies to reading strategies. And we are all familiar with these reading strategies. They have been documented by many researchers and they are also located in the findings of the National Reading Panel. And it's important for students to learn how to utilize these strategies when they're using Audio-Supported Reading tools. Many supports are built into ASR tools, or can be embedded into ASR tools, to help a student's comprehension. It isn't enough to just provide the student with a reading tool. It's critical that we integrate Audio-Supported Reading into a student's literacy instruction.

Now let's look at these. The first four of these. Setting a purpose for listening and reading. A student has to be able to do that. They have to be able to activate prior knowledge, build background knowledge and make connections. They have to be able to focus and maintain their attention and listen actively. And they also have to be able to monitor their understanding. And the first four of these serve to promote listening and awareness of one's thinking. Or one's, what we call, inner-speech. Building a rich mental model while listening or reading text requires the integration of new information with prior knowledge. And building that background knowledge is important because it affects the reader's ability to make inferences and to learn and remember vocabulary terms.

Now the next two of these. Visualize, create mental images and organize information graphically. The student has to be able to do that. And these two make use of the reader's visual imagination. The next one. Being able to ask and answer questions, clarify information and make predictions. This requires that the student accesses what he or she already knows and understands. And then is able to make predictions. Inferencing is the ability to create a mental model of the text. The reader has to be able to fill in the gaps left open in the text. Vocabulary. Learning vocabulary will increase a student's word semantic knowledge and their problem solving. The reader has to understand vocabulary terms in order to build that rich mental model. And the last two. Students must be able to determine the text structure and they must be able to summarize. And these both create awareness of the organization of ideas and what is important. These are all critical for reading comprehension.

Now what is the teacher's role? Well the teacher's role is to model and to teach those strategies. Whether a student has a print disability or not, these are strategies that teachers commonly use for teaching text comprehension. And these strategies are equally effective for students who are using traditional print materials and for those who are using specialized formats of educational materials and assistive technologies.

Now the student's role, of course, is to use the comprehension strategies. And students with strong reading comprehension utilize many strategies before, during and after reading. And we want all of our students, including those with print disabilities, to utilize effective before reading, after reading, or during reading and after reading comprehension strategies. And they can use many of the features of reading tools to support them with before, during and reading.

Now in order for students to use Audio-Supported Reading effectively, and to benefit from it, educators must have an understanding of the Audio-Supported Reading tools themselves and how to embed them within quality instruction. So if a student is using audio supports, teams need to help the student determine how to use various modalities in a strategic manner. And that is if you're using braille and text-to-speech, if you're using digital text and text-to-speech.

And some students are going to decide to listen primarily and use their vision or read Braille to monitor the text. And other students will use braille or their vision primarily and they'll use audio to support their reading of text. The student and the team have to decide and identify what modality, or combination of modalities, are going to facilitate the student's comprehension of the text without resulting in cognitive overload or frustration on the part of the student. And in addition, it's critical that the team and student determine what supports are best for reading specific types of texts and how much the student is going to rely on each support.

So teachers should provide explicit instruction on the features and the functions of the tools with clear goals, including modeling, guided practice and independent opportunities for students to develop those skills. And students need to know how to manipulate the tools in order to achieve comprehension fluency and reader independence.

Now let's take a look at the comprehension strategies that all students are expected to use when they're reading text. And also, what are some of the features of the tools that they'll need to know? Well, first of all, explicit instruction on the tools features. Students are going to need to know how to download, open and save files. They're going to need to know all the read aloud options. How to read and play. How to stop and pause. How to change the speed, rate, words per minute. How to change the speaker's voice. How to adjust the volume and the pitch and the level of verbosity.

If it's a sighted student, they're going to need to know how to change the font size, type, style, color and contrast. Line and word spacing and background color. For students who are sighted, the visual components of the, and features of the ASR tool, are as important as the auditory components. Students need to know how to navigate. They need to know how to search. How to place bookmarks or place markers. How to take notes. How to select text and highlight. How to switch between tasks. For example, if they have more than one document open within an application, they have to know how to switch between those documents. If they have more than

one application open, with technology they have to be able to know how to switch between those applications.

If they are a read braille reader, they'll need to preview new contractions and other braille code features. And they-- it's often helpful to customize the tool to minimize the clutter on the screen for some students. And also the content.

Now for that text comprehension, reading comprehension strategies. All students need to be able to set a purpose for reading. So teachers and students can insert digital notes in strategic places through the text. Many Audio-Supported Reading tools come with note taking features. Teachers can also insert notes with a statement about the purpose for the reading. Some ASR tools come with what we call sticky notes. They are used to insert questions or notes about text. Or provide instructions. They're often brightly colored and they stand out when reading a text.

Many ASR tools provide the ability to add text notes. And these can be used to insert questions or notes about a text, answer questions and label graphics. Some ASR tools offer footnotes, which can also be used for setting a purpose for reading. Or writing answers to self-generated questions and providing clarifying information. And voice notes are also commonly found in Audio-Supported Reading tools. And students can insert a recording of their own voice for asking or answering questions. Or noting thoughts about the text being read.

Students can also use the word study skills built into an ASR tool so that they understand new vocabulary words, which can help support their reading comprehension. And often, the reference tools are both visual and auditory, which supports independent learning. Some examples are dictionaries that will-- text-to-speech dictionaries. Thesaurus.

There is a dynamic text leveling, one product offers that. So when students come across text that is too difficult to read, and vocabulary is too complex, they can dynamically level it for better understanding without changing the meaning of the text. Other features are spell the word, spell checker. Students can select or highlight individual words, phrases, sentences to have them spoken back. And there is an ASR tool that allows a student to run their finger across the text to hear each word read aloud.

Students also need to be able to determine the text structure of what they're reading. And they can use a number of different features of the ASR tool to do that. They can read the text and have many things read aloud to them. The table of contents, headings, labels, bold text, chapter outlines. All of these can be read aloud. They can also preview illustrations and photos and charts, including image descriptions if they are available.

And if they're reading braille books they can preview special symbols. And they can preview transcriber notes that may be available because these can be important for understanding the features and the formatting in the text.

Students need to be able to ask and answer questions. And so students can annotate using digital notes. And they can often extract and export their notes to a study guide. Many ASR tools offer highlighters of different colors, and they can be used for highlighting text structures. They can be

used to mark-up key information. And different colors allow the student to associate different concepts with different colors. And students can highlight and extract chapter summaries and titles and subtitles so that they can make a summary of the reading material.

Students can also-- they also have to be able to activate prior knowledge and make connections as they're reading the text. And they can use electronic graphic organizers or digital worksheets to see information mapped out. They can arrange their thoughts using graphic organizers, without worrying about the order or the level of importance, because the text can be easily manipulated in the graphic organizer of the digital worksheet.

Some ASR tools allow users to embed hyperlinks to supplement the text. So hyperlinks can be added to create a link to a web page, to another document or to points within a document. And also some Audio-Supported Reading tools include access to online reference tools, such as databases, such as encyclopedias. And also to online libraries, such as Bookshare, where the student can download books from Bookshare, if they're a member, right directly through the ASR tool.

Column notes are often used by teachers as a strategy. And these are used to organize text into meaningful categories. And they're a way to actively engage a student in reading and ensure their comprehension. And there are several ASR tools that allow students to add column notes.

Students also have to be able to visualize and organize information, and graphic organizers are a great way to do that. They can use digital worksheets, graphic organizers, which is a visual view. They can alternate between graphic and outline views, because the outline would have a text-based view of ideas and thoughts. And teachers can create graphic organizers and outlines and digital worksheets for students, and embed instructional notes in them to support individual students with their reading tasks. Bookmarks and place markers can be used to digitally mark key points in the text.

And sometimes the reading tool can be customized. So the user interface can be customized so that the amount of icons and the toolbars on the screen can be minimized. And some ASR tools are designed to have simple user interfaces.

And then, using column notes, the student can use the notetaking to support their reading. They can create column notes for main ideas and supporting details, cause and effect, fact and opinion, compare and contrast. They can also do it for question answer relationships, such as what you would get with in the book, in my head questions.

