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Supporting Neurodiverse and Deaf Neurodiverse Individuals, in partnership with RIT/National Technical Institute for the Deaf

Presenter: Haley Boring, MS, CCC-SLP

Welcome to the classroom everyone, and thank you so much for being with us today here at Continue, the parent company of Audiology Online. We're so delighted to have you with us. This course is in partnership with the Rochester Institute of Technology, the College of the National Technical Institute for the Deaf, and if you've missed some of the other courses in partnership with them, feel free to log on and take a look at the library. Today's course is presented by Haley Bore. She'll be talking to us about supporting neurodiverse and deaf neurodiverse individuals.

And if you'd like to learn more about Haley in her background, you can read her bio on the course registration page. But at this time I'll hand the mic over to you, Haley. Thank you, Christy.

So here are my disclosures and my limitations and risks and our learning outcomes for today. So our goal is that we'll start by just defining some of the basics of the neurodiversity movement, unrelated vocabulary, if that's a new topic for you. Also identify some of the supporting research and the rationale for this shift in thinking because I know it's different than what a lot of people learned in grad school or even five or 10 years ago. And then discuss how communication patterns might be impacted by a person's hearing status, their chosen communication modality, their culture and their neurotype. So I want to share a little bit more about myself and why this specific topic has become kind of my passion.

So my professional background I began my career working in early intervention where I worked with children aged birth to five. I then transitioned to the other end of the age spectrum and worked in skilled nursing with older adults. I worked primarily on cognition, swallowing and then also speech and language as well. I then during the times of COVID transitioned back into working in the schools and that's really where I fell in love and learned more about neurodiversity. I was working primarily in a self contained classroom and and leading into that I didn't have a ton of specialized knowledge and experience.

So I really dug into that finding as much PD as I could, joining groups with autistic adults, sharing their experiences. And once I began working in that setting I learned that I really loved working with these kids and honestly I learned a lot about my own brain and to work with my brain instead of against it. I'm now here at ntid. I'm an slp. I work one on one with students on all of their communication goals and I also lead our neurodiverse advocacy and support group.

My personal background, I kind of alluded to it a second ago, but I'm neurodivergent myself. I'm also a mom, so I'm managing a neurodiverse family, which often means that we have some conflicting needs. So I mentioned that because I think it's easy to attend a professional development and be excited and interested, but then feel really overwhelmed about the idea of implementing any of it. So I add it because I think it's worth noting that a lot of times, I mean, even in my own household, there are conflicting needs and they're all valid. And so just finding ways that we can meet everyone's needs the best we can, perfection is definitely not going to happen.

So then, a little bit more about ntid. We have kind of a unique setting. We are one of the nine colleges at Rochester Institute of Technology up in Rochester. NTID was established by Congress to provide more education opportunities for deaf and hard of hearing students.

This is really important as well. It shows the variety of students that we work with. So the first chart there shows you listening technology. So some of our students either never have or have tried listening technology and it's not a good fit for them. Other students use hearing aids or cochlear implants every day, all day.

So we really have a wide range of technology use. Similarly, we have a wide range of communication modalities. So some of our students use American Sign Language only for communication, others use spoken language only, and then still others use kind of a mix of both, whether they're simultaneously signing and speaking or they are alternating between the two.

All of our audiologists and speech therapists here, we support students, alumni, staff, we support and provide on campus audiology and speech language services and we are all able to sign. So when I mentioned that some students sign only, if those students are coming in with goals related to language, related to executive function, or related to self advocacy that isn't relevant to speech, then we will only sign with those students. We won't be voicing. So we match the communication preferences of each of our students.

And this is just some of the things that we do for the people we work with. So this isn't exhaustive, but it's some of the ways we support students here and staff and faculty. So I want to move to this slide. This is a quote from one of my students and I think it really shows what the point is. I do have a couple brackets there just where I made some edits for making it more readable in English versus asl.

So I'll give you a second just to read that.

So the reason I wanted to start with this quote is the students that I'm seeing are often, whether they're, they're diagnosed or not diagnosed, they're reaching me. And sometimes they, they don't yet have a lot of strategies or knowledge about how to work with their brain. And these students are in their teens or twenties. So I thought he did a really nice job of, of showing some of the ways he has worked throughout the last couple of years to find better ways to support his brain, to be more successful in this environment, and that he's, he's highlighting that it would have been helpful for him to have these strategies earlier in his academic or even social life.

