

Sounding Out

A toolkit for music practitioners working with deaf students

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Introduction

There are many deaf people who play musical instruments and take part in music activities on a regular basis, including many extremely accomplished professional deaf musicians. As with all young people, participating in music activities has many benefits for deaf children.

The experience of musical vibrations as well as the visual aspects and value of performance can help increase their confidence, ability to collaborate creatively with others, develop a wide range of cognitive skills, and provide artistic variety and satisfaction.

Like their hearing peers, deaf children and young people are influenced by experiences of music in their home and social environment. Each child's experience of music is unique and depends on their level of deafness (mild, moderate, severe or profound), the hearing technology they use (e.g. hearing aids or cochlear implants), and their previous experience of music. A young person who has lost their hearing may have memory of early musical experiences, and therefore may approach the class in a different way from a child who was born deaf. It is important to remember that some deaf children can use a lot of their residual hearing with the support of hearing aids, or cochlear implants and others may be deaf in just one ear. This means that musical enjoyment in many cases is not only about vibration and being visual, but also hearing and exploring a variety of different sounds.

The Sounding Out Toolkit is designed for use by music practitioners and teachers who may either be working with deaf children for the first time, or are new to creating music with deaf children. It is a guide to help foster ideas as you plan your classes and draws on the experiences of musicians who took part in the Sounding Out programme. It should also be noted that the activities included in this Toolkit are suitable for use with all children (hearing and deaf), but have been specifically designed with the various needs of deaf children in mind, in order to be accessible.

KEY TO ABBREVIATIONS USED IN THE TOOLKIT

CI = Cochlear Implant HA = Hearing Aid EF = Executive Function

Communication

In some circumstances where children use sign language as their main mode of communication, you may be working with a communication support worker (CSW) or qualified teaching assistant. If this is the case, it is useful to be aware of some key points which will help communication run smoothly:

1. Let the interpreter know as far in advance as possible what the activities will be. This enables time to prepare and explain the activities to children in the clearest way possible.

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2. When you are talking or giving instructions to the group, make sure that you stand close to the interpreter and do not move around the room. This way the children can see you both, and will not become distracted, which could potentially cause them to miss some information.

3. If you can, use minimal language during your classes. Don't be tempted to over-explain musical concepts; it is often far better to demonstrate to the children, using visual aids.

The following pages offer some general *Dos and Don'ts* for working with deaf children, including some suggestions for overcoming some of the more common issues that you may face when planning music classes for deaf children.

COMMUNICATION

- Establish how each child prefers to communicate (speech, sign language or both), either before the start of the sessions or during the warm-up activity.
- Make sure you have the children's attention before you start speaking.
- Speak clearly, using plain language, normal lip movements and facial expressions.
- Keep your voice at your regular volume as it's uncomfortable for hearing aid users if you shout and it can often look aggressive.
- Check whether the children understand what you're saying and, if not, try saying it in a different way.
- Learn fingerspelling and some basic British Sign Language (BSL). You may find this particularly useful for supporting the teaching of songs.



CLASS ENVIRONMENT

- Use a room that has little-to-no background noise, if possible.
- Consider the lighting in the room. Places with good lighting make lipreading easier, which is important for both oral deaf children and those who use sign language.
- Teach in small groups.

MUSIC TEACHING

- Use lots of gestures and facial expressions to be as visual as possible.
- Use gestures to establish the beat and give instructions before music is played.
- Be aware that different hearing aids and cochlear implants vary in how they process different frequencies, and the children are likely to experience sounds differently from you and each other.
- Take the student's lead on which instrument they would like to play. Give options.

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- Don't move around while you are talking or demonstrating.
- Don't shout, raise your voice or slow your speech, as this will change your natural lip pattern and make it harder for you to be understood.
- Don't give up! If stuck, try explaining things in a different way, using gestures and visual cues.
- Don't work in a room that has an echo.
- Don't talk whilst playing an instrument.

DON'T



- Don't forget that background noise can make communication difficult.
- Don't simply repeat yourself or say "Never mind, it doesn't matter" if a child doesn't understand or misses something you've said. Take the time to rephrase and explain.
- Don't forget that if you are wearing microphones and radio aids, you are being listened to!

