



Sound advice

As the recent case of a teacher forced to retire after losing her voice highlights, classroom acoustics are an important issue for both educators and the children. MATTHEW JANE explains more

The recent case of Joyce Walters, an English teacher from north London who was forced to give up her career because of vocal problems caused indirectly by background noise, highlights the need for schools to consider how their spaces allow teachers to be heard. Walters was awarded an out-of-court settlement of £150,000 after developing nodules on her vocal chords as a result of having to raise her voice to be heard over the noise of children in the playground outside.

She claims that she raised the issue of noise with her employers at the adult education centre, but nothing was done. As a result, the council was forced to make the six-figure pay out, one of the highest awarded to a teacher.

While teachers being forced to give up their jobs because of classroom acoustics may seem like an extreme, it nonetheless demonstrates the need to provide adequate teaching spaces where teachers can be heard and children can hear. "The spoken word is the most vital tool that a teacher has in a learning situation and it is therefore essential that classroom acoustics do not compromise

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this,” says Jeff Craske of Kestrel Acoustics.

Viveen Dennis from InterfaceFLOR says whether the lesson is traditionally academic or a more creative class, noise can be a distraction that makes it hard to concentrate. "Even normal speech levels can echo throughout a classroom," she says. "Where sound reverberates, pupils may struggle to hear their teacher, as the teacher's voice won't carry as clearly or could be distorted."

Craske adds that "if sound reverberation creates an environment where pupils cannot hear clearly due to sound build-up, it is not unusual for children to behave badly".

MAKE YOURSELF HEARD

It is not just hearing the teaching that can be impacted by poor acoustics. Dennis says that with the right acoustics, "music sounds more tuneful, drama becomes more absorbing, and quiet areas provide the perfect spot to concentrate in". She adds that it is even more important for primary schools to deliver on all these levels as they are more likely to be multi-use spaces with many subjects taught in the same room. "Unlike the echo caused by hard flooring, carpeted areas provide pupils with calm environments for learning," she adds.

There are many factors to consider when looking at classroom acoustics. Sound quality can be determined by the walls, ceilings and floors. "The latter is all too frequently overlooked as a contributor and all three warrant due consideration," says Dennis. "Opting for a soft rather than a hard flooring option helps improve the acoustics of a space as excess noise is absorbed by the construction of the product: its fibres, thickness and density."

The transmitted noise that carries between classrooms should also be addressed. "This can have

a similar disturbing effect on the ability of pupils to concentrate and pay attention to what is being taught in their own lesson," says Craske.

Unwanted transmission of sound between classrooms should ideally be looked into as early as schools are being designed, suggests Craske. It can be a complicated process to rectify the situation afterwards with palliative sound control techniques. "If problems of this nature exist, then acoustic products such as secondary wall treatments, acoustic doors and secondary glazing may be required," he adds.

THE SOUND OF MUSIC

One of the biggest culprits of acoustic disruption in schools is music teaching. This is exacerbated if the music department is situated close to other quieter classes. The simple solution may be to relocate the music rooms, but obviously this may not always be possible given the space constraints of many schools. "Modular acoustic music practice rooms or further treatments such as secondary walls and acoustic doors may be a solution," says Craske.

Other solutions that can be used to improve classroom acoustics include sound absorptive products, such as ceiling or wall absorbers. "There are various types of approach that can be adopted with either individual panels or continuous treatments and with different surface finishes and colours," explains Craske.

It is also important to consider the requirements of hearing impaired children, who may be particularly affected by poor acoustics. Craske says that techniques such as ceiling and wall absorbers could be especially beneficial to these pupils, as it will reduce the background noises that the hearing impaired can find especially difficult to cope with. "Eliminating sound from other areas and minimising reverberant build up in the room is even more important in their case."

There are also technologies that can be used to further support hearing impaired children, such as radio microphones that can be easily worn by teachers.

While the ongoing impact that poor classroom acoustics can have on a child's learning does not get the same headline space as a teacher forced into retirement as a result of having to deal with excessive noise, the effects on the individual can be just as negative. If classroom noise is inhibiting a child's progress, then it is an issue schools would be well-advised to address. With numerous ways to counter poor acoustics, hopefully the case of Joyce Walters will be an isolated incident and children will not miss out on valuable information in lessons. ■

FAST FACTS

- Even the spoken word can carry an echo, which can distort the sound.
- Carpeted floors can soften the acoustics and reduce distortion by absorbing noise.
- Secondary walls or acoustic doors and glazing can be used in music rooms and places of excess noise.
- Ceiling and wall absorbers can also help reduce sound distortion.