Students also have to be able to focus and maintain their attention. So if the text is being read aloud to them they can follow along in print or braille. If they are sighted, it's important that they be able to change the font size and document area size. That can help focus and maintain their attention. They can select a mode for reading, whether they want it to be read continuously or in a more controlled manner, such as self-pacing.

They can use masking features to display parts of text, and this really helps to focus students' attention. Screen masking tints the screen using colors, and it's like an overlay, and it helps users

who have trouble focusing on the screen because that masks out active or inactive parts of the screen.

Students can determine how they want to have each sentence, phrase, paragraph, highlighted as it's being read. And that's a way to chunk the text that is being highlighted. They can also use navigation controls to navigate, and decide if they want to navigate by line or sentence. They can increase or decrease the reading speed, and this can support their needs. And also, if the text is very dense, they may want to decrease the reading speed. They can also change the reader's voice, or the speaking voice, to suit their preferences. They can use graphic organizers to focus and maintain their attention. And they can embed notes to do the same.

They also-- students also need to be able to monitor their understanding. So the features of some of the ASR tools that help with that are the read aloud options. Students can slow down the reading speed for newer and more complex content. They can use the replay feature to repeat new information for comprehension. And they can select parts of text to reread. They can also replay confusing text. They can read ahead for clarification. They can use some of the vocabulary supports. They can preview text and images. They can also place digital notes within text to document questions and answers. They can place bookmarks, maybe where there's some text that was misunderstood, or was confusing to them. And they can also create and use graphic organizers to organize information and reconstruct what was read. This all helps them to monitor their understanding.

And finally, students have to be able to summarize information. And they can do that in a number of ways. Using graphic organizers to document what was learned. They can also highlight main concepts and supporting details and extract those to a study guide. They can create notes to summarize the big ideas of the text. They can create lists of vocabulary words that represent a topic. They can use digital notes to create frequently asked questions for other students to answer. They can create digital notes to record take-aways from the texts. And they can also use graphic organizers or text-to-speech word processors to write about their understandings or their points of confusion regarding the text. So lots of ways to use the features of tools to summarize information.

Now I have a number of slides about some of the reading tools that are available to teachers. If I have time, I will demonstrate them. But, we'll see how our time goes.

We have about 15 minutes, Karen, so you might be able to at least show some of them. And people can come back to your slides if they want to try them themselves. But I think it would be good to be able to show some of the tools that you're talking about.

All right. I'll just flip through these slides, just to show you what are some of the different tools. Snap&Read is a tool by the Don Johnston Company. It is a one button toolbar that reads any text on the screen in any application. And it works with the Bookshare web reader. It also offers a number of features, including dynamic text leveling, and I'll demonstrate that. The web reader, the Bookshare web reader, allows Bookshare members to read books instantly in a web browser. And the books are streamed directly to the computer.

Kurzweil 3000 is an integrated scan and read program, for both Macintosh and Windows computers. It provides a large number of supports for struggling students, including reading, writing, study skills and test taking.

Here I have snapshots of some of the note options in firefly, or Kurzweil 3000 and firefly for Windows. One being bubble notes, one being text or sticky notes and one being column notes.

Read Out Loud, Bookshare edition, is a free software program for Bookshare members. It works on Windows computers. And it can be downloaded through Bookshare's website. This is-- also on this page is a snapshot of Kurzweil 3000 for Windows, the graphic organizer feature, which is very robust.

Dolphin EasyReader is a software application for Windows computers. And it is compatible with screen readers for anyone with a visual impairment. And books can be navigated entirely using a keyboard. And it has a very simple interface.

Freedom Scientific WYNN for Windows. This is a speech, text-to-speech software program for Windows computers. And it offers a bimodal approach to reading.

TextHelp's Read&Write Gold is a program from TextHelp for both Mac and Windows computers. It also offers that bimodal mode of reading.

Kurzweil 1000 was developed for, is a software program designed for individuals who are blind or have low vision. And it can be entirely navigated using a computer keyboard.

Voice Dream Reader is a mobile text-to-speech app for iPhone and iPad. And it's available from iTunes. It's also available for Android devices through the Google Play Store.

Capti Narrator is a text-to-speech application that runs on Mac and Windows computers and Chromebooks. And there are also apps for the iPhone and iPad.