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POTENTIAL DIFFICULTIES	WHAT CAN YOU DO TO HELP?
Playing in a poor acoustic environment.	<ul style="list-style-type: none">✓ Keep background noise to a minimum.✓ Use rooms with soft furnishings and curtains.✓ Keep doors and windows closed if possible.
A child is often distracted, has poor attention and difficulty listening and learning.	<ul style="list-style-type: none">✓ Face the children when you are talking to them.✓ Give them time to process information before demonstrating.✓ Never talk whilst music is being played.✓ Use gestures and demonstrate to help make your explanations clearer.✓ Be aware that a deaf child may get tired earlier than their hearing peers, as they are using extra focus to follow what is going on.
A child has difficulty following conversation between other children or adults.	<ul style="list-style-type: none">✓ Be clear from the start that one person should talk at a time and that no one should play music while discussions are taking place.✓ Seat everyone in a U shape for ease of communication.
Noises may be too loud and uncomfortable with a hearing aid or cochlear implant.	<ul style="list-style-type: none">✓ Check with the child where they are most comfortably positioned within the group.✓ See if they can arrange to see their audiologist; simple tweaks may be needed to assist them to hear music comfortably.✓ When introducing instruments, remember that it may take time for some children to adjust to the new sound.
A child is struggling to grasp the rhythm or melody.	<ul style="list-style-type: none">✓ Ensure that the child has the chance to learn and practice in advance of the rest of the group – differentiation.✓ Do not single out a deaf child in front of other group members when they're struggling.✓ Go back to basics: ask them to repeat the rhythm by copying you clapping to the beat.

Duration of the Activities

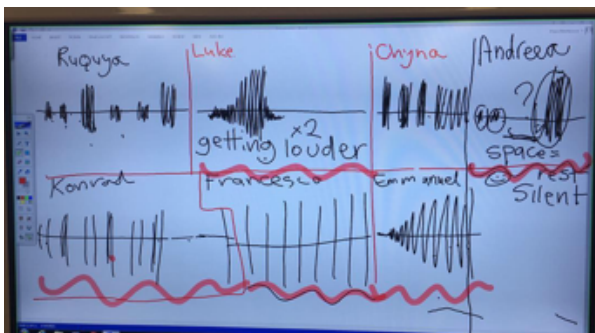
Classrooms can be noisy, busy places. Deaf children have to focus particularly hard in order to follow conversations and instructions. Dividing their focus between activities and other things going on in the room can be distracting.

Due to extra demands on their concentration, deaf children tend to tire more quickly than hearing children do - particularly towards the end of the school day, or during longer, more complex activities. Therefore, we advise you to keep activities as fun, engaging and short as possible to avoid distraction and fatigue. Plan short breaks within your sessions if necessary.

Singing

As with all children, some deaf children will enjoy singing while others will be more reluctant. You may find that many of the children don't want to sing at all. Some deaf children are not used to using their voice, therefore singing may initially be uncomfortable for them, so remember to make any songs you incorporate into your classes as inclusive as possible. It is essential that you never force your students to sing. If they would like to sing, they will do so once they feel ready and comfortable to join in.

However, to encourage those children who do want to sing, a fun and engaging way to explore vocalisation is by using a microphone connected to software that allows them to visualise their vocal production (e.g. Garage Band, or Ableton). You may wish to discuss the different sound-waves the children produce, pointing out the differences and the similarities in wave forms between high/low long/short vocalisations. It is possible that some children will not have experienced using a microphone before, and we found that many children became excited and started to vocalise and experiment more after this activity.



Drawings of children's vocalisations based on microphone sound-wave outputs in Garageband.

When introducing songs to your deaf students, start with songs that have a clear meaning (or, even compose a meaningful song with your students) with translation into sign language where necessary. If you use songs which have lyrics in another language (e.g. "Simama Kaa", a popular Swahili song), make sure that you translate the meaning of the lyrics or explain what the song is about. As with all teaching, it is important to know the background of songs in languages that are not your own and to be sure they are appropriate for use in teaching situations and can be transferred from their cultural contexts. Your students may well speak a number of different languages themselves of course.

