Instructional Communication: Script
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Topic 0: Introduction to Module
Hi, welcome to this module on instructional communication, and thank you for supporting spectrum teaching!

Our goal in this module is to provide you with some ideas and tools that can be used to assist instructional communication between you and a student or child with autism spectrum disorder. The skills we will cover in this module are focused on a classroom setting but can be applied to other scenarios as you see fit.

As always, supporting individuals with ASD involves relationship building at its core, and it is important to exercise empathy and patience in understanding the individual. This not only builds trust and a foundation for support, but will also help determine which tools are most appropriate to help a student.

Through the next 9 topics, we will cover a basic understanding of communication challenges associated with ASD and how sensory processing challenges may further impact this. For skills, we will look into simplifying language, visual supports, and task analysis, which will be applied in an in-depth example at the end.

Hope you enjoy this module as much as we did making it! Thank you!

Topic 1: Inherent challenges to communication and language
A deficit in social communication and interaction is part of the core criteria necessary for the diagnosis of Autism Spectrum Disorder. From an instructional perspective, this means that students often have difficulties in both the delivery and comprehension of communication, which can impact their educational and social development. Because of this, it is critical to incorporate strategies to alleviate these challenges.

It is important to clarify the terms of communication, and language. Although they are all intertwined, they are not quite the same. Communication is the broader term that incorporates language, and encompasses all aspects in information exchange during these interactions. This includes body language, inflection, tone, gestures, and other aspects that communicate meaning implicitly. On the other hand, language is a system of communication that can be written or spoken. Remember, just because someone may be nonverbal does not mean that they do not understand language!

In tandem to the diversity of ASD, communication abilities also widely vary between individuals. Some may have extremely sophisticated language, but may struggle in contextualization and appropriate use of such language, while other may be non-verbal. Remember, just because a child does not or is unable to respond, does not mean that they cannot understand what is being said.

Focusing on some common challenges that affect instruction, individuals on the autism spectrum often interpret language literally. For example, if I were to say, "what's up" to a

neurotypical individual, they most likely will realize that it is common greeting. For someone with autism, they may interpret this literally as "what is in the direction up?" and answer, "the ceiling." This and other challenges may pose difficulties in understanding slang, abstract language, metaphors, and complex language. When you factor in challenges in understanding tone, pitch, and inflection in the communication of intent, this can create a large barrier to communication.

Students with ASD often struggle with specific terminology. It is not uncommon for these individuals to struggle with vocabulary-intensive subjects such as math. Even the amount of terminology in basic arithmetic – addition, sums, subtraction, and difference, to name a few – can be overwhelming.

In addition to these possible challenges, individuals with autism often have difficulties in perceiving non-verbal cues. Considering the theory that communication is 55% body language, this can lead to issues in reading situations, understanding intent, and "stiff" presentation of their own bodies. These are all considerations that can be important in monitoring and interpreting interactions with individuals with autism to support more positive interactions.

As you can see, the topic of communication and autism is extremely complex. Luckily there are experts that can help! It is important to find opportunities to work with parents, therapists and speech language pathologists to understand underlying deficits as well as help in programming to assist development of communication.

That concludes this video. Thank you, and in the next video we will discuss how sensory challenges can impact communication.

Topic 2: Sensory Issues in relation to communication
In this video, we will cover how sensory processing challenges can impact communication. Just as a review, sensory challenges are usually classified into hypersensitivity, when a person is overly sensitive to a type of stimulus, and hyposensitivity, when someone has difficulty registering, or are under-sensitive, to a type of stimulus.

In scenarios of sensory issues impacting communication, it is important to acknowledge these sensory challenges are bodily needs that are not being met. This manifests differently for all individuals, but can range from discomfort, to shutdown, anxiety, pain, and a feeling of being overwhelmed. Without the proper sensory input, communication can be extremely challenging as the individual will likely be focused on satisfying these sensory needs, rather than the interaction. One way to help understand this is to reflect on how challenging it is to carry a conversation when you are actively thinking about a very itchy spot. Now imagine scaling that severity of irritation or pain up many times depending on the individual.

In cases of hypersensitivity, sensory overload may occur when there is too much information presented to an individual from one or more of their senses. In such scenarios, it can become very difficult to separate and focus on these different inputs, which may be both extremely overwhelming and painful. One way to help with this is to build in breaks to allow for sensory relief. This topic is covered more in-depth in the Sensory Inclusive Settings module.

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One common societal expectation that needs to be considered is eye contact. For individuals who experience visual hypersensitivity, this additional stimulus can be extremely distracting or overwhelming. Just because a student with sensory challenges is not making eye contact does not mean that they are not listening. Yet, in other cases the child may simply be ignoring you. As educators and teachers, it is important to understand the individual to know their response to eye contact and be able to adjust communication appropriately.

In scenarios of hyposensitivity, the body is unable to receive enough sensory input. Students may shutdown, or actively strive for additional stimulus to satisfy their needs. This may lead to unconventional behaviours to achieve this stimulation.

For some students, it is important to allow fidgeting, doodling, or colouring during communication as this helps to focus the child. Although this seems counter-intuitive, it may help to satisfy their sensory needs so that they are able to focus on what is being communicated to them. Again, the emphasis on relationship building is extremely important in understanding if this is appropriate for a particular individual.

Everyone has their own sensory profile so it is important to understand the student and not assume that certain challenges are related to other symptoms. Remember, sensory processing challenges incorporate all senses, and may present in diverse ways. However, similar principles apply. When possible, allow ways for a child to satisfy their sensory needs in appropriate ways, so that they can be focused on what is being communicated.

Even with this, these sensory issues may still pose challenges to communication and focus, as you will see from the simulation. Unfortunately, there is no easy, one-step solution. With patience, understanding, and some additional tools, we can try to find ways to make it easier to communicate with and support these students.

Thank you.

Topic 3 (non-video): Instructions for simulation, what to expect, what to gain.
To better understand how different types of sensory processing challenges can influence focus and communication during classroom instruction please go through the following simulations on the Sensory Simulator App:

- Michael: Classroom Hypersensitivity
- Daniel: Classroom Hyposensitivity 1

For the first simulation, Michael experiences auditory hypersensitivity. The audio of a lesson is played throughout the simulation, with the first 10 seconds being a reflection of how neurotypical individuals might filter out background noises to focus on a particular audio source. Michael has difficulty in doing so, and instead is able to hear a variety of sounds others may naturally tune out. Each distortion in the visual aspect of the simulation represents a loss of focus due to a distracting noise.

The second simulation, Daniel, presents the same scenario but with auditory hyposensitivity. As you will experience, in comparison to what others may experience, the instructional lesson

may be difficult to focus on due to a lower perceived volume and focus. In addition, Daniel may perceive colours differently than others, and due to the lack of stimuli to meet his sensory needs, may begin to lose focus or "zone out."

As with all the simulations, these are just a representation of some of the experiences that some individuals with ASD may face. Some aspects have been modified to allow for neurotypical individuals to better understand these scenarios, and it is impossible to incorporate the way of thinking, emotions, and social aspects into the simulation.

Since communication challenges are not necessarily dependent on sensory aspects we will not do an in-depth analysis of the simulations like in other modules.

Once you have finished the simulations please proceed to the next video. Thank you!

Topic 4: Simplifying Language
As we discussed previously, challenges in communication are a core part of autism spectrum disorder. These challenges differ greatly from individual to individual and exists on a wide spectrum like autism itself.

When we take a look at some common challenges that students with ASD face, we know that they may interpret things literally, making it difficult to understand metaphors, slang, and abstract language; have difficulties focusing due to sensory challenges; have inherent challenges in comprehending language; and may be very rigid in their understanding of communication, making it difficult to contextualize certain information.

It is also important to realize that language is a powerful tool. As an educator or communicator, we can manipulate our own language to allow for better interactions. To do this, we can try simplifying communication. This means speaking in shorter and more direct sentences, using simple vocabulary, and being more explicit. Although this may seem easy in theory, to consistently implement this takes time and practice. Let's go through why these strategies can be effective.

The first, using shorter and more direct sentences – or being more concise – allows you to deliver the point more simply. For a child who may have inherent difficulties in understanding language, they do not have to use as many mental resources to unwrap the language surrounding the information, and can better focus on what is important. For those who may experience sensory processing challenges, having shorter and more concise communication makes it easier to focus on what is being said. As you can imagine from the simulations, whether it be many distracting noises, or not enough stimulation, shorter sentences deliver information in a way that is better heard through these barriers.