So we have responsibilities to everyone we're working with. When we are working with folks that we are outside of these communities, whether they're deaf, whether they're neurodiverse, whether they are part of a different ethnic group than us, we have a responsibility to ensure that our interventions are not harming their culture and language or their identity, individuality and self expression. We also have

power being in the positions we're in. And we can use our knowledge and power and resources to advocate for these communities, to ensure that we're listening to the communities that we're serving and, and to educate others so that the responsibility of advocacy and education isn't only on folks from within the community, because that's a big burden. So we have a responsibility to be supportive to these communities as well.

So I know neurodiversity is a relatively new term and it's making a big appearance recently. So if this is a new word for you, it just means all of the brains that make up our society. So the examples listed here are often the ones that are first thought of or discussed. These are like developmental diagnoses that a person is born with, lives through childhood, and their entire life will have these diagnoses. This will be part of their identity.

So it tends to be very intrinsically wrapped up in identity because it's something that's been part of someone their whole life. You may also see other groups also identifying as neurodivergent as well. So folks who have mental health disorders like anxiety, ocd, depression, those folks may feel that that is a part of their identity. It alters the way their brain works, the way they engage in social interactions, and they may identify as neurodivergent. Similarly, you may see either in literature or you may see some folks identify who have acquired neurodiversity.

So Those, those folks who I worked with when I was working in skilled nursing, who were stroke survivors or had experienced a traumatic brain injury or maybe even dementia, those would be examples of acquired neurodiversity. So you may also see that term as well.

A quick review of vocabulary. We mentioned neurodiversity, which describes the. The wide range of differences we have in all of our brains in society. Neurodivergent is just a person whose brain is different from most people in that society, while neurotypical is going to be a person whose brain is the same as most people in that society. Masking and stimming.

Masking is going to be something we're going to talk a little bit more about later. This is copying a behavior or hiding a neurodiverse behavior. So this is something that everyone does. When you go on a first date or you're in an interview, you're putting a certain mask on, you're acting. It is the changes a little bit for neurodiverse people in how.

I'm sorry, for neurodivergent people, for how that impacts their mental health. Because when you're masking for just one job interview, and then you can let the mask down versus if it's all day. In addition, if masking is changing your personal identity, as opposed to just maybe using a little bit more polished vocabulary, it's not really changing who you are. It's just kind of brushing up and showing a specific part of yourself. Stimming, this is.

It's an automatic soothing and repetitive behavior. So the picture here shows hand flapping. That's something you might see. Again, this is something that everyone does. Typically, neurodivergent people tend to do it, tend to stim in ways that are either more obvious or less socially acceptable.

So when you see somebody playing with their hair, biting their lip, those things are stims. They're. They're ways of regulating your emotions, they're regulating your body. It's just that when we see those things and they're done in ways that are typically socially accepted by neurotypical people, as opposed to more visible things like hand flapping, that's where we see that difference there. Stimming brings us into this next piece of sensory and emotional regulation.

There's a lot of overlap between these two areas. And if you work with OTs, they are the ones who have lots and lots of knowledge about this topic. But it's really understanding, processing and responding to sensory or emotional input in a way that's safe and comfortable. So our Goal is to make sure that this individual is safe and comfortable as well as folks around them.

Okay, so more broadly, the neurodiversity movement, what are the goals? What, what are we trying to teach people? Right. First of all, diverse perspectives benefit society. So we know this to be true across the board, having new ways of thinking, different ways of doing things that it helps us to be more innovative, it helps us to learn more, to do more.

It benefits our society. The next section, reducing impact of disability by making society more accessible, speaks to the social model of disability. So we can recognize that disability exists. And we can also try to remove barriers where possible in society to make the impact of disability less on an individual person so that their quality of life, life is better.

The next one is really what I hope. If you don't take anything else, I hope this is what you take away from listening in. Today, we have to be listening to people within a community about how they want to be treated and supported. So often helping professions, forget this part. We're listening to experts, and that's really important.

