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SOUND ART
WITH CHILDREN

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The Joy of Learning Multiliteracies (MOI) research and development programme is designed to promote multiliteracy among children aged 0-8 years old. It entails collaboration with professionals working in early childhood education, pre-school and the initial stages of primary education as well as in libraries and the cultural sector. The Playful Learning Center, part of the Faculty of Educational Sciences at the University of Helsinki, is responsible for implementing the development programme, which is funded by the Ministry of Education and Culture.
THE JOYS AND CHALLENGES OF PERCEIVING SOUNDS WITH KEEN EARS

Creativity, productivity and curiosity come naturally to children. Children are interested in different sounds and experimenting with sounds, if they are given the opportunity to do this. Although it is easy to sense sound, it can also be challenging in its intangibility. Children can have all manner of questions and sources of wonder related to sound. It is great when children can be inspired to show interest and ask questions. Often, there are no unambiguously right or wrong answers to the things children think about, and new things can be learned in conversation with them.

Many children find sound a fairly difficult phenomenon to deal with because they “cannot take grab on to sound or pick it up”. In addition, sound is often gone in an instant. The ears cannot be closed like the eyes, so we are forced to listen to annoying sounds as well as pleasant ones. Sounds are also difficult to locate: they are somewhere “in the air, all around, inside, in the head, in the ears, in the legs and in the tummy”, as one six-year-old said. Some children also find sound difficult to draw. This is understandable: how can such a three-dimensional thing be depicted in two dimensions?

Sound art is a new source of content for children’s arts education and children’s artistic activity. For example, if music education focuses mainly on various pieces and works of music, it could be that children miss out on all of the fascinating aspects of sound as a modality and sound-related phenomena. In such cases, children may only develop a limited understanding of the diversity of sounds and the means of creating them. This would also exclude an entire area of art – sound art – from arts education.

It is a good idea to begin familiarising yourself and children with sound art by sensing, perceiving and listening to sounds together and by experimenting with different ways of creating various sounds. Moments of inspiration could include listening to various sound samples and experimenting with materials, such as shells, ear trumpets and magnifying glasses, to take the first steps on the journey towards the fascinating world of sound.
A few years ago, I visited nursery schools in Helsinki to hold workshops for children with the theme, “Reflecting on sound”. The workshops involved adults and children familiarising themselves with various sounds and materials that create sound, listening to sound art and discussing sound. The children at the workshops came up with several good sound-related thoughts and questions, such as:

**SOUND AND THE ENVIRONMENT**
- Why do people have small ears?
- Why are there different sounds in the world?
- What is sound? Where does it come from?
- How is it created?
- Why are some sounds quiet and some loud?
- Why are some sounds nice and some annoying?
- How can different sounds be made?
- Can you hear silence?

**YOUR OWN VOICE**
- What kind of sounds can you make without instruments?
- Can you hear someone’s mood in their voice?
- What kind of sounds people use to express their feelings?
- Can animals sing?
- Can you sing underwater? Can you hear music on the moon?
- Why people have different kind of voices?
- Why is singing sometimes nice and sometimes difficult?

**THE BEAT OF LIFE**
- Which things have a beat that you can feel?
- In which things can you see rhythm?
- Why does music sometimes get faster or slower?
- How are different rhythms made?
- Do words have rhythms?
- Can a rhythm be reversed?

**TURNING MELODY INTO MUSIC**
- What does yellow sound like?
- Can you compose something with one sound?
- How do you know the order of the notes?
- Why do the same melodies sound different?
- Why do some creatures sound happier than others?
- When we listen to music, does it go through us?
Asking questions and wondering about things are good starting points in art. On the journey towards the world of sound art, children can be inspired by material such as the Keen Ears task cards. The Keen Ears tasks are a fun way to encourage children to observe, ponder, imagine, see and – above all – listen. The Keen Ears task cards are also well suited to supporting children’s multiliteracy development. Sound can also be an aspect of multiliteracy, as multiliteracy is the ability to interpret and produce different texts in different forms.

Making sound art means familiarising yourself with sounds in a diversity of contexts and meanings. It is easier for children to make sound art if they are first given the opportunity to be inspired by different sounds and to study sound in different ways. This will also make silence more meaningful. Once the child develops a relationship with sound and sound sources, they will no longer be detached, secondary objects; instead, they will take up a meaningful position of their own.
**WHAT DOES SOUND CONSIST OF?**

One of the starting points for creating sound art with children may be to enhance the child’s understanding of sounds on a conceptual level. It is good to be aware of the elements that sound consists of. The elements can be divided as follows: duration, pitch, intensity, tone and recognition.

