

NOISE IN LEARNING ENVIRONMENTS



COMMUNICATION FRIENDLY SPACES™

THE IMPACT OF NOISE ON SPEAKING AND LISTENING SKILLS

The Communication Friendly Spaces™ (CFS™) Approach helps to create effective learning environments for children, young people and adults. This guidance paper is one in a series about the way that the environment can affect behaviour, communication, emotional well-being and general engagement. Getting the environment right for learners contributes to their overall achievement.



The impact of noise

As adults, we can become consciously aware of the amount of noise around us and how it is affecting our daily life. We also, sub-consciously block out unimportant, everyday noises to focus on somebody speaking or to listen to something we want to listen to. By doing this we become less and less aware of the sheer volume of noise that can sometimes surround us, particularly in our places of work where sometimes noise creeps up slowly. We know that noise can make it harder for us to communicate with others, to hear accurately what they are saying, to concentrate on what we are doing and to finish tasks we are engaged with. Adults are more able to discriminate between noise that directly affects us and noise that we can attempt to ignore or screen out.

This is a skill that is learned within the first 12 months of life and if this skill is to develop fully requires some quiet time everyday so that the baby can focus on the sounds around them. It is also dependent on the baby having an adult who supports them to tune into sounds by drawing their attention to noise eg a dog barking, the doorbell or post coming through the letterbox. The first step to tuning into speech is learning that sound in general is important and carries meaning. Listening and attention are the absolute foundations upon which speech and language skills are built and one of the most powerful ways to support this development is through ensuring that due consideration is given to reducing background noise as much as possible and talking about noise effectively with children.

'If you don't feel like listening, you don't hear.'

Alessandro, 5 years old

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pollution and to reduce the impact of excessive volume.

Bronzcraft and McCarthy found that children on the quieter side of a school next to an elevated railway had reading scores higher than children on the side exposed to the train noise.

A study of children in schools in Quebec, Canada, showed that excessive noise can affect speech, attention to detail concentration, emotional well-being and memory.

It is particularly important to think about how noise in early years settings and schools affects children's ability to hear, listen, process and understand. It is particularly important in baby rooms and spaces for younger children.

Global research provides a great deal of evidence for planning the learning environment carefully to minimize extraneous noise



STOP AND THINK:

Getting the balance right

How does your environment support children to be calm and quiet?

Do you have spaces where conversations can take place easily?

Do you have places where children can talk, work and think where they will not be disturbed?

Are there areas where children can be busy, noisy and active but well away from places for thought and reflection?

Do children have the opportunity to observe adults being quiet and still?

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Noise and acoustics: what are the issues?

Sound is measured in decibels, 60 – 70 decibels is the same as the noise that a very old dishwasher makes. Noise, like liquid, flows through holes and gaps, so windows, key holes and open spaces provide a means of sound carrying from one place to another. The general rule is that if you can see the source of the noise you can hear it!

Some children are very sensitive to noise and may become anxious or unsettled if they are exposed to too much of it, especially over a sustained period of time. You may see children physically recoil from the source of noise or demonstrate their anxiety through behaviours which are undesirable. If they are unable to articulate the source of their distress they may only be able to communicate in ways that we'd rather they didn't. By becoming more aware of how to reduce the impact of excessive noise you will also help to reduce the stress levels that are associated with sensitive

listeners and increase your responsive support for their learning. It's worth noting that glue ear is the most common childhood illness and children under 5 are the most affected. Children with glue ear can find background noise very uncomfortable and in fact painful, often resulting in behavioural responses as above. It's good to get into the habit of thinking about children's hearing as it is not routinely checked.



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A NOISE AUDIT

Consider the following factors as you walk round your setting or school.

External noise from a busy road or maybe a flight path

- Acoustic hedges or solid fences that are between 8 and 10 ft high could reduce traffic noise by 6 – 10 decibels
- Additional glazing with staggered openings to allow ventilation will disrupt aircraft noise (booklet BB93 Section 1 Version 1.1)
- Solid doors with good frames or a lobby with two sets of doors helps to minimize the impact of noise indoors

Noise interference from other rooms, corridors or different floors of the building

- Most sound travels through air so think about installing insulation panels
- If walls go right up to the ceiling rather than stop at the underside of a false ceiling there is less noise
- Floors can be insulated against sound by using mats, carpets or other coverings



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Privacy between rooms or areas

- The solidity of doors between rooms affects the amount of noise that travels through them
- When doors, including double doors, have seals round their edges, noise is reduced considerably
- Ducts and pipes running between rooms can carry sound
- Roller shutters, such as those used to close hatches from kitchens, have very low insulation values, and of little use in reducing noise in nearby areas



Reverberation and vibration noise

- Hard surfaces reflect noise so this can be reduced by adding softer and more absorbent surfaces
- Large rooms such as assembly halls and dining rooms increase the time needed for sound to bounce back and therefore speech is harder to follow, leading people to raise their voices and make the problem worse
- Carpets, curtains, soft furnishings and cushions can all help to minimize the problem

'The ears are the first to wake up and the last to go to sleep. To hear means that things go into them, to listen means that when somebody talks the words stay inside.'

Serena, 5 years old

STOP AND THINK:

Use your observations and opinions ask children for their views. Consult parents, carers and families to build a picture of how noise might be lessened in your setting, school or at home.

- What could you change immediately to help reduce the impact of noise inside your setting or school?
- How could you make improvements to your outside environment to create areas for children and adults to enjoy calm, quiet, reflective conversations or have time alone?

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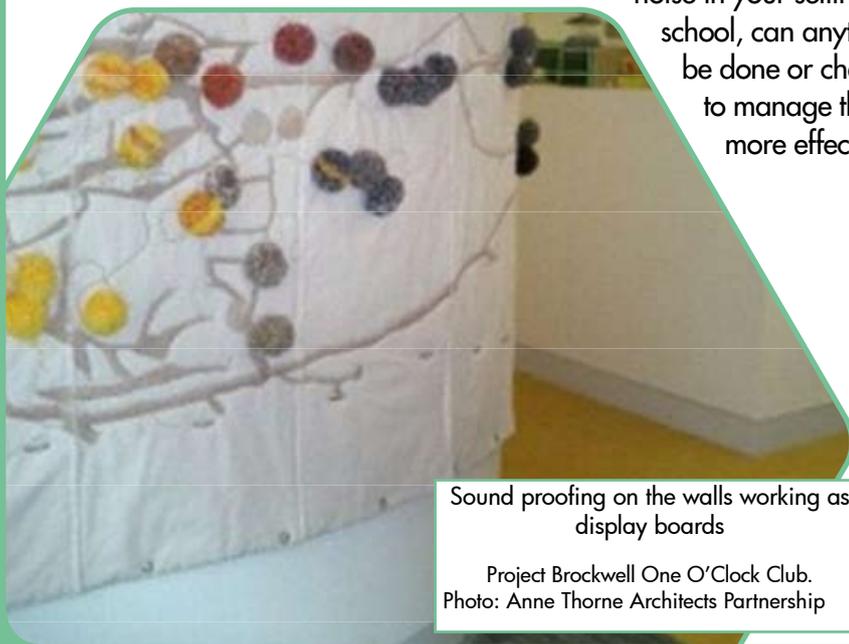
The invisible build-up of noise.

Noise can be thought of in layers with each different noise adding a layer. When all the layers are put together they create the total noise in your setting.

When considering reducing noise think about which layers are necessary and which can be eliminated or reduced eg. Do you have music playing in the background?

Is there noise from adjoining classrooms and colleagues?

- Agree on a collective approach to managing the impact of negative noise levels as a staff team. Occasionally the source of noise can be other adults and activities that neighbouring classes or groups are involved in.
- Considering the peak times for noise in your setting or school, can anything be done or changed to manage this more effectively?
- Tune in to children who are affected by noise levels and think about where they place themselves; can you suggest other locations to support their comfort and reduce stress?
- Consider when certain activities are done – are colleagues preparing for snack / lunch while children are trying to focus on play or talk?



Sound proofing on the walls working as display boards

Project Brockwell One O'Clock Club.
Photo: Anne Thorne Architects Partnership



Hard surfaces, movement and high ceilings can create excessively noisy spaces

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Specialist acoustic fencing
 information from www.etsluk.com

For detailed UK studies into the
 effects of noise in attainment
[http://www.dh.gov.uk/en/
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Quiet Classrooms is an alliance of
 non-profit organizations working to
 create better learning environments
 in schools by reducing noise, the

website has research examples
 and guidance on controlling noise
 pollution
www.quietclassrooms.org

Details of BB93 Section 1 Version
 1.1 (12.6.03) can be found at
[www.teachernet.gov.
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