Benefits of Sound Amplification in the Classroom

Many students struggle with some type of hearing loss that may affect their ability to learn. A sound amplification system can lessen the effect that the hearing loss has on the student. Background noise and poor acoustics within a classroom can also be detrimental to a classroom’s learning environment. A sound amplification system can help the teacher overcome this noise and ensure that the lesson is the main focus of the students. These reasons, among others, underscore the need for audio amplification within the classroom.

Hearing Loss

It is estimated that 14.9% of U.S. school children, approximately eight million students, have hearing loss that can impact their educational process. This hearing loss is permanent, and if properly diagnosed, the child should receive some technological and educational assistance through the Special Education Public School Program. An estimated additional ten million school children exhibit a degree of Sensorineural Hearing Loss (SNHL). Students with SNHL have difficulty distinguishing speech from background noise or reverberation within the classroom. Also, on any given day, an additional 10-15% of elementary school students experience temporary hearing loss from a middle ear infection. This means that 43% of students may be dealing with minimal hearing loss on any given school day.

It is very possible that students with hearing loss may not be able to hear all, or a portion of, a given lesson in an environment where there is no audio amplification system. An audio amplification system provides the teacher with a means of reaching more students on a consistent basis. When properly installed and adjusted, an audio amplification system produces an even level of sound throughout the classroom. This means that every student in the room has the same opportunity to hear the lesson.

Background Noise and Poor Acoustics

Background ambient noise can interfere with what students in a classroom are able to hear. This type of noise within the classroom can be generated from internal sources such as coughing, talking, computers, HVAC systems, ceiling fans and projectors, as well as external sources such as traffic, lawn mowers or playgrounds. These noises can interfere with all students, but most significantly with children who have learning disabilities, those in early language acquisition, or those with hearing loss or hearing damage.

Poor acoustics within many classrooms may also hinder a student’s ability to hear the teacher’s lesson. The materials used in school construction have the possibility of producing a poor acoustic environment. The hard surfaces of the building materials used in most schools, such as tile floors and cinder block walls, cause sounds to bounce or echo. This may intensify background ambient noise, further interfering with a student’s ability to learn.

An audio amplification system allows the teacher’s voice to be transmitted from a microphone over ceiling or wall mounted speakers, which amplify the signal 8 to 10dB above ambient room noise. This provides all students, regardless of seat location, a better chance to hear the teacher clearly. Being able to hear the teacher clearly has been shown to improve test performance for both students with some form of hearing loss, as well as students without any form of hearing loss.
An audio amplification system provides many benefits for the classroom environment. The system will allow a teacher’s lesson to be amplified to a higher audio level than that of background ambient noise. When the teacher’s lesson is communicated through this higher audio level, it provides students with and without hearing loss a better chance of hearing the lesson. The ability to hear the lesson gives all students a better chance to learn and perform at a higher level academically.

References: