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**JAN**

**MONTHLY WEBCAST SERIES - ASSISTIVE TECHNOLOGY BASICS**

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>> LINDA BATISTE: Hello, everyone and welcome to the Job Accommodation Network accommodation and compliance audio Web Training Series I'm Linda Batiste and I'll be your moderator for today's program called "Assistive Technology Basics". We're going to be featuring Lisa Mathess. Lead Consultant for the Motor Team and Teresa Goddard Lead Consultant on JAN's Sensory Team before we get started I'm going to go over just a few housekeeping items.

First, if any of you experience technical difficulties during the webcast please give us a call at 800-526-7234 for voice and hit button 5 when the automated system picks up. Or for TTY call 877-7891-9403.

Second, we plan to have a question and answer period at the end of the presentation, time allowing. So please send in your questions at any time during the webcast to our email account which is question@askJAN.org or you can use our question and answer pod located at the bottom of your screen. To use that pot you're just going to type in your question and then submit to the question queue. Also on the bottom of your screen you'll notice a webcast download pod that you can use if you have difficulty viewing the slides or if you just want to download them.

And finally I want to remind you that at the end of the webcast an evaluation form will automatically pop up in another screen in another window we really appreciate and use your feedback so please stay logged onto fill out the evaluation form. And now Teresa is going to start today's program. Teresa.

>> TERESA GODDARD: Thanks for that great introduction Linda today Lisa and I will be getting back to the basics of AT or assistive technology whether you're a beginner or workplace provider we hope you'll take something of value from today's presentation we'll be talking about newer developments as well as some familiar favorites.

So what is assistive technology? Assistive technology or sometimes we use the term AT, could mean any device or service that can be used as a tool by a person with a disability in order to achieve or maintain function. But I often think of it as just a type of tool that can be used to make a task easier to do.

Some people will say that the term assistive technology should only be used to refer to technology used by people with disabilities. But in fact there are many technologies that are widely used today that were once commonly used by workers and students with disabilities. And now they are used by many, many people across the world to make tasks either more intuitive or more ergonomic or even just to prevent workplace injuries from occurring.

On this screen we have some examples of assistive technology. To the left we have a touchscreen. In many cases people who prefer a touchscreen can find monitors or devices that have touchscreens built in. However we do get questions about the external touchscreens that would be attached to a monitor such as what you're seeing here on the slide. That is something we hear about at JAN from time to time.

In the center we have a lifting which is a type of compact lifting device suitable for lifting things like boxes. And sometimes these might be used by a person with a back impairment who has difficulty lifting but also might be used by workers to prevent injuries I once took a call from an employer that said he was excited about the Genie Load Lifter he was going to buy one for his company to avoid injuries and then we have a box of Dragon NaturallySpeaking which is an example of speech-to-text software on the right now this comes in multiple versions depending on the industry and let's one type with one's voice.

Now I want to talk a little bit about this idea of traditional assistive technology versus mainstream devices.

So traditional assistive technologies are designed for the use of persons with disabilities. Some examples would include things like magnifiers that make things easier to see. Alternative keyboards that might be easier for someone with a hand impairment to use or various software options for people with learning disabilities.

And mainstream devices or software are more widely used. But they can be very useful as accommodations, too, for example, what might once have been an add-on specialty feature might not be built in so that anyone can use it. For instance we now have speech recognition, speech output, word prediction, color contrast and alternative input devices as standard features on things that we use every day like computers and tablets and SmartPhones.

On the right side of the screen -- sorry; on the left side of the screen that is we have a picture of a trackball. And this is something that you might have seen in a classroom. Perhaps for students with disabilities.

And something like this would be kind of done with the intention to be used by someone with a hand impairment but people without hand impairments can benefit from them also and some of them look more office friendly, Logitech carries one in kind of a darker hue. And on the right we have a picture of a SmartPhone. And what we're seeing is many makers of assistive technology are developing apps for use on SmartPhones and tablets. So they are not just making dedicated devices anymore. Some companies are making both dedicated devices and things that you might use on a SmartPhone device.

Now, when we think of assistive technology, we might automatically move toward thinking of high tech futuristic devices. Rather than just simple modifications. On this slide we have a picture of a woman who is communicating with a co-worker through a type of robotic device which is a newer technology that could be useful for someone who works from home. This type of technology is sometimes called a telepresence device this technology is already being used to accommodate some workers in Japan but in the U.S. such devices are more commonly used to provide telehealth services in healthcare industries. So this allows a healthcare professional to serve someone who might be located far away from them. But often AT is low tech and can be implemented fairly easily.

Work space modifications can often be made at little to no costs and there are all kinds of inexpensive devices. For example on the screen we have a gripping aid. We would call this a ball grip but you may have seen DIY versions of this made with tennis balls or duct tape. AT might also be custom designed or a modified version and customizing doesn't have to cost a lot. Removing the legs of a computer desk can be a very low cost custom modification for an individual of short stature.

Now let's go over some typical types of assistive technology that might be used in a, who environment.