Read2Go is a mobile text-to-speech, accessible text-to-speech, app for iOS devices. And you can download Bookshare books directly through Read2Go.

Go Read is an app for Android tablets and phones.

And there are many other tools. So I'd like to just demonstrate a couple of these.

This is the Bookshare web reader. I have brought a book here called "The Rocket Boys of NIH." And I'm going to be using the Snap&Read, Don Johnston's Snap&Read, which is over here on the right. And I can use one of these tools to select text and then it will be read back.

They made plans for a shiny rocket that could carry a mouse into the sky and bring it back safely. But they didn't have the money to buy the aluminum they needed.

Also, there is a dynamic leveling of text feature. And I'm going to select some text. And perhaps the student doesn't know what the word vaccine means, or they don't know what funds are. They don't know what the word diseases are. So I can use the dynamic text leveling feature. And what it did is it changed the word "vaccine" to "disease preventing treatment". And with this I can toggle back and forth using my mouse to see the original word, and then the word where it's been leveled. Same with "money", there's the original word, "funds". And "diseases", "sicknesses". So that is dynamic text leveling.

Also, this program provides a way to outline. So teachers can add questions, notes. Students can add questions and notes. And they can listen to them.

What are the names of the Rocket Boys?

Terence Boylan and Bruce Cook. Bookshare reader S3 [INAUDIBLE].

And they can select text and have that text brought over into an outline. So this helps them monitor their comprehension and focus, help them focus on the task, the reading task.

So that is a very quick look at Snap&Read and the Bookshare web reader.

This is Kurzweil 1000. It can be controlled by a mouse or by keyboard. I'll use my keyboard to begin reading.

Terence Boylan and Bruce Cook had a dream. They wanted to soar past the clouds and explore space. It was a big dream in 1957. No one had done it before.

This program offers a number of supports for students. One is note taking. So I've created a note, here in this book. And I can bring up that note. I'll use my keyboard.

Select a note.

Terence and Bruce wrote to NIH and asked for $10 to build their rocket.

So this is the note that I, as a student, could put in, in various places. And I can bring up all my notes and have them read back to me. I can also do a lot of bookmarking through Kurzweil 1000.

This is WYNN. It is from Freedom Scientific. And I will read.

Terence Boylan and Bruce Cooke had a dream. They wanted to soar past the clouds and explore space.

Hey, here's a text note that I've put in.

What was Terence and Bruce's dream? Highlight and glue the sentence that answers the question.

And so the student could then take the highlighter and answer that question by highlighting in using the highlighter.

We've got about five minutes, Karen, if there's another one of the tools that you want to make sure you get to.

Yes, here's Kurzweil 3000. This is a bubble note feature where teachers get put in bubble notes. And I'll just show you how this works.

Pesticide poisoning lead to unhealthy eggs and a drop in hatchlings. Select the best answer. How did the California condors become endangered? Collisions with power lines. Habitat. Scientists. Needed to move.

So that's an example of a bubble note.

And this is an example of a text note or a sticky note.

How were the years after the First World War marked by political and social unrest? Read to find at least three reasons.

So that's setting a purpose for reading.

And finally, here is a graphic organizer that can be used with that particular text that's being read. So those are just some of the programs that are available. And there are many other tools. And some of them are listed on here.

OK, we have a poll. And Robin, do you want to address this?

I will. I want to thank those of you who have been attentive and putting in questions. And we will get to those in just a second. What we're interested in knowing now, and I'll read through all of these, is what your current concerns or challenges that you're having regarding the provision of Audio-Supported Reading? As you listened to some of Karen's points, think about what are, let's say your top three, concerns or challenges that you would have about ASR?

Is it, number one, the need for training on the types and features and functionality of tools such as those Karen's just shown? Number two, is it assessing a student for ASR to determine whether that's the best fit? Number three, identifying the best combination of ASR are tools for a student, including matching the needs of the student to the features of the tools? I know I had that question myself when Karen and I were looking at some of the different demonstration tools. The fourth is introducing ASR to a student. That's followed by number five, teaching listening and reading comprehension strategies in an Audio-Supported Reading environment? Teaching the features of the tools that will best support the student's listening and reading comprehension? Or teaching students how to use ASR tools strategically?

