



What is classroom acoustics?

Classroom acoustics is how sound behaves in a room – whether it is absorbed or reverberates (bounces) around the room. When sound reverberates in a classroom, the general noise levels of the classroom are higher.

The acoustics of a classroom are important because students spend much of their day listening to teachers and peers. Noisy classrooms are associated with poorer educational performance.

Improving classroom acoustics has been shown to positively affect students on the autism spectrum.

Did you know?

In noisy classrooms, teachers need to raise their voices for long periods, which can lead to vocal strain.

How can you improve your classroom's acoustics?

- Use soft, sound-absorbing materials like curtains and carpet.
- Cover hard surfaces.
- Avoid open-plan learning spaces such as double classrooms separated by concertina dividers.
- Provide students with the option to wear sound-cancelling headphones during quiet work.
- Use personal FM (frequency modulation) systems or sound field amplification (SFA) systems for certain students.

How does improved classroom acoustics help students on the autism spectrum?

Our research indicates that some students on the spectrum respond well to improved listening conditions. It is likely that improved listening conditions lessen the impact of non-speech and speech processing differences in some students on the spectrum.

In our project, we were interested in whether improving classroom acoustics through the use of SFA systems would benefit students on the spectrum.

When we used SFAs for one semester in 10 Australian classrooms, students on the spectrum benefited significantly more than their classmates on one literacy precursor skill, but not others.

With the SFA on and off, students on the spectrum took longer to respond to teacher instructions than their classmates. This reinforces the need for teachers to expect students on the spectrum to take longer to respond to instructions than their classmates.

It would be valuable to research the use of SFAs for longer periods of time.

Take-home message

SFA systems may place some students on the autism spectrum (and some of their classmates) in a better position to participate in the classroom and to learn. It is important to be mindful of the needs of individual students when considering improvements to the classroom's acoustics.