When I started at JAN I was on the Motor Team and that's Lisa's team now. Many, many of our questions on that team were about different ways to get information into a computer. Other than using a standard keyboard and mouse.

Of course there are many, many types of alternative keyboards and alternative mice such as the trackball we saw on the earlier screen.

And that track -- the trackballs have been around forever but one solution that has improved by leaps and bounds over the last few years is Speech Recognition Software. Sometimes we call this speech-to-text software.

I first started using it in the early 2000s and honestly it was just terrible. I really wanted to throw my laptop out a window.

(Chuckles).

>> TERESA GODDARD: Lisa you laugh but you're just lucky I lived in an apartment that was on the first floor.

>> LISA MATHESS: Right.

>> TERESA GODDARD: So on this slide we have a picture of Dragon NaturallySpeaking, which is one example of software in this category. Some operating systems apps and mobile or home use devices have speech recognition built in. But it can really be eye opening to learn how much data leaves your device or your computer system and gets stored elsewhere when you're using some of these devices so I say always be aware of the content of your manuals and your user agreements and know what you're getting into.

Of course the term speech-to-text is easily confused with the term text-to-speech and that of course does the reverse. On this slide we have a picture of the software ZoomText magnifier with speech.

This software makes things on the screen larger and easier to see. But it also has some speech output capabilities which means it will read some of the things that are on the screen outloud to you.

It's very different from a full featured text-to-speech program like the screen reading program JAWS. But a perpetual license for this is available for around $500, depending on the type that you're getting.

Whereas something that's more full featured is going to cost quite a bit more.

Both screen reading software and screen magnification software are examples of alternative output methods and what we mean by that is just a different way of getting information from the company other than just looking at a standard screen.

And there's also software that combines features of both and we'll get to that in a little bit.

Next I want to take a minute to show you some of the more commonly requested products in the sensory category.

At JAN the Sensory Team takes questions on a lot of different things but our primary areas are accommodations involving the senses. Sometimes I say we're eyes, ears, nose, and communication.

So on the left we have an example of an air purifier. The Sensory Team takes a lot of questions about respiratory conditions and as a result we get a lot of questions about air purifiers this one in particular is called Molekule it's spelled with a K a higher end model it runs around $800 we have it in our JAN database.

And this particular one is an example of an air purifier that helps deal with a number of types of irritants and allergens and according to their promotional materials it can also help with viruses that are airborne. In the center up kind of toward the top we have the Colorino a color identifier which is an example of a color identification device. Basically you can use this device to figure out what color something else.

It's a pretty basic point and push button interface. It will say the color of whatever you're using it to identify outloud.

And you can also attach an earpiece to it for privacy purposes it's really good for things like sorting papers and clothing by color. Generally it's over 200 but under 250. Depending on where you would go to buy it.

Sometimes we get questions about whether it can be used to detect bruising on skin. I'm not sure it's quite that sensitive but if you have success in doing that, please call in, we would love to hear about it. And there are also lower cost things like apps that work similarly. But this is an example of a really durable and reliable stand-alone product.

In the lower right we have an example of an FM type of Assistive Listening Device and this particular one is from Williams sound you can get it through a variety of retailers through hear More is another place that carries products they also make the Pocketalker line of assistive devices and those are smaller and simpler and easier to use. We also get a lot of questions about ways to make a telephone louder for an employee who is hard of hearing. On this slide we have an example of a telephone amplifier that's very adjustable in comparison to similar products.

It's called the Speech Adjust-A-Tone. It's from a company called Hearsay but you can also get it from our vendors like Harris Communications the speech Adjust-A-Tone is unique in which it has multiple sliders you can adjust the volume of the incoming call different for different frequencies if someone needs to hear higher pitches a little bit better but okay with lower sounds they can switch those sliders accordingly depending on the models that are used sometimes you can use this with a telecoil enabled hearing aid but you have to be careful to get the correct model for the need.

So now let's dig into an accommodation example.

A nurse with a hearing impairment worked the night shift and she had to talk to doctors who were calling in for information. She was having difficulty hearing over the telephone. The employee asked to be moved to a day shift where there would be other nurses who could talk to the doctors. But there weren't any openings on the day shift. And honestly I question whether they would have had to restructure the job in that way anyway.

As an accommodation, the employer purchased a telephone amplifier, which enabled the nurse to hear effectively over the telephone.

So in the picture we have an example of a very simple and inexpensive telephone amplification device. Now, this is designed to slip over the receiver portion like a traditional wall or desk telephone. The advantage is that it's very intuitive. And easy to move from one telephone to another.

I'm not sure of the exact model but this one looks very similar to the horizon portable telephone amplifier 40 Db of amplification for just under $15 a lot of healthcare settings are moving over to newer technologies. And when using those you need to be careful to pay attention to the HAC ratings which will tell you how well it works with a hearing aid.

And now I'm going to go into just a little bit more detail on screen reading and screen magnification.

Pictured we have the software program ZoomText Fusion. Which combines the features of the screen magnification program ZoomText which many people are familiar with. It makes things on the screen larger as well as easier to see in other ways like by adjusting contrast and foreground and background colors and it combines these features with the features of the screen reading program JAWS.

ZoomText you'll remember is also available without those screen reading features.

A similar program to ZoomText with reader and also with some similarities to ZoomText Fusion is Dolphin Supernova and the feedback we have gotten from users we don't talk to many people who use the Dolphin line of products but the feedback we get is people really like the color customization options and it's more popular among college age students. Many employers, however, tend to be more familiar with the ZoomText line of products. And oftentimes they will already have a license for that.

Let's look at another example. A healthcare worker with low vision was having difficulty using her computer. We see this a lot in healthcare settings. When it comes to healthcare databases some are more accessible than others. And some hospitals are more open to assistive technologies than others.

We have actually heard of nurses leaving their jobs to go back to a hospital that had technology and databases that worked better for them. I really hope we can get to a place where there's no need to do that.

So in this case at first, the employer tried upgrading the employee's operating system. Newer versions of operating systems sometimes have more accessible features. Unfortunately, that wasn't effective.

The employer purchased screen magnification software. And as a result they were able to retain a highly valued skilled employee and also sent a message to her department that, we care. Even in a big company.

Here we have some examples of screen reading software. The NVDA screen reader is one that a lot of people haven't heard much about. It can actually be downloaded free of charge by anyone. But they do accept donations. And they do sell things like training manuals and telephone support services.

The Dolphin screen reader is similar to JAWS in that it's primarily for screen reading. But it runs just under $800. And for JAWS the screen reading program that people are usually most familiar with, it's extremely full featured and there's a lot of user support, a professional perpetual license for that goes for about $1500.

I would really encourage people to consider the features that they need and perhaps try demo versions of a couple of different types of products before they make a decision. In addition as we'll talk later it's very important to involve the I.T. team when deciding what software a person is going to use at work.

Let's look at another example.

So here we have an example where a piece of assistive technology that's traditionally used for accommodating someone with a vision impairment was used in a different way. A bus garage employee who had difficulty reading but had excellent listening comprehension skills often missed important instructions and announcements that were sent via email.

The employee was provided with screen reading software that allowed him to listen to the emails that he received. His performance greatly improved and his attendance at meetings and gatherings improved also probably because he knew when they were happening.

Now, a big computer monitor is usually one of the first accommodation ideas that people want to try when they have adjusting to a new or to a progressive vision loss. And people sometimes ask how big can you get in terms of monitors. Well this picture will give you a little glimpse into life at JAN this is the screen in our innovation conference room. And as you can see, it is quite large.

The advantage of a larger monitor is not only that everything on the screen is a bit bigger but you also have more real estate to work with in terms of screen magnification software.

Now, before modern screen magnification programs came into use, I used to know a teacher who had to use a special program from the school to write their IEPs and those are Individualized Education Plans for students with disabilities. They actually projected from their computer up onto a wall in order to make things big enough for them to see well. Now you do lose some contrast when you do it that way so it's not what I usually suggest but sometimes you just have to use what you get. I don't know of anybody who is using a monitor like the -- like the one we have in the innovation room just the desk alone you would have to move your head around it would be very uncomfortable to use something of this size. And that's why I really suggest that people stay with the screen magnification software options. A little bit bigger is good. Too big might be too much.

So let's look at another example. This might be an exception to my large monitor rules. Don't have a monitor more than twice the size of your head is what I sometimes say. But this might be an exception. A psychologist who was legally blind asked to be excused from providing mental health services via telehealth. Now, the employer was temporarily restructuring her job to allow for this. But they were looking for some solutions that would help herb able to doing that function. What she was most concerned about was being able to interpret her client's facial expressions and their body language via video feed because it's different when you're right in there.

Now, I was impressed that they were actually restructuring while they were looking for a solution.

So a JAN consultant talked with them about larger monitors and talked about maybe exploring ways of changing the positioning of the cameras on the patient's side so that the cameras that were actually on the patient in that room to help her improve her chance to observe body language.

So this is a case where a very large monitor of some type or even a TV screen might be used. To give her a really targeted view of the face. But also maybe a broader view of the person's body language. You might even possibly have two cameras and two different -- maybe two different monitors perhaps a split screen so she could see both at the same time.

A telepresence device is another option that could be considered. Because that let's the person use like a remote control sometimes to pan the camera or tilt, even to move forward and back. But for the setting and for the patient population they were looking for a more familiar technology. And they were just more favorable to using some things that were similar to what they already had in place.