Simplifying vocabulary is also effective, since students on the autism spectrum may struggle with understanding language, often having difficulties with terminology. For example, the statement "The sum of the arithmetic process of addition of the numbers 1 and 2 is equal to 3" can be difficult to understand for anyone. Simplifying this to "1 plus 2 is equal to 3" communicates the same important information while being much easier to understand. If this was in a real math class, struggles in the subject may be due to difficulties in understanding language rather than the material itself. Although the first statement was unnecessarily

complex, it is important to monitor your own language to see when you can be more efficient in your communication. Terminology and vocabulary are important for everyone to develop, but it is important that language is built upon and practiced in the right context.

Since students with ASD often interpret language literally, it is important to communicate explicitly. This challenge in interpretation, along with difficulties in understanding non-verbal cues, can make it very difficult for children to understand intent, sarcasm, metaphors, slang, and other elements of abstract language. For example, the colloquial saying that similar people are like "two peas in a pod," may be literally interpreted as two peas that are side by side in a pea pod. As you can see, it might be very confusing as to why someone is comparing people to peas.

This is not only important in instruction and in social contexts, but in expectation management as well. Due to challenges students with ASD face in understanding underlying social rules, it may help to explicitly communicate these expectations. Things that are obvious to you may not be to others. This allows everyone to establish a common ground for more positive interaction.

In this video, we've covered simplifying language through shorter and more concise sentences, simplified vocabulary, and explicit communication. These are all skills that require practice, but can make a big difference in communicating with all students, including those with ASD. It is important to also allow time for response – it might just take a bit longer for someone to process or choose what they would like to say.

Even with simplification of language, communication challenges may persist. We will cover some more strategies but there is no perfect formula to solve these problems. The value of relationship building cannot be understated.

At the end of the day, communicating with an individual with ASD may be a bit different than you are used to. But different is okay.

Thank you and see you in the next one!

Topic 5: Accuracy and Precision
In the last module, we covered how communicating explicitly and simplifying language can help communication with children on the autism spectrum. In addition to these skills, it is also important to monitor the accuracy and precision of our language.

As we learned previously, part of the communication challenges associated with ASD may be attributed to tendency in interpreting messages literally. In addition, individuals with ASD may be extremely precise. This means, we must be careful in the accuracy and precision of our phrasing to help manage the expectations from these students.

For example, if we were to say that "gym class ends at 10:30am," and gym class ends early at 10:27am, this may cause distress for a student with ASD since this outcome does not match the literal interpretation of the expectation. Since we do not have the ability to be precise to the minute, instead, we could say that "gym class ends around 10:30." This allows for us to still convey an accurate message to the student.

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By monitoring small aspects of our language, we can give ourselves flexibility and room for error to both accommodate reality with the literal interpretations of children with ASD.

Monitoring accuracy and precision is also important in the use of visual supports as well. We will cover implementation of these strategies right after this video, so we will look into some things to keep in mind.

Visual supports often use images or pictures to help provide context or additional information to students. When creating these tools, we will need to tailor the support to the ability of the student. When we can, we should try to avoid using real, coloured pictures to support mental flexibility. Similar to literal interpretations of language, literal interpretations of images may impact the expectations a child has for a situation.

For example, if we were trying to teach handwashing through visual images, a student might not wash their hands because the washroom had a soap dispenser and the picture had bar soap. Individuals with ASD are often much better at picking out these details, and we should try to keep this in mind when utilizing support strategies. Cartoon or illustrated representations may be more difficult to initially understand but cannot be interpreted as literally. This way we can have images that are still accurate to the task and promote more generalized use of the skills we teach.

That is the end of this video. In the next one, we will discuss why visual supports are effective.

Topic 6: Why Visual Supports Work
In the next 2 videos, we will introduce the use of visual supports in an instructional setting. Visual supports are one of the most highly recommended strategies in supporting children with ASD in the classroom. Before we get into a few examples, let's cover a few reasons why.

When we consider the aspects of successful spoken communication, it involves integration between non-verbal and verbal signals to allow delivery of messages. With visual supports, we can substitute or supplement any aspect of communication to allow for better understanding for students with these deficits. The use of these supports can range from visual reminders to understand social conventions, such as taking turns to speak, or be used directly as a substitute for message exchange for children who may be non-verbal or lower functioning.