Always make sure that you write the lyrics down and read them through with the children so all of them are able to follow. It is also preferable in the early stages to keep lyrics brief, meaningful, and to use some form of repetition (for example: Katie has one friend, then two friends etc.)

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Start all songs very slowly, making sure that every (oral) child can pronounce the syllables: the rhythm of the song can be very helpful in supporting pronunciation and language production. Once the children have internalised the meaning and the rhythm of the lyrics, introduce the melody. We advise introducing each musical element one at a time, this way you can make sure that the whole class has access to the material that you are presenting.

Some children may find it hard to pitch the melody accurately. You can use a variety of approaches to help them through this process, such as:

- Focusing first on the difference between high and low pitches,
- Allowing them to feel the vibrations physically (e.g. using a microphone) while you're making big gestures moving up and down.
- Signing the notes of the melody (e.g. using Kodaly's signs):
- Drawing a line on a piece of paper which rises and falls with the melodic line, and asking the children to follow using their whole bodies, moving up and down.

Attaching the syllables of lyrics to the rhythm of a song may also be a challenge for some deaf children. Whereas lots of song lyrics reinforce rhythm, in some instances they can be misleading or confusing. For example, the song '*Twinkle Twinkle Little Star*' was difficult for one child who found it hard to segment the word "*li-ttle*", singing "*twinkle, twinkle, little little star*" instead of "*Twin-kle, twin-kle, li - ttle star.*" Working with her on the rhythm of the song, meant that eventually she was able to associate the syllables of words with corresponding beats, and she was visibly happy and proud when she got it right!

Using Instruments

Deaf children are very diverse and have a wide range of residual hearing. Some children may be able to hear higher frequencies (e.g. those produced by vocals, guitars, glockenspiels etc.) but not lower frequencies (such as drums or bass) or vice versa. Therefore, it is a good idea to let children experiment and play around with instruments, allowing them to explore different sounds, many of which may be new to them. Be aware that some sounds will be experienced differently by the children, particularly when processed through a cochlear implant or hearing aid. Very loud sounds (e.g. those produced when a class of children are drumming) may be uncomfortable for some children, so make sure you take care to minimise any discomfort that may occur by frequently checking this with the children.

You may also find that some children are more concerned about the quality of their musical production than others and will want to make sure that they are playing the "right" way. Conversely, other children may not be as aware of the variety of sounds they are able to produce (for example, in terms of volume and timbre).

Soundpainting (described in more detail below), is an excellent way to demonstrate these musical parameters visually and can help the children discover the variety of different sounds that can be produced by their chosen instrument.

USING THE SOUNDING OUT TOOLKIT

This Toolkit provides ideas for each phase of a music session - warm up exercises, foundation activities that focus on skills development, and main activities. Links to video examples are provided for some of the activities. Musical aspects are broken down and listed next to each exercise. Places where children will enhance their key areas of cognitive development (Executive Function) have been indicated, including: memory, inhibitory skills (resisting the urge to act impulsively) and flexibility (the ability to switch attention and focus between activities). We have also outlined opportunities to develop proprioception and motor skills.

Areas of Learning

INCLUSION

Deaf children are a very heterogeneous group, and it is likely that within one class of children you will encounter a wide range of musical abilities, strengths, weaknesses and interests. Differentiation of roles within activities may be essential.

All children in the group should be involved in each of the activities. Most of the activities described in this Toolkit provide each child with the opportunity to play in unison with the group and also individually. Providing children with the opportunity to conduct the rest of the group (for example), will help them to develop confidence in their abilities, as well as foster musical creativity.

We also discovered that the activities provided a lot of opportunities for peer learning and support. By demonstrating and helping each other, deaf children can explore new instruments and discover new sensations and sounds together. Be sure to give them the space to explore and discover things independently, being mindful that each child may be experiencing the activity differently.

RELATIONSHIP BETWEEN MUSIC AND MOVEMENT

Movement is integral in supporting the interpretation of music and is even more important when working with deaf children. Using gestures and full-body movement to emphasise the beat helps to make music embodied, visual and reinforces rhythm. For example, when teaching a song, gesture and sign language can be used to support the meaning and aid understanding.