Okay. We're going to switch gears a little bit and talk about speech-generating solutions for a moment. Here we have some solutions for those who use AAC. Sometimes that's called Augmentative and Alternative Communication don't remember that, there won't be a quiz on that. A lot of people will call it speech-generating technology. And these are some solutions for telephone use. Of course if you've ever seen a speech-generating device you can either type or use buttons or touchscreens. Perhaps even a keyboard. To generate words and phrases that you want to have the device say outloud in a synthetic voice and it's possible to use a lot of these with a speaker phone function on a telephone. But we get a lot of calls from employers who want a more private option. So here are just some examples. On the left we have a device called a phone link. Which can be used to connect almost any type of speech opt device that has a 3.5 jack to a desktop type telephone I've actually had a chance to try this out with the speech assistant AAC app that you see pictured there on the right side of the slide. As you can see, the speech assistant AAC app let's you use preprogrammed words and phrases that you can also type -- you can also type in anything you want into that speech generation box and when you hit the button that looks like a little speaker, it will say the whole thing outloud so just an example, this is a screenshot from the app. It says, hi my name is Teresa, do you have questions about AT. So hi my name is was canned it was very easy to push one button and enter that and then I used the on-screen keyboard to enter the rest and the way you would use this with a tablet or a phone again assuming it has the right kind of jack my old phone has the right one my new one doesn't, you would just plug one end into the phone, the SmartPhone, then the other end into the desk phone then the sound from whatever device you're using the app on goes directly into the phone now on the lower part of the screen we have another device called the Sero phone that's S-e-r-o.

That can be used to deliver prerecorded messages. It can also interface with some infrared enabled devices but not all. So in order to avoid compatibility issues, what we suggest is contacting the vendor directly to make sure whatever you're hoping to use it with is actually going to be compatible. Just a side note the quality of synthetic speech is often a concern for employers and sometimes for users of AAC as well there are now companies that customize in voice banking and some examples are vocal ID and acappella inclusive what voice banking is it's a way to prerecord your voice and it let's you restore your recording for future use for a customized voice if you know you have a medical condition that's likely to impact your voice let's say certain types of cancer, you might want to do voice banking so you will have a synthetic voice that sounds very much like your current voice that you can use after treatment is completed. Now Lisa will tell you about organizational software.

>> LISA MATHESS: Good job Teresa the technology queen let's change gears a moment and look at AT options that we can consider for cognitive impairment first we do have the umbrella category of organization software which can refer to programs that assist individuals with keeping schedules and maintaining organization and daily activities of life and work. Here on the screen we have a screenshot of Endeavor 3 the app costs about $100 and it's available on Google Play and the Apple store. So this product, many individuals, including people with intellectual disabilities, TBIs, early onset dementia and certain learning disabilities individuals could have difficulty remembering when to perform key activities such as taking medications, turning off appliances, getting to meetings and appointments, work tasks and other routine or non-routine activities of daily living. So the Endeavor 3 provides a format for those individuals to complete tasks independently and on time.

So this often frees up staff or caregiving time and greatly enhancing the individual's independence and quality of life.

So this app, it has a simple mix of an image, an audio message and a set day and time. And then it's presented on the home screen but this app also runs in the background. So if you're using your smart tablet or device for other things, this app will interrupt to remind you of appointments and work tasks.

So we often see that these types of apps can serve as a stand-alone accommodation option or as an accompaniment to a work-related aid or job coach until the person is back fully independent and can rely on the app on their own.

So here is an example. We have an electrical apprentice with some intellectual issues who needs to get a licensure training to become certified he had a hard time taking notes and remembering information in those trainings.

So the result was the employee was provided with an iPad with apps that let him record the trainings. So he could go back after the training and relisten to the lecture as often as necessary to help him prepare for that training test. So the key point here, once given the accommodation of an iPad, he was provided training on the iPad. So this helps ensure that he knows how to use it and it's truly effective for him. So training on any assistive technology we provide as an accommodation I think is a key point in the Interactive Process.

So another AT option for cognitive impairments, here we have a screenshot of the WatchMinder, SmartWatch. It runs about $70.

So this is a watch with a timer that vibrates so it's discrete and it's not announcing to everyone that you have an accommodation in place. Because it's under ADA it's important to remember dignity issues should be considered.

So it's very discrete, personal. It's designed to help people in staying focused, managing their time, and modifying their thoughts and behaviors. So you can set up specific times for these alerts. Or you can just set up interval timers and it will go off every 15 minutes, for example, just to give you a quick buzz and let you know either to wrap up and move on or keep moving on with the task at hand.

So looking at an example. We have a pediatrician with ADHD who was having a hard time meeting performance standards at work. They had a patient quota and she was staying late to finish her duties. So then co-workers were picking up extra patients and the employer had to pay those co-workers overtime so it was starting to become an issue. So they tried a few different accommodations but couldn't find something effective so they ended up calling JAN.

So after a consultation with JAN they ended up providing a WatchMinder watch. They had programmed it to vibrate every 5 minutes which enabled the employee to pace herself throughout the day and keep up with production standards. So in this instance, the employer reported $100 cost and did report the benefit that an accommodation was made and the employee was able to improve performance.

So there's also some alternative solutions we could always consider. Here we have a picture of the Revibes watch which costs about 150. It has additional features depending on which model you go with. So we have the standard silent vibration alert but we can also program short text reminders to pop up on the screen at certain times of the day. So that's just one option of an alternative. There are various Smartwatches available now. I feel like everyone has an Apple Watch which is great. But being connected to your cell phone can also cause a slew of distractions and issues with productivity if you're also getting your texts and calls through the Apple Watch.

So it's just important to consider what would be effective for the employee. More features and more bells and whistles aren't always the best option. So you want to talk with the employee and see what they truly need.