- **Duration**: How long can the sound be heard for? Is it a continuous sound?
- **Pitch**: Is the sound high or low?
- **Intensity**: How well can you hear the sound? Is the sound quiet or loud?
- **Tone**: What is the nature of the sound? Which words could describe the sound? Does it sound rough, soft or something else?
- **Recognition**: What has caused the sound? What could be the source of the sound? What does it bring to mind? Does the sound remind you of something? What does it remind you of?

Everyone experiences sounds and music in their own way, and art gains meaning from this sensory and experiential aspect. Experiences may also vary from one day to the next, in different situations or emotional states. There is no single correct way of sensing and interpreting sounds. Familiarising themselves with sounds and discussing experiences of sound helps children to understand the uniqueness of experiences and the diversity of sound phenomena.

Sound connects us to an environment, situation, event or story. Occasionally sounds give rise to different feelings, such as warmth, longing, irritation and empowerment. Sound is multidirectional – enveloping – so sensing sound is not limited to a specific plane, nor does it require orientation towards the sound source in itself. For the same reason, sound can be used to captivate the listener’s attentiveness – sometimes even more quickly than with sight – regardless of the previous direction in which the attention was focused. Because sound waves are mechanical vibrations in physical space, created by a vibrating sound source, sound also has a natural connection with movement. Movement, such as dance, is one way to make sound and music visible.
PUTTING SOUND INTO WORDS

Discussing sounds and personal observations related to sounds helps us to notice the different ways in which children experience and remember sounds. For example, it is worth considering what sounds and which types of sound each child finds most interesting and how the sound can be made. And what do different sounds mean? What are the reasons for the different understandings and interpretations?

Similarly, children often find it fascinating to compare the words that describe sound and the images they conjure up. For example, what is a “clang” like? And what is the difference between a “cling”, a “clang” and a “clonk”? The Finnish language has a rich range of expressions for describing sounds. Children may also invent their own words for sounds. It is also good to highlight onomatopoeic expressions such as “cock-a-doodle-doo”. Above all, how can you describe what you are hearing and write down sounds as words? Could sound art be created from words and speech?

Sound-related stories and memories can also be brought up and shared with children. What did the world sound like in the past? What types of sound might people have heard in the past? Which sounds do you no longer hear in the modern world? Which sound has made a special impression and in which situation? The memories and feelings conjured up by sounds are good starting points for sound art.
VISUALISING SOUNDS

The visualisation of sound is typically associated with connecting sound sources or describing the feelings provoked by sounds. Visualising the elements of sound is challenging but, fortunately, modern technology makes it possible.

A spectrogram can depict sound in terms of duration and frequency. It can also show the intensity of the sound using colours. It is possible to experiment with spectrograms online using the Chrome Music Lab (shown below).

https://musiclab.chromeexperiments.com/Spectrogram/

Sound editors, which draw a curve as they save sound, can show sound in the form of an image. Computer sound editors, such as Audacity, a free piece of software, enable a sound phenomenon to be shown in one way – a blue waveform appears on the screen as the sound is saved.
Sound editors such as Audacity can also be used to experiment with modifying sound: what does your own speaking voice sound like when the frequency changes? Audacity can be used to compare the sounds created by different sound sources (such as musical instruments) by examining the sound waveforms. How can a sound be produced quickly (a sharp rise in the waveform), and how can a sound be produced slowly, with a gentle rise? Why do some sounds have a short waveform, while others have waveforms that seem to stretch on forever?

It is also possible to tell stories by saving different sounds and arranging them in a certain way. You can help children to experiment with creating a chain of events by editing and combining a number of different sounds (but not speech). Different types of paper material can be manipulated, such as clapping cardboard, tearing silk paper or scrunching up baking paper, and the sounds can saved to create an interesting piece of sound art that could – for example – tell a story.

**EVERYDAY AUDIO PHENOMENA**

The “sound environment” refers to the sound energy of a given place. Conversely, the concept of a “soundscape” highlights the factors by which the sound environment is understood and produced. Soundscapes can be formed of human voices, music, city noise, the sounds of nature and technology, and silence. In a soundscape, the listeners are not just passive recipients of sound energy – they interpret and produce their audio environment. In a certain sense, it is about the environmental relationship that arises through listening. Sound art may also be meaningful in raising the environmental awareness of children.

Digitalisation has substantially multiplied the opportunities available for recording, producing, processing and remixing sound, making these processes easier and accessible to everyone. The sounds of the environment are great material for the sound artist. They can be recorded and used unedited, or they can be modified as desired, perhaps using a computer.
People have always been interested in mimicking different sounds. For example, in film production, particularly before the digital era, a foley artist produced the sound effects needed for the soundtrack. The foley artist was tasked with inventing and using all kinds of methods for creating the sound effects needed for a particular scene in the post-processing phase. You can experiment with making your own foley sounds: holding potato flour in the palm of your hand and pressing it with your thumb creates a sound like footsteps in snow.