For all students, multimedia presentations have been shown to be more effective in engaging the class and presenting information. This is no different for students on the autism spectrum. As we learned earlier, students with ASD may struggle in understanding spoken language for a variety of reasons. Many of these students process visual information more effectively. This means using visual supplementation in lessons can allow for better communication of information.
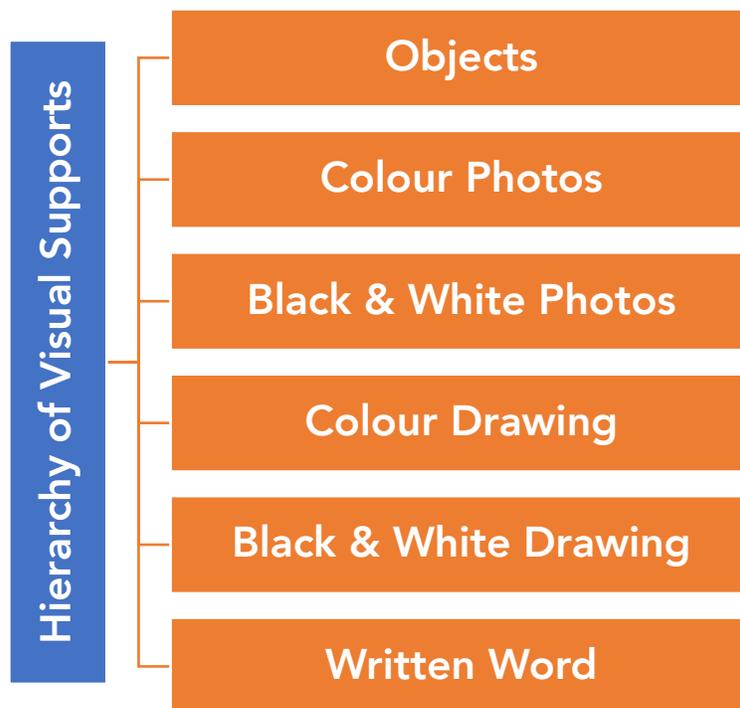
Visual supports also give students something to reference over time. With verbal communication, a message is spoken, disappears, and it is then up to the listener's memory to remember and process that information. This can be challenging for anyone depending on the information presented. Visual supports persist over time, allowing a student to reference them continually for learning or as a reminder.

In addition, visual supports may be effective in supporting children with sensory processing challenges. Thinking back to the simulations, for children that are hypersensitive to auditory stimuli, visual supports may offer an alternative communication method that is not impeded by distracting background noises. However, it is important to remember that this might not be beneficial for all students experiencing visual hypersensitivity. For children with certain types of hyposensitivity, the visual aid may provide additional stimulus to improve focus, or again, just be an alternative communication method that better reaches the individual. Since challenges are so diverse, it is important to know each individual to understand what may work.

In order to properly support a student, the visual aid must be appropriate for their ability level. Some students may need real objects to assist with comprehension, while others may only need written words. Luckily, there is a hierarchy of visual supports that can be used to help tailor the level of support. While we tailor the visual support to the ability of the child, we should keep in mind that the more concrete in our representations, the less generalizable and independent the usage of the support is. For example, as we talked about in the last video, utilizing real pictures may restrict the application of a skill to situations that appear similar to the photograph. We won't go through this hierarchy in detail, but it can be a valuable resource to reference in guiding your choices in visual aids.

Hierarchy

Hierarchy of Visual Supports
Objects
Colour Photos
Black & White Photos
Colour Drawing
Black & White Drawing
Written Word

Let's wrap up this video here. In the next video we will cover uses and examples of visual aids.

Topic 7: Using Visual Aids
In the last video, we covered some reasons why visual aids can be effective in supporting children with ASD. Let's take a closer look at the application of visual aids.

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For instructional purposes, visual aids can be great to 1. Improve communication, and 2. Supplement Information. Let's go through some examples of each.

Improving Communication
In utilizing visual supports to improve communication, visual cues can be an extremely powerful tool. One version of this can be cue cards with specific instructions. For example, a card with the reminder to stay focused can be used simply through:
1. teaching the student what the prompt means
2. placing it on the student's desk if they get distracted.