Okay. So now we're switching gears to look at some motor related assistive technology. Something that people get tripped up on a lot is the compact lifting device versus the work platform.

So in my experience, when we're referring to a compact lifting device, we're talking about devices that are small and portable enough to work in an office or tight warehouse environment.

So these lifting and carrying devices do have platforms that are variable heights and they are typically used for moving materials and goods but not the employee themselves. But on the other hand, we have work platforms which are the middle and the right photo up on the screen right now. Those work platforms are adjustable height workstations that can be adjusted to optimum heights or fixed height platforms to raise the employee to the working level. So these are made for people to stand on or wheelchairs in some instances.

So when we're looking at choosing among effective options in assistive technology, we want to know, are we lifting material or are we better off lifting the worker. You'll want to understand the environment or task at hand when choosing which would be better.

And I do just want to say on the left we have -- it was once ERGOdynamics but now it's Heftee Industries. And then in the middle we have a scissor lift platform by JLG I believe. And then on the right we have global industrial work platform which costs about $1300.

All right. So let's look at another motor related products and some examples. Now we have an adjustable workstation. Which are desks and tables that are adjustable and allow individuals who use mobility aids to access them but they also allow an individual to alternate between sitting and standing positions throughout the day to help be more comfortable. We also have vendor lifts for office settings, adjustable workstations versus the industrial adjustable workstation. So depending on what you're looking for, we might have something different for you.

On this example, it hits close to home we have an employment consultant with sciatic nerve pain so sitting for eight hours was painful and they were having a hard time throughout their day.

So the individual talks to JAN, learn their rights under the ADA, learned how to request a reasonable accommodation and in this case the employer approved and provided them with an adjustable workstation this made the employee happy and comfortable and enabled them to keep up with production standards.

So as Teresa mentioned, Speech Recognition Software, which is sometimes referred to as speech-to-text, it's becoming increasingly popular and readily available. Here we do have Dragon by Nuance pictured as is pretty popular but if you want to test out speech-to-text there's built-in options on computers that you can try out and play with and see if that's what's right for you but some people may need a more advanced option so Speech Recognition Software might be a better fit than what their computer offers as a built-in accessibility feature. Speech recognition allows the user to access the computer by using their voice. It can be useful for those with motor impairments who cannot type or those with cognitive impairments who have difficulty in writing and documentation.

There are options if you would need both speech recognition and screen reading software through a product called J-Say and for those who need to talk on the phone while putting in information at the same time which is common for service reps it could be possible to integrate speech recognition with a telephone and we have a vendor list for those products, also. So let's look at a couple of different applications of speech recognition. First up we have an activities aide in an extended living facility had difficulty writing documentation in the daily log for the groups she assisted. I want to assume that the difficulty writing was a cognitive issue, perhaps a learning disability was causing these issues.

So for the accommodation we have the aide was provided with speech-to-text software which allowed her to dictate her notes from the computer, print them out, and then cut and place them into the binder. So here we have a speech recognition as a successful accommodation.

Another example, now we have a Case Manager, a nurse Case Manager with a newly acquired hand impairment and they were struggling to complete patient documentation. Her performance was suffering and falling behind company quota. So now with the writing issues, it's a motor-related issue.

For the accommodation, a JAN consultant explained speech recognition, specifically Dragon Medical that's used in the healthcare industry. This enabled the employee to complete patient documentation in a timely manner. So with this software there's basic dictation options but there's also occupational specific ones. There's this medical version. And there's a legal version. And it's really just a larger range of vocabulary unique to those work settings which makes it easier for the individual using them.

Now I want heed to highlight a couple of products that not a lot of people are aware that exist. Both of these products pictured are from Dane Technologies. On the left we have a motorized wheelchair pusher. It is a little costly it's $7500 but it makes it easier for medical staff to push patients up ramps, across carpeted areas. And it reduces strain on employees.

So hospitals these days are huge and we're getting more and more healthcare workers getting work-related injuries and impairments from on-the-job issues. So these motorized wheelchair pushers are becoming increasingly popular.

Then on the right, we have a motorized pusher for wheeled carts and dollies so it's pretty much like a tow truck for the case carts, hospitality equipment, hospital equipment, medical equipment, and food trolleys.

So again, even though something is wheeled if you're putting a bunch of weight on it, it can still bog it down so these motorized devices make it easier for the employees to push those goods and materials.

Okay. So how much does AT cost? So with the JAN study that we annually update, over half of accommodations employers reported no cost. And of those 36% reported there may be a one-time cost but it was typically less than $500. So these numbers aren't speaking directly to assistive technology per se. But they are representative of all accommodations that employers are reported on but I think it gives a general idea of what we're looking at in terms of money with accommodations. So in short, an accommodation is cheaper than an iPhone in this day and age. So I think that's very beneficial and promising for employers and individuals alike.

Okay. So looking at how to meet complex needs with assistive technology.

So here on the left of our graphic of the arrow, AbleData, this is a database that's basically a catchall for any AT device ever available. And you can't buy from them directly. But they have the information on past items and current items with the vendor information of where you can find available products or types of products that may work.