But we have to make sure that we're also checking back in with these communities and centering their voices, centering their perspectives, and making sure that we are supporting them in ways that they want to be supported and that we're not causing harm. This next piece is that we can consider different types of brains as neutral so one's not inherently better than the other. This, I have a little asterisk here because we also want to keep in mind that it's a little bit of a dichotomy, because neurodiverse identities can and often are disabling, right? So folks with higher support needs exist and they deserve respect and support. Folks with lower support needs may also experience specific scenarios or moments during which they need more support.

So people like myself, I'm typically able to support myself in order to meet my family's needs, to meet my vocational needs, to meet the needs of my students. But there are scenarios that I need additional support to ensure that I'm able to be present in that moment. So we want to be careful that while we

feel that neurotypes are neutral, that one brain isn't. Inherently, this is the best way to think. This is the best way to be.

We, we also want to ensure that we are recognizing that disabilities and disabling aspects of certain identities, especially when matched with a society that's not always meant to fit us, needs support. So that ADHD is my superpower, autism is my superpower, can sometimes accidentally be Almost used to withhold support from people who need it. So we want to be cautious about that. You'll also notice here the language used is higher support needs or lower support needs. This is the current preferred language.

You may have previously seen things like high and low functioning. There are some other terms out there as well. The reason for this, I have two reasons that are both important. One being that when we're talking about functioning it's a little, it's dehumanizing. People have reported, especially when we're talking about autism.

People already have a sometimes have a stigma about robot like so when we add that functioning, that sounds very robotic and dehumanizing. And then the second part of this is if you tell me that a person is high functioning, I have really no idea what that means. I don't know what student is going to walk into my room compared to. If you tell me this person has low support needs for communication, but they have high support needs for sensory regulation or high support needs for activities of daily living, that tells me a lot more about the person. I'm going to know a lot more going in about how to support that person.

The second, keep in mind is a little bit more of a soapbox for me to be honest. So keep in mind that neurodivergent is not a word to replace autism. So for one thing, it's an umbrella turn. It doesn't always mean autism. It can mean adhd, it can mean dyslexia, it can mean anything.

Under that umbrel umbrella, autist, autistic brains are included, but it can mean other brains as well. And then part of this is that autism isn't a bad word we have to avoid. It is an identity, it is a diagnosis, it's neutral. So neurodivergent isn't like a nicer way of saying autism. It has a different meaning and we should be just using the language that the folks we are working with prefer.

So all of this, does this mean that we should be shifting and neurodiverse? People don't need these communication services? Obviously it doesn't. But it does mean that we have to be a little bit more thoughtful about how we serve these students or your clients, whatever your setting is. Right.

So when we're determining goals, I see pretty often in online forums what's a good goal for a 13 year old girl with autism? And the answer is I have absolutely no idea. Because you haven't essentially told me anything about this person. We need to look closer and see what are their specific needs, what Are their motivations? What is it that they want to do?

We need to be a lot more thoughtful about the goals and treatments that we're using. The next piece is that we have to ensure the approaches that we're using are affirming. So back to that piece of we do not want to cause harm. We need to be sure that the approaches we're using don't force masking, whether it's intentional or unintentional. We don't want to teach our students that the way they exist and see the world is wrong because it has very serious consequences for mental health.

And the last piece is that we can consider how we're teaching social communication to all of our students. So even our neurotypical students. So if we are teaching social communication as what it looks like for a neurotypical person, what emotions look like for a neurotypical person, and what they feel like for a neurotypical person, what paying attention looks like for a neurotypical person, and then everything else, whether it's communication or attention or emotion, everything else is maybe added on as an afterthought or not at all. We're accidentally teaching all of our students that that is less than right. So we want to be really cautious that we are across the board teaching all of our students inclusive

communication from the start.

So I know this is a change from a lot of this is new from even when I was in grad school. So why is this changing now? Right. First of all, and probably the most important reason, more neurodiverse people are able to share their experiences. So I know that social media has a lot of negatives, but one positive is that people who may have never met an autistic person, or never met a deaf person, or maybe had met folks within these groups, but never had an experience to connect with them or really understand their identity and their diagnosis and how that impacts them, now it's much easier for folks to approach that they have it in their face, popping up on their feeds, and it helps more people to connect with people they may have never, never met before.

So we're getting more firsthand experiences shared to a larger group of people. And then another piece as an slp, I feel I have to mention is that high tech AAC can do amazing things now. So specifically, and especially for autistic individuals, some will have high communication needs and they may not be able to communicate using spoken or signed languages. And when that's the case, having access to aac, well, now we have AAC that has really strong, really Impressive eye gaze technology. If they're not able to isolate a finger to be able to select buttons.