One superb way of getting to know different sounds and sound sources is to build your own musical instruments and sound-producing objects. These can also be used to make sound art. By inventing, experimenting and building things yourself, you will learn to understand the ways that sound is created, the structures of different musical instruments and the differences in sound formation and tone. Sound-producing objects can be built from almost any material – it is even possible to make new musical gadgets from broken instruments and items that have been thrown away. Sound art also includes home-made mechanical structures and installations that create sound, whether indoors or outdoors.
WHAT IS SOUND ART?

Sound art means making art with sound. The sound source can be practically anything. Sound art typically features sound material other than melodies or traditional musical harmony produced by playing several melodies simultaneously. The sound used in sound art can be created in any way, and works of sound art created with children can be recorded digitally. Alternatively, live works are unique experiences for listeners, and the performance is often a part of the work.

Sound art is difficult to define because the boundary between sound art and music is not set in stone. Like music, sound art can also be made using objects and musical instruments, searching for tones and colours that speak to the artist. Sound art may also be produced using various types of machine, installation and technology. Technological development has had a major influence on the creation of sound art, and many sound artists work with electroacoustic sound. Sound art is often approached from the perspective of the visual arts – particularly contemporary art. For visual artists, sound is like an extension of the available material. Sound art is a multidisciplinary art form.

Making sound art with children means strengthening their artistic agency and incorporating sound into artistic expression. Doing things together enhances the interactivity and sociality of children’s artistic activity. Creative communal production also encompasses peer learning. It is not the adult’s place to tell the children what types of works to create; instead, adults should guide children towards producing their own art and permit experimentation and the use of different processes. For children, sound art is created when they understand and define their art as such.
CHILDREN’S RIGHT TO SOUND ART

Curiosity about sound may also spark an interest in music and other forms of art. So why not experiment with alternative ways of approaching and producing sound and music with children, purely for the sake of aesthetics and intrinsic artistic value? It is worth using techniques that can lead to experiential, social interaction and equality of participation. Methods where all forms of experimentation and play with sound expression are allowed and no single correct outcome exists.

Inspiring interest is one of the goals of sound art education, but creating sound art with children is also about children’s rights to experience sound art as part of the fields of art and aesthetics. The child’s artistic agency can be defined as aesthetic, communicative and expressive participation. All of these aspects contribute to the development of multiliteracy. From the perspective of developing multiliteracy, it is important to bring out and listen to every child’s own thoughts, interpretations and ideas related to sound. The pedagogical targets are the perception, differentiation and reflective interpretation of sounds, as well as artistic creation, both alone and together. Everyone should be given the opportunity to express and produce meaning, as well as to express and tell themselves meaningful things, including by means of sound art.

BOLD EXPERIMENTATION

Sounds and music, including noise and silence, are dynamic, influential and multifaceted phenomena. Sound is meaningful in the informative, narrative and cultural senses. Different sounds can carry enormously diverse types of information. Sound is a very natural way to express and present things. The very natural and intangible nature of sound often means that it is taken for granted until it becomes disruptive or disturbing.

As I stated at the beginning, sound is challenging in its appeal – especially for children. As there are so many characteristics that affect sound, it is almost impossible to precisely replicate different acoustic sounds. That is why an experimental, investigative and playful attitude is important.

Perceiving and analysing sounds, focusing on listening to and studying sounds, and producing sound in a self-directed way also underpin the new foundations of early education and the curriculum targets in a broader sense than merely in terms of music as a subject. Sound is related to real and virtual learning environments, well-being, sustainable development and interaction. From the perspective of multiliteracy, different texts and meanings produced in sound and the contribution made by sound in multimodal texts can just as equally be considered objects of reading and production in the same way as any other texts produced. To support the development of multiliteracy, it is a good idea to include a diverse range of texts, analyse them and produce them also from a sound perspective. This will teach a perception of how sound is often not just a factor in multiplying text content but instead has its own narrative and distinctly creative nature.
From the perspective of comprehensive learning, completing sound-related tasks and making sound art can help to enhance attributes such as creative thinking and perception. From the perspectives of aesthetics and ethics, history and cultural knowledge, familiarisation with various sounds, soundscapes and methods for creating these is compatible with the targets of the new early education plans and the curricula for basic education. In addition and in line with prevailing teaching concepts, learners are guided towards taking account of the consequences and impacts of their own activities on other people and the environment. Responsibility thus creates the basis for familiarisation with sound art and making sound art.

Sound art should be tried out with children, and children should also be encouraged to become artistically active in the field of sound art. Sound art is a means of familiarising oneself with the intangibility and intrinsicity of sound, and finding meaning through it. Sound art teaches temporal perception and concentrated listening. In my experience, children are unprejudiced, experimental, creative and playful sound artists. Thanks to their natural curiosity and open-minded sensory approach, they are often also excellent and attentive researchers of sound phenomena.
LITERATURE