So whenever an individual calls us, or an employer, and they are just looking for basic ideas of where to start, I think AbleData is a great place to start out of let's see what is on the market or once existed that met this unique need.

And then moving on the arrow we have eBay. So we see this a lot that people get attached to one certain product. And they use it for years and years and years and then it gets discontinued. Well, eBay is a great resource that someone else may have also tried that product, don't have a need for it anymore, trying to make some cash so they put the gently used item on eBay so the person with a disability can go on eBay and find this product that's not commercially available anymore so I think eBay is a hidden gem for AT products. Moving on to state AT projects. Same idea. You can find used or borrowed items that may not be commercially available anymore. And then there's RESNA, the Rehabilitation Engineering and Assistive Technology Society for North America.

They customize AT for specific needs and applications. Me and Teresa were actually traveling and we once saw them at a conference with this modified workstation for a cashier at a fast food restaurant who used a wheelchair. It was amazing. So RESNA does super customizable work.

And then the same premise for AgraAbility, custom things and an AT database for agricultural applications so tractors and things like that and lastly there will be times where in-house customization has to be considered. Some work tasks and needs are so unique that in-house will have to create something to be effective for an employee in some cases. Do you have anything to add Teresa.

>> TERESA GODDARD: I'm glad you mentioned AbleData because that's something I use all the time to look up products that may no longer be in the JAN database because they are not commercially available or if I'm unfamiliar with a name we had someone coming in asking for a CatTail phone, CatTail phone, and I thought you knew what they meant you probably think you do too but just in case I went to AbleData to see if there was something I didn't know about. Found a lot of stuff it turned out it was a CapTel phone like you're all thing. C‑a‑p‑T‑e‑l. CapTel.

>> LISA MATHESS: Minor details.

(Chuckles).

>> TERESA GODDARD: But you know it pays to check because shoes we had missed something important.

>> LISA MATHESS: Absolutely.

>> TERESA GODDARD: For eBay that's actually extremely common for users with AAC devices people will get very attached to a device sometimes because a person may have a neurological concern like autism that makes them really strongly prefer not to change devices or it could be because their fine motor abilities are so specific that there's one device that works for them now the one thing we didn't talk about on this slide is occasionally you can get in on some type of R&D project the whole new thing in AAC is bring controlled interfaces and what's neat about these they don't require any volitional movement whatsoever to activate a switch or in some cases to spell so if you were at ATIA or going to be at CSUN you may get to hear about projects where people could no longer get their preferred AAC device but were able to get in on some trials involving brain controlled interfaces where you actually use your brain waves to do things like spell out something on a device. People are actually using these for work. But you can't buy them. It's only if you get in on some type of research project that you're able to get this really cutting edge technology.

Okay from the exciting to policies.

(Chuckles).

>> TERESA GODDARD: So mobility devices like tablets, cell phones, SmartPhones, Smartwatches, any other types of wearable technologies can be very valuable productivity tools when they are used appropriately. They can help employees maintain work-life balance. Use concentration and relaxation techniques, reminders. Some of them can help you manage your health condition. And keep in touch with sources of support without tying up office equipment and phone lines.

But devices can also serve as a distraction or even pose a risk to data. As a result a lot of employers are developing and updating policies on personal use devices and governing what types of devices and apps can be purchased for employees.

One challenge that we're seeing a lot is employers limiting the use of Bluetooth enabled devices in their workplaces and this is a real challenge for people who use things like Bluetooth hearing aids or even more crucial health devices like continuous blood glucose monitors.Some people need to be able to constantly monitor their blood glucose in order to intervene appropriately when they go too high or too low in their blood sugar and they really do need to know what those numbers are at all times but there are employers who for policy reasons don't want to allow these devices on their work campuses. It's a growing area of challenge.

When we talk about the ADA and a wearable device policy, some important things to keep in mind are that policies need to be applied in a non-discriminatory way. And in some cases it might be necessary to consider modifying a policy unless it's an undue hardship to do so. And it might help when you're trying to figure out what to do in terms of applying your policy to help figure out whether something is a personal use item or something necessary for an accommodation. There are some wearable devices that are really designed to meet a disability-specific need. For example, the OrCam, O‑r‑C‑a‑m. Is something that you wear. It's usually attached to a side piece of eyeglasses and it can actually read text similarly to the way that a screen reader reads text. But it would read text say from a piece of paper and it's designed for someone with a vision impairment or a reading disability. That could be a personal use item if people use it all the time and everywhere but it also might be a workplace accommodation.

And sometimes you might -- the employer and the employee both might need to be open to alternate ideas or accommodations. But people use these types of wearable devices in all types of ways. They could be used to manage their stress, manage a medical condition like diabetes. They can use the OrCam to get information. You might be using some of these devices to meet communication needs. Like a hearing aid. That's very necessary for communication.

But these are just some things to keep in mind if you have a mobility device policy or you're considering implementing one.