Other similar visual prompts can be used in similar ways for lowering their voice, reminders to raise hands, and can also be used in reverse for students to ask for breaks. This could be a visual prompt that is then given to the teacher when requesting a break.

Supplementing Communication
Supplementing communication through visual supports can be in the form of writing down important terms, providing a more visual handout highlighting important concepts, having pictures, listing instructional steps, or other creative strategies. When using these images, it is advised to not use real photographs, but instead utilize depictions. Due to the tendency of children with ASD to interpret messages literally, when using real photographs, students may become fixated on the details that may differ from the picture and real life. Instead, cartoon or clipart representations can be used, which can be easily found online! Of course, there are students that may still need to utilize these more concrete representations, but when appropriate try to avoid real pictures.

Let's look at utilizing a visual aid for instructional steps, using a bead bracelet craft as an example. To assist in this, we could provide the student with a card that has a visual representation for each step involved in making the craft.
1. Line up string
2. Place beads on string, moving each bead close to the centre
3. Tie ends

We might even choose to provide this to a student before instructing the class, to help the student better comprehend the directions while they are being taught. The visual aid can also act as a reference during the activity.

If possible, try to limit the use of verbal cues when using visual supports. Using visual supports nonverbally supports generalization and independence for students. Certain times, visual and verbal cues need to be used together in the beginning. In these cases, it may seem intuitive to fade out the use of the visual prompt, however, it is actually better to fade out the use verbal cues to support the development of communication abilities.

Remember, it may take a while before you see effects of the support. This does not necessarily mean it is not working, so be persistent! Visual tools can also be slowly removed over time as students develop different skills. Students may rely more heavily on these aids during stressful situations, and in the future, they might only be required on off days. Students should always have these visual aids easily available to them to utilize if they believe it is necessary.

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Visual aids are powerful and easy tools that can be used across instructional, social, and behavioural scenarios! Students need to be taught how to use a visual aid, but once learned can help a child develop their communication skills. Feel free to be creative, and there are also many premade resources that you might be able to print off and use. Thank you, see you in the next one.

Topic 8: Task Analysis
In this topic, we will cover task analysis. Task analysis is a powerful and adaptable tool to help break down tasks into smaller, more achievable steps. This is not only great for supporting children with special needs, but all students as well.

Focusing on students with ASD, individuals often struggle with understanding multi-step directions or instructions for complex processes. For those that may have an intellectual disability or challenges related to cognitive function, this can make learning certain skills very daunting. Task analysis helps with both of these. For communication, by breaking down the task, we can actually break down instructions into shorter and more concise language that is more clear.

In terms of learning, we take an intimidating goal, and break it down into achievable steps. This not only helps students to progressively build their skills, but allows teachers to understand which parts of a task may be most challenging for someone. This provides opportunities to teach a student in a more focused way, and can identify areas in which a visual aid might be most effective.

Lastly, task analysis can give insight into particular patterns of strengths and weaknesses we might otherwise miss. As always, this data might be even more valuable for a speech language pathologist, therapist, or parent.

So how do we perform a task analysis? We can follow a three-step process of 1. Identify the task to analyze, 2. Break down tasks into subtasks, and 3. Identify steps in a subtask. Let's walk through an example of two-digit addition.

Step 1: Identify task to analyze – in this case we have chosen two-digit addition

Step 2: Break down tasks into subtasks. There are a number of ways to do this, I personally prefer to walk through an example myself and write-down the different parts of the task. Through this I get:
1. Identify the numbers to add
2. Set up the numbers vertically to add
3. Add each column
4. Record answer for each column and carry over if necessary (repeat 3 and 4)
5. Report Solution

As you can see, this is quite rough, and you might have different subtasks yourself. That is absolutely fine – the important part is breaking down the steps. You can always adjust the subtasks and terminology to the needs of the student.

During this process, we might also see where a visual aid may be helpful. For the third subtask, adding each column, we might offer a ruler to help with addition.