We have AAC that can like automatically connect with social media or with text messaging. So it can send, send a message to a friend or they can type out an essay and give a speech during a presentation or something. They can type it out in advance and share that with everyone. So as a result, we're able to see more experiences, we're able to understand more experiences from some of the most vulnerable people within this group who are now able to share more of their experiences because of improvements in technology.

The next piece of this is that society is starting to listen so we can talk about all of the work that people within these communities have done, which is huge. But that piece of, they can't bear the only burden

of this. They can do all of this work. We have to be ready to listen and change. Our society is getting better at this.

And part of it is that there's been other movements with similar ideas. It's not a new idea to think about diversity benefiting us. Right? It's not a new idea to see identity first language. My first experience hearing about identity first language was with the deaf community.

And, and the first time I heard it, I had never heard that before. I accepted and that was fine, but I wasn't, I didn't kind of have like a, a mental spot to place that yet. Like, I didn't, I was surprised by it the first time I heard it when I was doing my research leading into working with more autistic kids and more neurodiverse kids. I saw pretty quickly autistic adults community generally prefers identity first language. And that was not my first experience seeing that because the disabled community and the deaf community both have also advocated for the same thing.

So it wasn't a surprise anymore. I already had a place in my brain to kind of add that and be like, yeah, of course, that makes sense. So work that other movements have done also impacts and supports this movement as well, so that our society is starting to be more primed and ready to accept these changes.

And of course we know that for us we have to have more, more than just like these things are so important, but we also have to have the research, right? So fortunately we do have some research that supports this. The first section here I have is about first impressions and thin sliced judgments. There is a study that will be linked as well. Like it'll be cited in the citations.

But it's a. I loved the study. It was really exciting to read about. They looked at a group of people and they asked each other to make snap judgments, thoughts on brief, brief periods of time. And it was given like videos or even in some cases just a still frame picture.

And they asked folks to rate the communication person, the person's communication that they had listened to. The ratings were things like trustworthiness, desire to continue a conversation, desire to live near this person. And they found that consistently the, specifically the autistic folks were rated more negatively or rated higher for things like awkward. So that same study, this moves into the next bullet here. That same study looked to see what would happen if they waited.

That first group was young children, so they waited. And now they looked at a group of high school aged kids and they said, well, these kids have already gone through social skills training. They've already experienced those things, they've learned how to mask. Let's see how it changes now. Will their results be higher?

And they found there wasn't a change. So even when these students were given social skills training to learn how to mask and kind of fake it as, as what was socially expected, they were still immediately identified, even by a still frame. So just a picture was enough for those snap judgments to be made.

The second part of this bullet, it's the negative impacts of masking. So I had just mentioned that when we're working on social skills training focused on trying to make a neurodivergent person look or sound more neurotypical, we're essentially asking them to mask. And if we. The next piece is that masking itself has many negative impacts that I will show you a slide of in a minute. And then I just shared that that last study showed not a difference in the functional outcome of that person when they were rated by their peers.

Right. So it gives us some pause about how we're approaching working with these folks. Because if we're working with them on social skills training in a way that causes harm and then we're not seeing it have the benefit that we're even intending, which is for them to be perceived in a positive way and be able to make friends and to be successful in communication in the workplace or in social environments, we're not seeing that benefit either. And the last piece I'm going to explain with some pictures. This is a.

More. This is a, this has been researched for, for years now, but the double empathy problem and perspective taking. So essentially what we're finding is that it's not as much that neurodivergent people aren't good at perspective taking because that's, that's what I was essentially taught. Right. I remember this was.

And that's what most of my students goals were focused on their IEPs. That's what a lot of society thinks is especially autistic people. They can't understand somebody else's perspective, they can't step in somebody else's shoes. And what a lot of the research shows is that's not really correct. It's that we're not good at perspective taking for people who have different perspectives and experiences than us.

So an allistic meaning a non autistic person isn't very good at understanding the perspective of an autistic person. In the same way an autistic person is often not automatically good at understanding the perspective of a neurotypical person. I say automatic because we can learn to step back and try to understand the perspective take which If I mean SLPs will know that these are things that we've taught our students. Right? But essentially we're not teaching that on the flip side of neurotypical students, how to understand the perspective of autistic or ADHD kids, how to understand their perspectives.

