Canadian Audiologist
The Official Publication of the Canadian Academy of Audiology

Specialized Technology to Increase Learning and Safety for Hearing Impaired Students

Published September 7th, 2022

TOA Canada

Advertorial

Technology to enhance learning

Children with slight to severe hearing impairment enter the life-shaping education system with a disadvantage that may affect their ability to absorb the lessons of their teachers. From a young age, students quickly acquire a plethora of knowledge pertaining to a variety of subjects and this allows them to proceed to the next level of schooling. However, hearing-impaired students may have a more difficult time of taking in the instructions, which may cause frustration and anxiety in some students and decrease their enjoyment of learning.

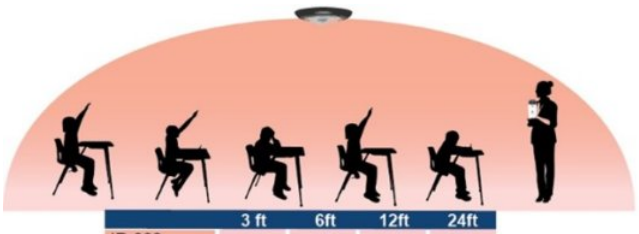
School boards across Canada have taken a greater initiative to ensure that students at all levels are on an equal footing as they progress. With that in mind, education administrators continuously look for classroom and library technology that will create an enhanced learning environment. Therefore, the question becomes, what tools are available that will permit the presenter's voice to be better heard? A term that has gained more attention in school boards over the past decade is Classroom Voice Lift Systems. The idea behind these systems is to transmit the teacher's voice in a more intelligible way to all present. The system also increases class coverage with a uniform sound to all corners of the room so every student, especially those with hearing loss, understand the lesson being taught. There are several brands in the market that have gained an acceptance as an enhancement in education institutions as studies have shown they help boost student learning.

A consistent brand chosen for their audio and communication installations in provincial schools is TOA.
A well-recognized brand for their quality and performance for the past 3 decades, TOA has achieved a strong foothold in Canadian education jurisdictions. The success of the voice lift system, the IR-800, has created quite a demand for more installations as school boards appreciate the benefits for their students. The unit, which works on an infrared transmission protocol, consists of a wide-dispersion speaker with built in amplifier that achieves a uniform output over a wide radius. There is a wireless tuner that offers three inputs for devices such as a PC, TV/DVD and audio player. The key feature on this unit is the Assistive Listening Device (ALD). This feature utilizes a transmitter that connects to the tuner to receive the teacher's voice and then transmits the voice to the receiver and earpiece that will be with the student. Multiple students in the same classroom can use the ALD. When activated, students clearly hear the lessons presented. Included, as well, is a hands-free wireless microphone that is lightweight and uses a lanyard and synching

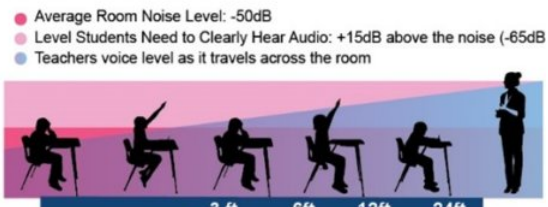
mechanism to hang around the neck. Place the microphone on the chest below the chin to adequately capture the voice. The flexibility of the IR-800 and its many configurations and multiple microphone settings offers users the ability to operate the IR-800 in a variety of classroom sizes while still maintaining focus to students with hearing loss.

The challenges of school are great for students without deficiencies; imagine for those who have an absence of one of their five sense like hearing. Students are vibrant and driven and do spectacular things and the
IR-800 with the assistive listening device, provides and extra gadget to support them on their way to educational success.





	3 ft	6ft	12ft	24ft
IR-800 speaker with or without Mask	65 dB	65 dB	65 dB	65 dB



	3 ft	6ft	12ft	24ft
No Mask	65 dB	59 dB	53 dB	47 dB
N95 Mask	60 dB	54 dB	48 dB	42 dB
2-Layer Cloth Mask	57 dB	51 dB	45 dB	39 dB

A second layer of protection for emergencies

A challenge to a hearing-impaired student who is in a classroom, gymnasium, or the foyer is the ability to clearly hear an announcement. In general, students are easily distracted while in hallways or in between class periods and miss important messages. A student with limited hearing has a greater chance of missing the message or emergency alert, which can lead to a safety concern if the emergency requires students to take action.

Schools, along with other industries, have shown more interest in adding a second layer of protection by adding a visual source that will utilize HD screens or larger televisions to display emergency alerts and daily messages. For students, in all levels, adapting this new tier of communication will improve the percentage of students actually capturing the message. This addition is even more imperative for students with reduced hearing. In other facilities, especially those that have a high decibel reading such as manufacturing, the addition of an advanced and powerful communication system that can be seen by all employees is vital.

TOA Canada carries the TOAlert Emergency Communication system. TOAlert- a management system for critical communication such as emergencies and alerts- can be configured to the needs of schools and placed in key areas of the building. The units are not signage as you would have in a retail store; they are a powerful and advanced system, with the ability to produce daily or custom messages released instantaneously. The other essential feature is the delivery of critical alerts clearly and timely during threats. These can include fire emergencies, lockdowns, and weather alerts. If this occurs, the added level of safety through visual prompts will greatly impact the well-being of the hearing-impaired students. The system supports both English and French language. TOAlert is managed through a portal where the administrator can create bell schedules for each day at exact times. During the day, the TOAlert screen will display synchronized clocks and weather updates along with instance messages.

The TOAlert emergency communication system performs an incredible number of tasks all to the benefit of ensuring the messages are received clearly by students and staff. Whether it be setting a daily time for the bell to go off, a custom message on what is for lunch or an impending storm, the ability to dispatch these messages verbally and visual significantly increases the safety for students. Parents of students with hearing loss will appreciate the supplemental protection that specifically helps their child.

The technology is now available to create a better setting for learning and enhance the safety of the hearing- impaired students and their fellow students. These two systems support school boards with their goal of offering a safe learning environment where all students are treated equally and utilize all tools necessary to ensure success.

