

AUDITORY SCANNING SKILLS

Auditory scanning is a strategy for giving a student choices orally. It is often useful for a student who has severe visual and motor impairments and who cannot directly access tangible symbols, pictures, or a voice output communication device. Auditory scanning is also a useful strategy for those students who have more complex systems, such as picture boards or voice output devices, but for a variety of reasons (e.g., forgot to bring it, breaks down), is not available. **Refer to the Conversation Tree Sample as an example.**

The basic idea of auditory scanning involves verbally providing the student with a list of messages; then repeating them, and waiting for the student to indicate a choice from among these messages.

Preparatory Skills

There are skills that your student can practice that will help prepare him/her for auditory scanning and/or indicate whether s/he is ready for this type of task, such as:

- *Demonstrating understanding of cause and effect.* Does your student use a switch to make something happen, such as operating a tape recorder to listen to music. Does s/he laugh when someone does something funny? Does s/he do something to get a certain response from you?
- *Indicating acceptance ("yes").* Your student needs some consistent, identifiable way to communicate that s/he is responding in the affirmative. This might be by smiling, looking at you for a desired object, moving his/her hand or body in a specific way, etc.
- *Being able to make a choice between two objects or events* by reliably and consistently using a signal, such as those listed in the previous point.

Start by developing a series of topic lists or menus for your student that move from general to specific. Each menu should not contain more than 4 items (as this seems to be the maximum which your student can easily retain in memory). Verbally present each of the items in the menu, and observe your student carefully for any behavior(s) that indicate that s/he is selecting one of the options. If your student is not giving any indications, then periodically ask if s/he has something to say. If your student indicates "yes", then begin presenting in sequence the menu of topics (in sets of up to four). Once your student makes a selection from the first menu, then you provide him/her with the next appropriate sub-menu and so on until you get to what s/he wants to say. For example, you might start off each time with the following general menu:

Menu 1
Activity
People
Places
Feelings

Menu 2

Menu 3

For example, your student might choose "feelings". You would then provide your student with the next appropriate sub-menu from which s/he can select:

Sub-Menu

Feelings

happy
mad
frustrated
scared

Your student would then select from this list and you would add any appropriate information (e.g.. "I think you are telling me you are frustrated with this activity. Maybe we should change activities?")

You can have more than one general menu list, and this will depend on the kinds of topics or information you generate in talking and how you are developing this idea with your student. Thus you might have Menu 1, Menu 2, Menu 3, etc. In addition you can have more than one sub-menu list. For example, in the above example, there may be more than one sub-menu groups of feelings. Thus, you may want to number the sub-menus as well.

As you develop this idea, write out the menus and the branching sub-menus, and eventually make a reference card that can be kept with your student. The card should also include easy-to-follow instructions concerning the sequence of choices, as well as information regarding rate, need for repetition, or cueing, and the students' "yes/no" signals.

Remember that the menus and sub-menus should always be presented in exactly the same order, so that over time your student begins to memorize them, speeding up the communication interaction. As well, when the student can anticipate an upcoming choice, s/he can get his or her body ready to make a response. By numbering the menus, your student may over time be able to choose from Menu 1 or 2 at the onset, as opposed to having to go through the first menu only to find out that what s/he wanted to say was in Menu 2. This will take time, however, the key to success will be to plan ahead and try to envision all the possible options so that your student is not having to relearn things.

As well, because auditory scanning can be slow and time consuming, say those items that are the most likely to be selected at the beginning of the scan. This is also helpful for students who have a limited attention span, and/or who fatigue quickly.

The following scripted routine for auditory scanning helps to standardize the procedure so that there is consistency of presentation and vocabulary between various communication partners. This helps to make the procedure more predictable for the student.

Auditory Scanning Scripted Routine

- Position your student in the **ready position**, with his/her head in a mid-line or neutral position. Ensure that s/he is well-positioned and comfortable.
- Get your student's attention by calling his/her name and/or making eye contact.
- Tell your student what you are going to do: "I'm going to give you (2,3,4) choices. First, listen carefully to the choices."
- List the choices for one at a time with a pause between each one.
- Make sure you still have your student's attention and his/her head is still in a neutral position.
- Ready your student. Say: "You tell me 'YES' when you hear the one you want."
- List the choices in the same order as before, pausing slightly between each one.
- Look and wait for your student to give a "YES" response.
- Respond appropriately when your student gives a "YES" response. For example: "You smiled to say "YES" for _____." Then respond accordingly.
- If you are not sure of a response or it is unclear, then simply tell your student you are having difficulty reading his/her response and repeat the sequence again. Be sure you tell him/her what you are going to do.
- If the student is able to understand this type of message, include one that says, "None of these," "Different," or "Something else." (Example: music...book...video...something else).

This is a draft of a scripted routine for a sample student. Your team should feel free to change this sample in any way to make it usable for your student. It is suggested that once you have decided on the routine that you type it out and have it available for use by staff, family and peers.

At the same time as you are working on live voice partner assisted scanning, you can also introduce the use of a single or sequential message voice output device, such as the BIGmack or the Step-by-Step Communicator. These devices help the student to engage in interactions involving voice output without the physical and cognitive challenges that occur with technical scanning systems.

Another option is to put the choices on a loop tape, and use a tape recorder connected to a Power Link. The student activates the tape with the switch, then hits the switch again when it gets to the desired choice.

Once the student is able to reliably use partner assisted auditory scanning, the menus and sub-menus of choices could be programmed into a voice output communication device. The student then listens as the device speaks out the items, and presses a single switch to select a desired item. An auditory prompt or cue system can also be used on some voice output devices. This involves having only a key word or short phrase spoken for each of the choices. When the student hears the appropriate auditory cue,

s/he selects it, usually by hitting a switch. The entire message is then spoken. The student may also be able to use headphones, so that only s/he hears the auditory cue.

We need to be aware that auditory scanning with a voice output communication device places a lot of demands on the student, in that it requires:

- physical dexterity (i.e., to be able to engage the switch within a pre-set time frame)
- memory skills
- understanding of words and phrases
- ability to signal acceptance/rejection, and
- cognitive awareness (i.e., knowing when to wait and when to use the switch).

Use familiar language and frequently used vocabulary that you feel the student knows. Remember that if the student can communicate something without the use of an auditory scanning device, then it doesn't need to be included on the device (e.g., "yes/no" responses).



This student has transferred his auditory scanning skills to use with this voice output device.

Auditory scanning voice output communication devices include:

- Dynavox V; DV4; Vmax; Dynavox M3; Dynamo) MightyMo; MiniMo; Palmtop 3 (www.dynavoxsys.com)
- TechScan; SmartScan (www.amdi.net)
- Mercury II; MiniMerc; L*E*O (www.asstivetech.com)
- adVOCAte+ (www.mayer-johnson.com)
- Springboard Lite; Springboard Plus Chatbox; Pathfinder Plus; Vanguard Plus; Vantage Plus (www.prentrom.com)
- Polyana 4 w Persona; Macaw (www.zygo.com)
- Tango (www.ablenet.com)