So we can do that. It's just that we're not that good at understanding people who have different experiences and brains than us.

So these pictures show the double empathy problem which relates back to that perspective taking piece for a really long time. What our research saw was we take these two neurotypical people, they essentially have successful communication. It doesn't mean we're all best friends, but we are able to convey and receive a message understood as intended. Right. In general, we're able to communicate our message and they're received.

Then you throw an ADHD person in there, you throw an autistic person in there and all of a sudden we have like a communication breakdown. So for a while research was kind of like, well, we were fine until that neurodivergent person popped in here. So it must be their fault. So therefore autistic people are not good at communication or ADHD people are not good at communication. Right.

And then somebody started to ask, well wait a second, what if we put two neurodivergent people who share the same neurotype together and they communicate successfully and you can often. This is a really important thing also for us to be thinking about because it shows the importance of making sure that our neurodiverse students are able to meet and match with people that share their neurotype and have easy, comfortable conversations that match their communication style. Right. So essentially what this is showing us is that if we can shift some of our thinking, that we don't always need to make that ADHD person stay on task perfectly, or we don't need to make this autistic person change their intonation and their pitch to convey meaning the same way a neurotypical person would. Right.

We can shift our thinking about that to realize that it's a communication mismatch. We don't. We're not. It's both partners are responsible for repairing a communication breakdown, and the communication breakdown is happening. Just because they're not compatible, this doesn't necessarily mean like, so we should never talk to somebody who has a different type of brain than us.

Like, of course not. But it does mean that we can pause before we react and consider, why did a communication breakdown happen? What was the communicate communicative intent behind that? If you know the person you're speaking with, you can consider their general communication style. To consider, were they trying to be sarcastic or do they generally have a flat tone of voice?

Are they generally communicating the words that they're saying and not adding any implied meaning? We can use that while we're navigating conversations so that we can. We don't always even need to

repair it. If we understood in the messages received, we can work together to communicate better across neurotypes.

And then this is a list of some of the risks that can occur for especially those who are high masking and neurodivergent. So these are not things that we want for any of our students. Right. We don't want these for anyone in our lives. And some of them are completely against what our overarching goals.

Like, generally, especially when we're talking about social communication or communication in general, some of our biggest goals are we want our folks to be able to have authentic relationships. We want them to make friends or have professional relationships and be successful in academic settings. If this person is spending every day being a fake version of themselves, they end up losing the opportunity to have authentic relationships because they're not authentic themselves. So it's kind of against what our overarching goals are to begin with. Oh, and I should.

I'm sorry, I'm going to go back one moment. So I also have to put up one more soapbox here about that last section about difficulty setting safe boundaries. It's really important for us to think about, first of all, this group, especially when we're talking about intersectional identities of both deaf and neurodivergent, this group is very vulnerable. Right. We know that folks who have Any difficulty communicated communicating in all settings have a higher vulnerability to abuse.

Right. And if we're teaching from a young age that they need to do things with their body that don't feel safe or don't feel comfortable to make people around them comfortable, especially if we're talking about folks who can sometimes have a hard time reading through the gray area and understanding that nuance, we may be setting our students up for accepting treatment that's. That's not okay. So we really, really need to think about if we're asking students to do something that is causing them discomfort, is that a safe thing for us to be doing?

Okay. And now getting into our last objective here, talking about communication differences.

So to begin with, we have to acknowledge that there's not enough information that is about this intersectional identity of both neurodivergent and deaf and hard of hearing and ASL users. Because we also know from looking back at that chart that not all of our deaf and hard of hearing students are ASL users. And also that some hearing kids codas they have deaf parents and they are ASL users. So what we have to do is apply what we know about language development for hearing neurodivergent people and then apply what we know about neurotypical deaf and hard of hearing and neurotypical ASL users. Because we have to work now.

And then we can continue to advocate and listen and look for more research, while of course still listening back to especially those with intersectional identities of both deaf and neurodivergent.

Okay, so I should also mention. I'm so sorry, that these communication differences, will they refer across the board to some communication differences that you may see, some patterns you may see in a variety of diagnoses? So it doesn't apply to just one identity or diagnosis. A lot of these differences, you, if you've worked with aphasic adults post stroke, you'll notice that things match. Things related to executive function and communication will be similar to some of the patterns that you see for folks with ADHD or autistic folks.

So it doesn't apply to just one group. And then hopefully it goes without saying, but, like, one person isn't necessarily going to exhibit all of these features. These are just some things that you may see for a variety of neurodivergent communicators.

Okay, so I've tried to slightly group these because I know this is a lot of information, but you also will have a handout attached that you can download so that you can look a little bit closer at some of these things. And I've tried to star things if I have anything to add related to deafness specifically. So these

are all topic related differences. We have topic changes, so topics may change quickly. Or maybe discussing two topics at once is something that's also been observed.

So some folks are able to switch back and forth in a conversation, especially if something is physically present, like playing a game, while they're still having a conversation about what they want to do this weekend. And they don't lose track of either conversations. They're fine kind of jumping back and forth. Info dumping. This is where someone just gets onto a preferred topic and they stay there.

They give you all the information and it's often delivered as a monologue, not as much the back and forth. Echolalia. So this is where someone is repeating a phrase, a word, a sign, a sound. I have this starred because, yes, this can happen in sign as well. Echolalia can be immediate, repeating what they've just said or what you've just said or signed.

Or it can be delayed. It can be later using a phrase again or a song. Whatever it can be, it can be delayed as well. And we can remember that there's recent research showing that echolalia has purpose. It might vary.

It might be for communication or for additional processing time or for regulation, like similar to stimming. Is it something that we need to eliminate? All right, this next piece, Nonlinear Stories. I am absolutely very guilty of this. Stories may not follow sequential order.

So they might start and then say, oh, wait, I have to go back to this. Oh, and then this is also important for you to know. They might include a ton of background information or details that you might not feel is necessarily important to the point of the story. Or on the flip side, they might jump in and not give you enough reference point for you to understand. Right.

I have this starred because you might also see for neurotypical deaf communicators who are within the deaf community, you might see stories with a lot of details and information. So you might see that as a feature of neurotypical deaf communication as well. High interests. So someone may have a specific, very high interest topic and they might hyperfocus on this. This is one of those areas where you can see a benefit.

Right? This is something. If somebody is able to pursue a career in their high interest topic, they're going to be able to devote a lot more time and energy and be energized by doing their work, which is a huge benefit to them and their workplace. I always like to joke here like, thank you for coming to my info dump on my personal high interest topic. Right.

The asterisk here, I have to note is that we need to also make sure we're being cautious. So we know that many deaf and hard of hearing kids experience language deprivation. Or also many neurodiverse kids don't have full access to language. So we need to also be cautious to consider how much vocabulary and what language abilities the folks who are working with. What do they have?

Because something that can present as a high interest may be like, this person has the vocabulary to talk about cars, but they don't have the vocabulary or don't feel comfortable talking about a variety of things, but they have this vocabulary. So they move back into their comfort zone frequently. So it's something important for us to keep in mind. Also, this section is each about non literal language. So humor.

You may see folks who misunderstand sarcasm, or you may also see generally more dark or young humor. It's also important to note that humor is hugely culturally driven anyways. Things that I think are funny are probably not going to match up always with things that my grandmother thinks are funny. Right. It's hugely culturally driven anyways, so you'll see a large variety in general from person to person, hidden cues.

So for some, especially if you are working with young kids, figurative language may be hard to understand. So when I worked with Littles, I would see folks that, you know, it's raining cats and dogs and they're maybe looking for the dog or multiple meaning words are confusing for them because bark always means what a dog does, but they can't understand how that would apply to a tree. Right. So for Littles, you may see more of that. For the students that I see, they may need a little bit of extra time or they may identify something as figurative language.

But generally speaking, like, I feel I applied to like Amelia Bedelia. People aren't like out there, Amelia Bedelia ing. That's not as much the situation. What I see more often is that piece of like implied meaning or understanding the social expectation attached to a phrase. So the best one that I feel like we all have experienced is I'm fine.

And most people know, like, if you hear like I'm fine, we're clued in that that's that person's not fine and we should probably follow up. But for some of my neurodivergent students, that's a lesson they learned the hard way and had to put in the back of their head to like, oh, if somebody tells me I'm fine. In the future I should follow up because they just took I'm fine and accepted. As the person said, they're fine. I guess they're fine.

I'm going to go about my day. Everything's good.

And then that other piece, that social expectation. So call me anytime or my door is open. Anytime. Right? Just walk right in like I'm always available.

That may be. That's what somebody may say, right. But if I marched into my boss's office when she's having an important meeting to tell her something that maybe isn't as important, that probably wouldn't be appreciated. So there's in a social expectation attached to that of call me anytime during working

hours when I'm not busy. Right.

And so those are more the pieces that I see challenging for older students and adults.

The last one being direct language. So some folks who are neurodivergent prefer to use very straightforward direct language and they may not enjoy small talk. So I wish I could find. There was a recent study about this. I'll have to try to find it and touch it.

Essentially it links back to a high value placed on honesty and feeling that if you're, you know, asking about my weekend and you don't actually care, that that's essentially dishonest and it feels dishonest. And that feels uncomfortable for that person to engage in that kind of conversation. In a similar way, things like white lies or avoiding a topic or like kind of moving around it but not saying directly what you mean, it feels dishonest. And so that for some folks, that's why that direct language piece, it comes from that place.

The asterisk here also shows that for many neurotypical deaf folks who are within deaf culture, being very direct and straightforward, being very honest is a feature that you may see in neurotypical deaf communication as well. So that's also important for considering just that like differential diagnosis piece.

Okay, so this section is all body language. So eye contact. Eye contact may be uncomfortable, it can even be painful. And something that's important, especially for those who work with school aged or even adults. If we're teaching eye contact as something that's important for communication, eye contact with really is if it's distracting that person and we're talking about a job interview or a presentation and they need to engage in eye contact, they're using a lot of brain power to do that and losing the brain power that they need to be able to be successful in the job interview and appropriately respond to questions because it's distracting the Other piece of this is I've seen before where people will say, oh, they can't be like they're fine with eye contact, they can make eye contact with me or like I've seen them

do it with their friends.

Right. Or in this setting. So it's not necessarily an all or nothing situation. Eye contact, something that might be fine when they're with really trusted, really familiar people, it might be comfortable or it might be comfortable and fine when their body is regulated and they're in a supportive environment. So it's not really an all or nothing situation for our deaf and hard of hearing folks, especially those who are communicating using sign.

We also need to consider if being uncomfortable with eye contact, is that impacting, does it impact visual referencing, meaning looking and gaining information to the point where it's impacting their ability to receptively take in information. So are they getting information even though it's challenging to make eye contact or is it preventing them from being able to get information from a conversation? Get information. If you have an appointment and you're giving information after your appointment and they're having a hard time making eye contact with you, are they gaining enough from looking around or are they, they missing important information that you're trying to share with them? Okay.

And that again is going to be a spectrum and there's going to be some variability there. Okay. Facial expression, so it might just not match neurotypical expectations. Somebody might be more expressive or less expressive or just respond differently to a situation. Right.

Something that we want to think about here for our signers is considerations for ASL facial grammar. And this is an area where we're applying what we know about both signing and features of these identities and diagnoses. But I am not aware of specific research that reviews so far.

How does the diagnosis of autism impact ASL facial grammar? Because we know that a lot of information and a lot of language is given in non manual markers from the face. If we're not matching, if facial expression is different, is the facial grammar still there? It's something for us to think about for

sure.

Body language and gesture. So again might just not match neurotypical expectations. And then this is kind of attached to that, that indirect. Those, those hidden cues folks may also misunderstand other people's body signals or accidentally send different messages with their body.

I think one example I had recently seen was somebody who was sharing that they were sighing and it wasn't. They weren't sighing because they were bored, they were sighing because it was like helping to regulate and calm their body. And the perspective from the people around them was that they were annoyed or bored, but that wasn't the message they were trying to send. All right, and then posture and negate again, it might just not match. And then that last piece of remembering that there are coexisting conditions.

So apraxia is something that coexists pretty often with neurodiverse diagnoses, which will impact things like motor planning, which can impact sign or speech coexisting, difficulty with sensory regulation or muscle tone. We know, especially if we're looking at deaf and hard of hearing and neurodivergent, that there are a lot of. Sorry, I just lost my train of thought.

