The Effect of Auditory Processing Difficulties on Students' Success Within Aural Activities (suitable for all ages & school levels)

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Hands-on/practical activities you will be involved in during this session

…Localisation game

…An aural discovery activity

…A dictation activity

…Group improvisation

What is Auditory Processing?

The Auditory System

The auditory system is not fully developed until 15 years of age. Therefore, all students under this age are entering our music classrooms with an auditory system that is still developing. In addition to this typical developmental time-frame, some students will have specific auditory processing difficulties or an auditory processing disorder. Auditory processing is "Being able to attach meaning to what you hear" (Mridula Sharma, PhD).

Components of Auditory Processing Relevant to Music Education

Localisation: The ability of the brain to determine where a sound is coming from.
Discrimination: The ability to discriminate among pitches, timbres, and rhythms.
Pattern recognition: The ability to recognize patterns in sound.
Temporal processing: The ability of the brain to process spatial and timing aspects.
Processing competing signals: The ability to process more than one signal at a time.
Processing degraded signals: The ability to process signals that are not 100% clear.
Auditory Attention: Includes sustained attention, selective attention, switching attention from one signal to another and dividing attention between two signals.
Auditory memory: The ability to retain and retrieve what has been heard.

Explanations of How to Support Auditory Processing Components

Supports to assist with discrimination

* Provide pre-information to students:

- the <u>number of</u> different notes/rhythms that will be in a dictation.
- the <u>solfa/rhythm names</u> of the elements in a dictation.
- the <u>number of</u> notes that will be in each chord, when doing chord analysis or dictation – particularly important, because if students can't even identify the number of notes present, it will be even more challenging for them to determine what the notes are.
- the <u>number of</u> different chords that will be in a chord progression.

* Use visual supports:

- write song lyrics on the board when students are being asked to discriminate pitch, rhythm, and/or discover a new element and its position in a song.
- to demonstrate melodic contour – even when asking questions.
- to show the number of sounds visually, when focusing on a rhythmic element, <u>while</u> students are singing.
- clap focus rhythms separately (take them out of the song context) and slow them down.

* Use melodic supports when referring to pitch:
- sing "higher" and "lower" on the relevant pitches, rather than just speaking them.

* Be mindful of the language you use:
- The phrasing of the question "Is there a **new** note/rhythm in this song that is **not ….** or **….**" can pose challenge. Alternatives include:
"Is there a note/rhythm in this song that you don't know the name of?"
"Is there a new note/rhythm in this song?"
"This song has so and mi. Is there another/a different note?"

* Play chords broken up, rather than all notes together, in chord analysis:
- you may choose to do this just for more challenging chords.
- play from the top down rather than bottom up (thank you Kata Körtvési for this idea!)

* Use instruments of quite different timbres and limit the number of instruments:
- when using more than one at a time eg: competing signals, group improvisation.

Supports to assist with pattern recognition

* Use visual supports:
- Coloured counters/textas to mark the place of different melodic or rhythmic patterns, before or while singing, particularly when doing aural discovery activities.

* Provide pre-information to students:
- <u>how many</u> repeated patterns are present in a dictation.
- the <u>number of times</u> each pattern occurs, in a song or a dictation.
- <u>what</u> the repeated patterns in a song or dictation are, e.g. so, la mi, or ti-ti ti-ti tum ti.
- <u>where</u> patterns in a song or dictation occur, e.g. the second and fourth bars.
- <u>play</u> what the patterns in a dictation sound like, before beginning the dictation.
- the <u>types of chords</u> used in chord progressions, and if they need more information, also give the <u>types of inversions</u> that will be used.
- the <u>number of times</u> a particular pattern, (such as going from chord 1 to 5), is used in a dictation/chord progression.

* Practise:
- singing chords, before using them in a dictation or chord analysis.

Supports to assist with temporal processing

* Slow down:
- the overall tempo of a song when doing aural discovery activities and dictations.

* Pause:
- on new/focus elements, whenever they occur in a song, during aural discovery activities – this gives students more time to 'hear' and recognise them.

* Provide pre-information to students:
- if you've been working in a different time signature in a previous activity, play a few bars in the time signature of a dictation to allow students to prepare for the new timing.

* Note temporal processing is also related to pattern recognition.

Localisation game - components of auditory processing involved:

Localisation, temporal processing, discrimination, processing competing signals.

Game procedure:

Have 1 or more student/s in the middle of a circle made by the rest of the class. Instruments are scattered around the students in the circle. Student/s in the middle have to 'guess' the location of the instrument/s played.

Level 1 - Instruments of very different timbres. Picking one instrument only. Only one instrument played at a time.

Level 2 - Instruments of very different timbres. Picking one or two instruments. Two or three instruments played at a time.

Level 3 - Instruments of similar timbres. Picking one instrument only. Only one instrument played at a time.

Level 4 - Instruments of similar timbres. Picking one or two instruments. Two or three instruments played at a time.

Supports to put in place:

* General:
- graduating levels as suggested above.
- tailor the questions/levels to each individual student.

* For localization and temporal processing:
- narrowing down the area/space for students to select from eg: The instrument will be - on the right/left side of the room; in the front/back half of the room.
- have students turn their heads while their listening.

* For discrimination and competing signals:
- have pictures of the instruments that the students can hold to remember what instrument they're listening for.
- have all instruments played (demonstrated again) before a student's turn.

* For all components:
- have the instruments played for longer, for students experiencing greater difficulty.

Aural discovery activity - components of auditory processing involved:

Discrimination, pattern recognition, auditory memory, temporal processing.

Space for your notes

Dictation activity - components of auditory processing involved:

Auditory attention, discrimination, pattern recognition, auditory memory, temporal processing.

Space for your notes

Group Improvisation activity - components of auditory processing involved:

Localisation, auditory attention, processing competing signals, discrimination, temporal processing.

Space for your notes

Important note:

Students will have different sorts of auditory processing difficulties. Therefore, during chord analysis, some will benefit more from trying to identify the shapes of the chords, others the individual notes which make up each chord. Some may find it easier to focus on the bass line, others may have difficulty hearing lower pitches which makes it difficult to use the bass as a guide.

Work with your students to find out what their individual needs are and determine which strategies will work best for them.