So let's talk about an example just really quickly. An employee at a community college presumably they use a hearing aid because they are asking for a Bluetooth streamer and a Bluetooth streamer is something that you would usually use with a Bluetooth enabled hearing aid so you can get the sound of other things like a computer, a telephone or television you can send that into your hearing aid via Bluetooth to be amplified. So they were asking for this Bluetooth streamer to assist with their access to meetings and trainings and to enhance day-to-day conversations I'm surprised they weren't asking about using it on the phone because that's a very typical applications.

So the employer wanted to buy it but they also wanted to put some rules in place to make sure that it didn't get damaged at work. And I'm not sure what they thought was going to happen. Because this wasn't a lifeguard. This was somebody working in his office at a community college. I don't know what they thought was going to happen to the device but they were concerned. Wanted to make a policy there's always someone who wants to make a policy and it's never me but I appreciate those people. They keep me in line.

So they got on the phone with JAN. We talked with them about some guidance on who purchases -- how who purchases something who pays for something impacts who gets to control things like where it's stored and how it's used.

And after learning more about that guidance, the employer's HR department decided to provide an Assistive Listening Device technically a Bluetooth streamer can be a component of an set of assistive listening device system we don't know exactly what they bought we know they spent less than $1,000. So I'm going to guess here they may have bought the Bluetooth streaming device but it's also very possible they bought something else they were more confident in.

They did report that the accommodation was extremely effective and improved worker productivity, morale and safety and let them save on workers' comp for $1,000 that's pretty good and they also retained their employee.

Next we're going to talk a little bit about how to figure out what to get in terms of assistive technology for an employee. We've talked about a lot of different products and types of products today. There's a lot of things that we didn't talk about. We could go all day on this stuff. How do you know what to get? We have some suggestions. First we suggest that you talk with the employee to see if they have ideas or preferences based on what they have used before. Maybe they even have had an assistive technology evaluation from a professional who has made some recommendations and those might tell you not only products that would immediate the person's needs but the features of those products in case you need fog with an alternative. It's also crucial to involve the employer's I.T. team depending on how the assistive technology will be used the I.T. Department might have some policies that influence what can be installed and how it can be used. Of course we do sometimes have to consider modifying policies. But there are logical reasons for these policies to be in place. And they might need important operational needs like data security. Very important to involve I.T.

And sometimes it can also be helpful for members of the I.T. team to have the opportunity to have some ADA training or training in how to support particular types of accommodations. For example, somebody might learn how to write scripts for screen reading software users.

Can you try before you buy? Sometimes you can. State AT projects can be a very valuable resource where you can have devices demonstrated. Sometimes you can borrow a device for a week, sometimes even two weeks or a month just to see how it works in your setting. And they often offer other programs, too, like reutilization programs or perhaps a person where a disability might get something with a lower cost or we can avoid someone sending a device to the trash and someone can use it and there are state financing programs again these are usually for people with disabilities but employers can really benefit from device administration and -- device demonstration and device loans.

Now Lisa is going to tell you some more about places to find information about assistive technologies take it away Lisa.

>> LISA MATHESS: We have gone over many of these, the AbleData, the AgraAbility. We did mention ATIA and other AT conferences. Half of our crew is at CSUN right now. I hope they are enjoying California. RESNA, the state AT projects, the CAP the computer and electronic computer programs specific for Federal workers if you're a Federal employee tap into that. Go down to the CAP center and play and get your hands on this technology and see if that would be feasible if your work environment and that's a program for free that if it would meet your needs and you are one of the Federal agencies that they work with, you can take it back to your workstation and be a happy camper. Then the Helen Keller National Center Teresa do you have anything to add about that.

>> TERESA GODDARD: You know the Helen Keller National Center for deaf-blind use for adults HKNC is an amazing program providing services for people who are deaf-blind. Trainings at their headquarters and also at other sites around the country but one thing that's very useful for employers is they have regional representatives that can help connect individuals with different types of services and trainings. Sometimes they can even come onsite and do consultation as part of a workplace accommodation need. Very valuable service and you can find your regional rep on their Web site.

>> LISA MATHESS: Okay so moving on we want to plug some JAN resources if you wanted more AT information we have a publication with a five-step process to help choosing among effective AT options and then we have a JAN training basically a training in a can. There's one specific for AT and workplace it's about 20 minutes and it gives a really good overview of available options.

Now I think we do have a few moments for questions and answers.

>> LINDA BATISTE: Great, thank you, guys, that was excellent and we do have quite a few questions we'll try to get to as many of these as we can. Let's just jump in. Does screen reading software come with a feature to slow down speech?

>> TERESA GODDARD: Yes and no. People who use screen readers habitually will often turn up the speed to speeds that the average person would have difficulty understanding but you can bury that. So it's possible to listen at a lower speed than the average user would typically use, yes.

>> LINDA BATISTE: Great. In regard to Speech Recognition Software, say you have someone working as a customer service rep who has to talk and type while talking. What is used to make sure they can get the information in the computer while talking to the customer?

>> LISA MATHESS: There is speech recognition telephone integration software. It's linked on our Web site. I don't have the name of the product specifically but I've heard really good reviews from customer service reps that there's basically a toggle between talking to the customer and dictating to your computer.