We know that coexisting conditions often occur that will impact somebody's motor movements and ability to planned motor movements.

All right, so then production differences rate. So this is pretty straightforward. Sometimes I'm again very guilty of this. Folks can have a faster rate of signing or speaking.

I can speak very fast and fly through something. And sometimes that impacts somebody's ability to understand me or catch up with my meaning. And then voice. So folks may have less variation of pitch and volume. You might also see more or matching a pitch and volume that's seen in media or have it

look kind of melodic.

You might see that happen also. And there may be some trouble with understanding how tone can change meaning for neurotypical deaf and hard of hearing communicators. Something important for us to be keeping in mind is that if for those folks who are using spoken communication, they may also inherently have difficulty coordinating pitch, tone, and volume. So this is something that we might see for our neurotypical deaf and hard of hearing communicators as well. So a little bit of that differentiating might need to happen here.

All right, so these areas are communication related differences. So of course these impact communication, but maybe aren't directly within communication. The first section is executive function. This is. There's obviously many, many pieces of executive function, but one that I have starred here is that working memory can impact fingerspelling and then therefore vocabulary.

Right? So either receptively following fingerspelling or fingerspelling and keeping up with all of that themselves. Like, like expressively fingerspelling it can impact it emotional and sensory regulation. I should have it started here, but it's not something to keep in mind for sensory regulation. Is that being sensitive to auditory sound or to the tactile feeling of listening technology.

Some of my students have sensory sensitivities that they avoid. And it's really challenging hearing Hearing aids are not a comfortable fit for them. So it's something to keep in mind that some of our neurodiverse and deaf and hard of hearing students might have a hard time regulating that sensory input and might need some additional support if that is a goal of theirs. Stimming. So we already discussed stimming a little bit.

But keeping in mind that visual stimming, if somebody is somebody who visually stems and this might mean. Let's see. An example I can think of is I've had students who visually stim by, like looking at the

pen and watching it kind of look wiggly or flipping back and forth. You may also see like fidget toys, like the lava lamp type ones that flip around. So if somebody visually stims on something and they're an ASL user, are they getting enough visual information from the classroom, or is there potentially a different way we could meet that sensory need for them while allowing them to visually attend to a signer gender expression?

So more folks who are neurodivergent are also more likely to identify outside the gender binary. So that's something that can also impact communication as well. And then we've already touched on this a little bit, but concurrent diagnosis. So if you have a diagnosis of deaf and hard of hearing, or if you have a diagnosis of neurodivergent, you're also going to be more likely to potentially have a concurrent diagnosis, something like apraxia or brain injury or anything. Right?

So knowing that sometimes there are coexisting conditions that can be both impacting the person at the same time.

All right, so we're really wrapping up here. So I want to leave you with a couple things here. So first of all, this is a quote from the disability rights movement. No decisions about us without us. Okay?

So as you're moving forward and learning more, diving deeper into these topics, please try to ensure that we are amplifying deaf, autistic, disabled, neurodivergent, and especially those perspectives that intersect across multiple identities. Be really careful when you're pursuing content from outside perspectives. So of course we are going to be pursuing content from other therapists because we are our audiologists and speech language pathologists. This is how we get our professional development and our continued education. But just be cautious that these folks are in that what they're teaching is in line with how these communities want to be seen and want to be supported.

And also even better when you can find, I myself, I am not deaf and hard of hearing. I am hearing, but I am neurodivergent. So there are plenty of us who do identify as neurodivergent and have expertise in this area as well. So pursue as much as possible learning opportunities that come from within the community.

And just to leave you with this, this was a question I asked for my student, I'll let For my students, I'll let you read these responses. This was how they felt that school thus far had prepared them for college and adult life.

Thank you so much, Haley. We appreciate all of your insight, knowledge and expertise on this topic. And thank you for sharing some of your personal experiences as well with your students. We'll go ahead and advance to that following slide if you don't mind.

Thank you. And this is just to remind our membership should they wish to earn CE credit for today's presentation, please wait for the exam to populate and then complete that multiple choice exam to earn credit. We'd like to thank RIT NTID again for this ongoing partnership. It's a very valuable partnership with just amazing content from very passionate individuals there at the College of the National Technical Institute for the Deaf. We hope you've enjoyed this presentation and we hope you will attend some more of the ongoing partnership courses.

Thank you everyone.