If you think about what would be your top three challenges or concerns. And it looks like the number one choice right now, about 36% of you, have said identifying that combination of tools.

So matching the needs of your student with the features of tools, that's the top choice. And then the others are pretty evenly divided. We've got a single vote for-- oh, I'm sorry, we've just had another vote for assessing a student for ASR is now the number two answer.

And we've seen several answers for teaching the features, teaching strategy and the need for training. So all of those seem to be identified by some of you as challenges. Though, teaching students how to use tools strategically, right now doesn't have a vote.

Thanks for participating. I think you can move that and Karen will wrap up and we'll have a few minutes for questions.

Sure.

OK, to conclude. Students with, who are blind, who have visual impairments, have physical disabilities, have learning-- severe learning disabilities, often experience challenges with listening and reading comprehension. And Audio-Supported Reading is an approach that can help students augment and enhance their access to, and use of, text.

And in order to select appropriate Audio-Supported Reading tools, the team really has to conduct careful assessment of the student's needs and their abilities. And students also need to be taught to use Audio-Supported Reading strategically.

So thank you.

Thank you, Karen. And thanks everybody for submitting questions

I also wanted to point out, I'm really glad that you mentioned several times the importance of establishing purpose for reading. Sometimes we can get so caught up in the struggle that the student is having, whether that's a physical struggle or a cognitive struggle, and miss out on just helping them understand what reading is for. And enjoying it.

One question from Sue, which came up as you were talking about incorporating listening with print or braille. So sort of listening along and you showed a couple of demonstrations. Frequently it may seem easier for the students to just listen without trying to incorporate listening with the text or braille reading. And Sue wonders, are there some cases when it's OK to just let them listen?

I think so.

When might you use that as a strategy?

I think absolutely. I think that's when the team and the teacher need to work with the student to determine what modality or combination of modalities. Because it may not just be braille with speech. You might just want the speech, the audio component, for the student. The text may be very difficult. And maybe for the first read through you want the student to listen to that text to get the gist of that text. And sometimes, to avoid cognitive overload and frustration on the part of

that student, it's easier for them just to listen to the text. So that's-- those determinations would have to be made by the teacher working with the student and knowing the student. And asking the student about, and collaborating with the student if they can, with this. So, yes. Absolutely.

I think sometimes, as a study tool or review, the listening can also be helpful. You know, maybe the student has read the chapter on the Rocket Boys and before the quiz they'd like to just listen to it again. If, particularly if, listening tends to be more their learning mode.

You had mentioned that there are places to get taste tests of some of the tools. And I believe you had a slide or a list of some of the websites where people could do a demonstration or request a trial version.

Yes. Many of these tools are available in a demo, a demonstration version. For example, you can download Kurzweil 3000 or Kurzweil 1000 as a demo. You can also do that with a lot of the other reading tools. Some of them, like Spotlight Text, I believe comes in what is called a light version. So it's limited. It has the features, but it has some limitations too. But you can often get those for ASR trials when you're using them with students to determine what tools are going to work best for that. Or combination of tools are going to work best for the student.

You just have to go onto the website. I know Freedom Scientific, if you go on there, you can get a download, or request a download, of a free, for WYNN. You can also do that with GH Accessibility. You can do that with Dolphin. So there are a number of different products available as demos.

Great, thank you. And this will also be recorded. We're holding it here on the screen now, so it's part of the recording. And it will also be in the downloadable PowerPoint.

And I'm afraid that's our time. Karen, once again, you've really opened our mind up to a lot of the technology and tools that can be used to support reading. I'd encourage all of you, if you're interested in knowing more about both of those things, come to our website, perkinselearning.org. And under Resources For Educators you can visit both the Paths To Literacy website and the Paths To Technology website. Both of those are, include some activities and other tools, such as this.

This recording will be available, probably tomorrow, on our website. And we encourage you to share it within your own in-service training. And the teams and families that you work with. I want to thank Karen, again, and also Ike Presley, for helping participate in putting this content together. And on behalf of my partner [INAUDIBLE], Dr. Mary Zatta and the rest of the Perkins elearning team, we'll see you guys next time. Thank you, Karen.

Thank you, everyone.

Have a great day.