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Step 3: Identify steps for subtask

Let's take a look at the third subtask, as it is probably the most complex. Repeating the process of walking through the steps I perform with the aid, I can come up with:

1. Take ruler and start at zero
2. Count to the first number
3. From the first number, count up the second number on top.
4. Determine sum for column

This can be translated straight into instruction of a particular skill, or perhaps an instructional handout. As you can see, each step is much easier than the original task, and can be chained together to help a student reach their goal. These steps or subtasks help guide instruction and communication to allow for better transfer of information. The detail, number of steps, and incorporation of aids can all be modified to meet the needs of a student.

As you can see, task analysis is an easy tool that can be applied in a variety of contexts. During the process of mastery of a skill, certain steps can be added or taken out as appropriate. However, it is important to maintain a general consistency to not confuse students and allow them to gain fluency in the task. This same process can be used to build academic and social skills to assist all students.

That is the end of this video, I hope task analysis can be a useful skill for you to use in real life! Thank you, and see you in the next video.

Topic 9: In-depth example

In this module, we covered some basic skills that can make a big difference in improving instructional communication for students on the autism spectrum. To review these skills, let's work through an example where we employ multiple strategies to support a student with autism spectrum disorder.

We will focus on a student named Justin. Justin is in third grade and faces a few communication and sensory challenges. Primarily, Justin can sometimes struggle with comprehending spoken language. We understand that this is primarily due to difficulties in understanding subject-specific terminology, literal interpretations, and difficulties in remembering more complex instructions. In addition, Justin experiences sensory hypersensitivity, and can become sensory overloaded in classrooms. In this case, we are aware of these sensory challenges and have implemented sensory breaks for Justin, in which he can step out of the class for 10 minute periods, to sit in the quieter school administration office.

Today, we are planting germinated sunflower seeds as an activity for teaching about plant growth. Let's look at some things that we can do the day before to help Justin and the rest of the class understand the lesson.

Since during this lesson, we will most likely give complex instructions to plant this seed, task analysis and visual aids could be very valuable. How do we implement this? Remember, the basic process for task analysis is:

1. Identifying the task – in this case planting the germinated seed

2. Breaking the task into subtasks – such as getting materials, filling pot with soil, planting seed, watering.
3. Identify steps in subtasks – For example, for planting the seed, we can have digging a hole; placing seed inside hole; and filling hole with soil.

Now that we have all the steps in this process, we can incorporate this into a written handout, or if time persists, a set of visual aids that break down each subtask into steps with pictures. We can give these to Justin, or the entire class to help them follow along during the lesson. This can be great to help understand and remember these multi-step tasks, be more engaging for the class, and be a resource to reference during the activity.

We also know that Justin often struggles with subject-specific terminology. Looking at the activity, germination and the dual-meaning of the word "plant" – as a verb and noun – may be possible areas of confusion. Remember, many people in the class might also struggle with the same thing! In this case, we might simply create a handout that clarifies these definitions to give out for the lesson.

During the instruction of the class, there are also ways that we can monitor and simplify our language to assist with challenges Justin may have in verbal comprehension. Since Justin often interprets things literally, it might be beneficial to avoid using analogies or language that might be misinterpreted. For example, a statement like "the water we add is the rain that helps nurture plants to grow" might be confusing, since rain comes from the sky and humans cannot control rain. We could better phrase that as, "Since there is no rain inside, we will add water instead. Water helps nurture plants to grow. In nature, rain provides this water" This helps simplify our language so that it can be better understood by Justin and the class.

Some other possible situations that might occur is that during the instruction, Justin begins to interrupt to ask questions. To help with this we could slip a visual cue card to remind him to raise his hand. This could/should be done without verbal instruction to prevent reliance on verbal prompts ("raise your hand") and allow for smoother instruction for the class.

Another potential situation is that Justin may slowly become uncomfortable with the sensory stimulus in the environment, becoming sensory overloaded. He again speaks out of turn. We slip him a reminder to put his hand up, he has been taught to ask for a break, and we allow him to do so.

In real life, not all of the strategies may work as described in the situation, and many of these tools require practice for both the instructor and the student. However, by utilizing a variety of adaptable strategies, we can accommodate the needs of students with ASD, communicate more effectively, and better support these students to succeed. As always, it is important to know the individual and build relationships, as this guides which strategies to use, how to use them, and can increase the success of implementation.

That concludes this module on instructional communication. I hope you enjoyed these videos as much as we did making them, and learned something that can be valuable for you. Thank you for watching!

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