

Classroom Noise

A lot of children's learning happens through listening. Poor classroom acoustics can have serious effects on a child's ability to learn and on teachers' vocal health. Research shows that many Canadian classrooms have poor quality acoustics and children are often working in sub-standard classroom listening conditions.

The Facts

- The average grade 1 student **does not understand 1 in 6 words** due to excessive background noise and poor acoustics in Canadian classrooms. (Bradley 2005)
- Grade 1 children **require a speech-to-noise ratio of 15.5 dB** in order to achieve 95% speech intelligibility.
- Less than 10% of Canadian Grade 1 classrooms tested had an ideal speech-to-noise ratio** (key to understanding speech). This means that **90% of our Grade 1 students are not hearing all of their teachers' words.** (Bradley, 2005)
- Young children, whose auditory centres of the brain are not yet fully developed, **require better signal quality than adults** to understand speech well. They don't have the language knowledge or life experience to 'fill in the blanks' when they don't hear a word or only hear part of it.

Difficulty hearing in the classroom due to excessive background noise and poor acoustics can lead to:

- Poor understanding of speech
- Delayed language acquisition
- Decreased performance
- Many other negative consequences
- Reading deficiencies

Tips to Improve Classroom Acoustics

- Place felt pads or other commercial products on the legs of chairs and tables in classrooms with no carpeting.
- Insulate windows and doors and keep them closed.
- Draw curtains when noisy activity is going on outside.
- Replace buzzing lights immediately.
- Ensure all electrical equipment is functioning appropriately.
- Use table cloths and line desks that open from the top.
- Seat children with hearing impairments away from pencil sharpeners, aquariums and projectors.
- Cover unused blackboard space with pictures, corrugated cardboard, etc.
- Add hypo-allergenic carpeting and curtains to classrooms.
- If the room is uncarpeted, use a strip of carpet for teacher's common walking path.
- Consider soundfield amplification systems.
- Fix loose or vibrating parts on heating and ventilation systems.
- Move free-standing furnishings to break up large rooms into smaller areas - thereby reducing sound reflection.
- Use suspended acoustic ceiling tiles and sound-absorbent panels on upper walls.
- Add cork boards to walls.

Adapted from "Classroom Acoustics" on sac-oac.ca (Speech, Language and Audiology Canada)

Check the signal to noise ratio in your classroom by downloading a free decibel meter app.