Example Song - *"Katie Has One Friend"*

SOUNDPAINTING

Created by composer Walter Thompson in New York, 1974, Soundpainting is a live composing gestural language designed for use by musicians, actors, dancers, and visual artists. It currently includes more than 1500 gestures and hand signals that are used by the Soundpainter (composer) to indicate the type of musical response required of the performers (e.g. crescendo, diminuendo, tutti etc.). It covers all aspects of musical performance, including who, what, how, and when performers play.

Soundpainting was introduced to children during the Sounding Out project, and was particularly successful for enabling profoundly deaf children to communicate musical ideas. For example, Soundpainting transformed the experience of music class for one boy in particular, who was profoundly deaf and had additional behavioural and attentional problems. He initially found the music classes challenging to access. Soundpainting helped him to focus, understand and experience sounds in an

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accessible, visual way and communicate musically with his classmates. It allowed him to use his own creativity and provided a common musical language, levelling the communication field between the deaf students and hearing teachers.

EXECUTIVE FUNCTIONS

'Executive Functions' (EFs) are the top-down cognitive processes that we all use in order to remember, plan, evaluate and switch between our actions. We begin acquiring these skills in infancy, and they continue to develop well into adulthood. While EF is a broad term, it is generally used to refer to three key cognitive skills - working memory, inhibition and cognitive flexibility. Particular activities which we believe may develop some or all of these key EFs are highlighted in the Toolkit. We all use 'working memory' to temporarily store and process new information that we need at the present time - for example, when we hold an address in our mind whilst searching for a pen to write it down, or work out simple arithmetic in our head. Several activities included in this Toolkit have the capacity to strengthen working memory skills (particularly in children who may have problems with memory), as children are required to remember changing rules to games and remember when it is their turn to play on cue.

'Inhibition' is the ability to prevent yourself from performing an automatic or desired behaviour. Inhibition is a feature in many of the Toolkit activities, where children are required, for example, to prevent themselves from hitting a drum at the 'wrong' time and instead to hit it in time with a pulse. Turn-taking and group roles are also a frequent feature in the activities, and these can also challenge and develop children's patience and inhibitory skills in a fun, musical way.

'Cognitive flexibility' is our ability to switch from one way of doing something to a new way (and back again) - it is sometimes known as flexible thinking. Children with autism are commonly noted to have difficulties with cognitive flexibility, and find comfort and reassurance in repetitive routines, perhaps becoming distressed or unsettled if (for example) their regular route to school had to be changed due to a road closure. The activities in this Toolkit are all broken down into steps as a way to gradually build and develop musical skills in relation to cognitive flexibility. As you move from one step to the next, the 'rules' for the games change and develop, becoming increasingly complex. By designing the activities in this way, children's cognitive flexibility skills will be strengthened, as they are encouraged to accept new game rules to replace those of a previous step.

PROPRIOCEPTION AND MOTOR SKILLS

'Proprioception' is the sense through which we perceive the position and movement of our body. Many of the activities in the Toolkit use body percussion as a way of introducing and reinforcing rhythms with the children. By using their bodies to produce sounds and rhythms, the children physically experience the beat, providing an additional avenue for connection with the music. Basic body percussion such as clapping, stomping, tapping on thighs, tapping on the chest etc., also helps to develop gross and fine motor skills. This may be particularly beneficial for children with minor physical difficulties. Many of the early steps in the activities involve body percussion before instruments are introduced. Anticipating the beat, and consciously preparing to tap a drum at the correct time along with a pulse also encourages the children to use their bodies in a mindful, musical way.

We hope that you find the warm-ups, foundation and main activities included in the Toolkit to be a helpful guide and inspiration for creative music making with deaf children.

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Interesting and Useful Videos

- * Christine Sun Kim - Deaf American sound artist describes her experience of music
<https://www.youtube.com/watch?v=2Euof4PnjDk>
- * Music interpretation in American Sign Language with excellent examples of using sign language to convey musical timbre
https://www.youtube.com/watch?v=EuD2iNVMS_4
- * The National Deaf Children's Society has examples of basic signs in British Sign Language, including signs for different musical instructions and instruments
<https://www.youtube.com/user/ndcswebteam/videos>