>> TERESA GODDARD: Yeah people can also make use of their mute button when they are dictating.

>> LISA MATHESS: Yeah, easy fix.

>> LINDA BATISTE: That's a nice one. That's free.

Do either of you have any experience with Google Live Transcribe?

>> TERESA GODDARD: It's not something we have had a chance to demo yet here but I have seen the Google product at work. We're seeing -- I would almost call it an explosion in terms of apps and devices that will do automated transcribing. And we have a number of those in our database. If you would like to call in and discuss it at depth I would happy to talk this is one of my favorite topics.

>> LINDA BATISTE: And she means it when she says that. Someone said they missed something when you were talking about Dragon NaturallySpeaking and wanted to clarify does the program require that you record words prior to actually using the program?

>> LISA MATHESS: Dragon NaturallySpeaking, there is a training component just so it learns your voice and kind of your twang or accent, if you will. So it kind of learns your voice and that's going to make for a better experience. But I'm not aware of recording anything prior.

>> TERESA GODDARD: There's a setup process where it does learn your speech to a certain extent like Lisa says -- train it to your voice it used to take 45 minutes minimum but it can get up and running in about 10 minutes now you don't have to record anything well I assume it does some type of recording but not in the way that I think the person is describing here.

>> LINDA BATISTE: Great, thank you. So this is from an individual who uses Dragon NaturallySpeaking. And I don't know if it's a he or she but we'll say he says that he's having difficulty in the prehiring process when a typing test is required and getting an employer to let him use his Dragon NaturallySpeaking to take that prehiring typing test. Could either of you speak to that?

>> LISA MATHESS: He may need to request an accommodation for testing and modification -- testing modification. The test should be job related and consistent with business necessity so if he could show his abilities typing perhaps with voice-to-text, then that should be considered as an accommodation prehire.

>> TERESA GODDARD: We have seen some situations where people who are clients of vocational rehabilitation worked with their VR counselor to take the test in a proctored environment using their assistive technology.

>> LINDA BATISTE: All right. Great. Somebody asked if we know of cheaper alternatives to the Endeavor 3. Do either of you know anything about that.

>> LISA MATHESS: There's all types. On our Web site for the organization software there's all types of price points. There's free: I know the Endeavor is $100. There's apps that are in between and apps are everchanging, always being added to. So I am sure there's organization software available for cheaper.

>> TERESA GODDARD: Yeah the Endeavor is the Cadillac of apps of this type but a lot of people just use the built-in reminders in their phone or you know the WatchMinder will do a lot of what Endeavor does.

>> LISA MATHESS: Yeah.

>> TERESA GODDARD: It just won't be on the device of your computer.

>> LINDA BATISTE: Great someone wanted to know did you mention a specific air purifier or the name of an air purifier when you were talking did one of you mention something.

>> TERESA GODDARD: Yeah the one that is pictured is called the Molekule it's spelled a little differently than you would expect where you would expect dozen a C in the word molecule you instead see a K you can actually find that on our Web site or we can send you a link from the JAN database. It's just an example we don't endorse or recommend products here at JAN. This just happens to be the newest latest and greatest according to its advertising at least in terms of air purifiers and that's Molekule.

>> LINDA BATISTE: Great and I'm going to combine some of these questions several people had questions about other assistive technology options for for example people with ADHD or more information on where to find state AT projects. Other options. Can one of you talk about our A to Z list and how to find more information.

>> LISA MATHESS: Yes. On askJAN.org if you go to A to Z by topics under resources we have every state assistive technology project linked. Under there. If you go, again, A to Z by topic, go under assistive technology, we have all types of products and equipment linked there.

>> TERESA GODDARD: Yeah and you can also look under A to Z by limitation or by disability involved. And find solutions for many, many different types of conditions. If you have trouble finding something you can always call us or email us, someone would be happy to send you the information or walk you to it on the Web site.

>> LINDA BATISTE: All right. Unfortunately we are out of time.

I wanted to mention one last question because I want to plug our upcoming solution videos. Somebody asked for free and readily available way to zoom in and out on the computer. And we just did a couple of solution videos on accessibility features of the iPad and Windows Microsoft. So we want to plug those just because we think they are very helpful. There's a lot of other ones that are already available and there's going to be more coming. So to find those, you go to our homepage which as Lisa mentioned is askJAN.org, click on the training tab. And then go to the JAN YouTube channel. And you can find all of those, the ones I just mentioned about the iPad accessibility and Windows operating is -- those two are not up yet. Are they? They are coming soon. So check out what we have. And look for the new ones to be coming soon. And that's all the time we have. I want to thank Teresa and Lisa for excellent presentation with lots and lots of good information about assistive technology. And as they said, there are lots of other things and we can help you on a case-by-case basis if you want to give us a call. Thank you everybody for attending and we also want to thank Alternative Communication Services for providing the net captioning we do hope this program was useful. As mentioned earlier an evaluation form is going to automatically pop up on your screen in another window as soon as we're finished we really appreciate your feedback so please just take a minute to complete that form. This concludes today's webcast.

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