

THE IMPORTANCE OF Hearing for Learning

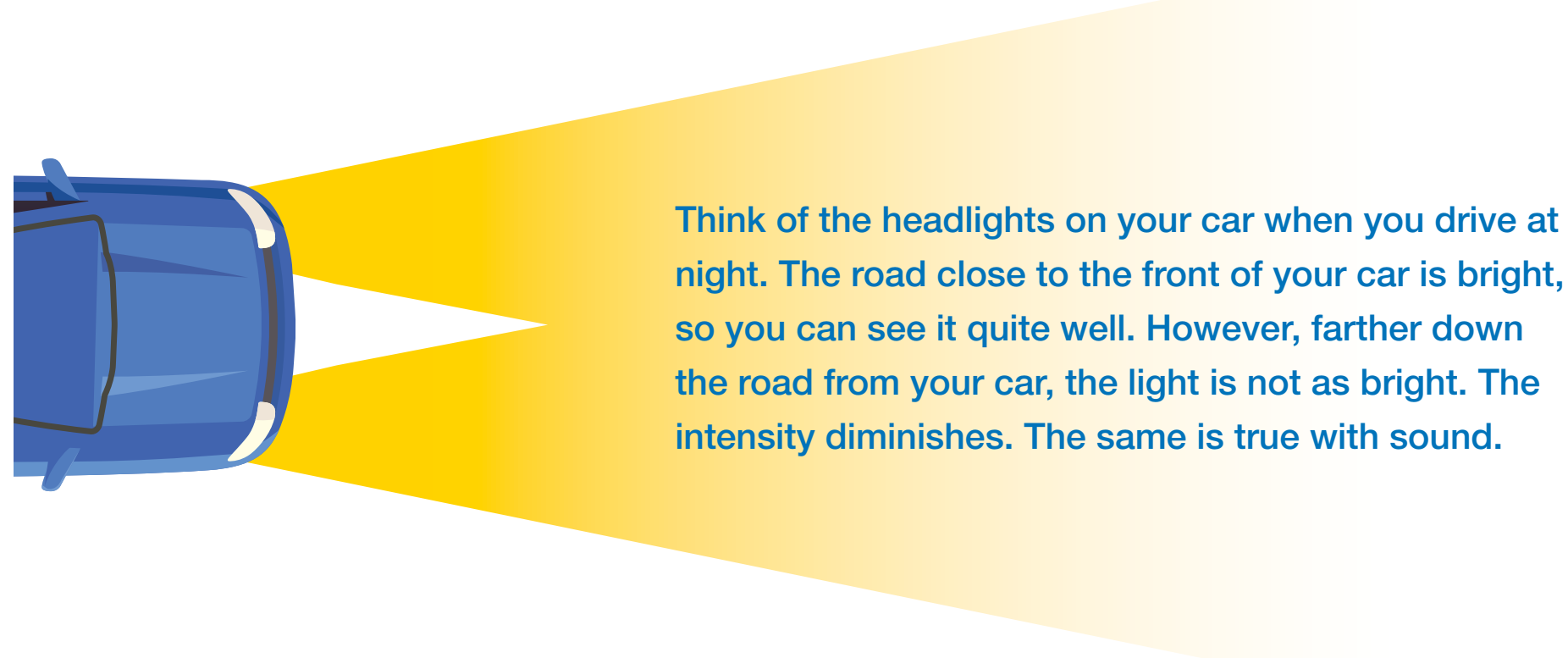


If a student can't hear the teacher or lesson clearly, how can they understand what is being taught? There can be so many obstacles in a classroom that prevent students from hearing properly. Couple that with student hearing loss and impairment from health-related issues—such as the common cold and ear infections—and you have a classroom where the sound of learning is falling on deaf ears.

THE OBSTACLES TO HEARING

The Classroom and Physics

The reason all teachers are required to create a teacher voice is not a matter of profession, it is really a matter of physics. The term, or in this case the physics law, is called the inverse square law. Sounds ominous, doesn't it? The general idea is that the farther you get from a source, the lower the intensity.



Think of the headlights on your car when you drive at night. The road close to the front of your car is bright, so you can see it quite well. However, farther down the road from your car, the light is not as bright. The intensity diminishes. The same is true with sound.

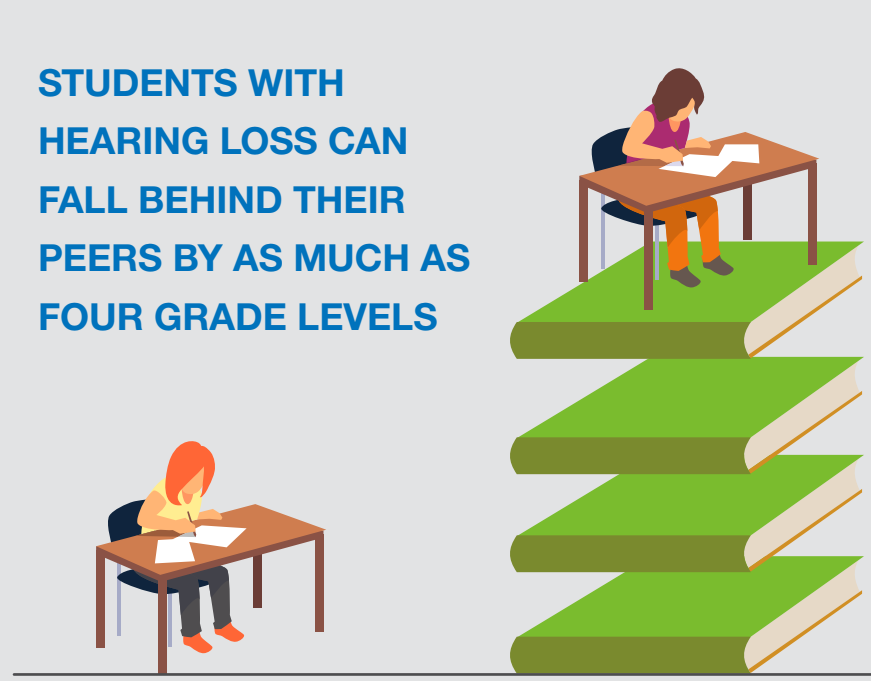
Even worse, when a teacher turns to write on the board, they must project their voice to bounce off the walls for students to hear. This projection causes tones to change. To some, the teacher is now yelling. This is not conducive to teaching and learning.



Hearing Loss and Impairment

The ability to hear is critical to a student's speech and language development, and hearing loss causes delays in the development of their speech and language skills. Consequently, these delays lead to learning problems as well as poor academic performance and behavior.

STUDENTS WITH HEARING LOSS CAN FALL BEHIND THEIR PEERS BY AS MUCH AS FOUR GRADE LEVELS



STUDENTS HAVE SIX TO TEN COLDS PER YEAR, AND TEMPORARY HEARING LOSS TYPICALLY ACCOMPANIES THE COLD

According to the American Speech-Language Hearing Association (ASHA), **children who have mild to moderate hearing loss and do not receive intervention services are very likely to fall behind their peers by as much as four grade levels.**

Students often suffer transient losses of hearing due to illness. According to WebMD, **students have six to ten colds per year, and temporary hearing loss typically accompanies the cold.**



50%
OF INDIVIDUALS DIAGNOSED WITH ADHD MAY ALSO HAVE APD.¹

AUDITORY CLOSURE AND AUDITORY PROCESS DISORDER

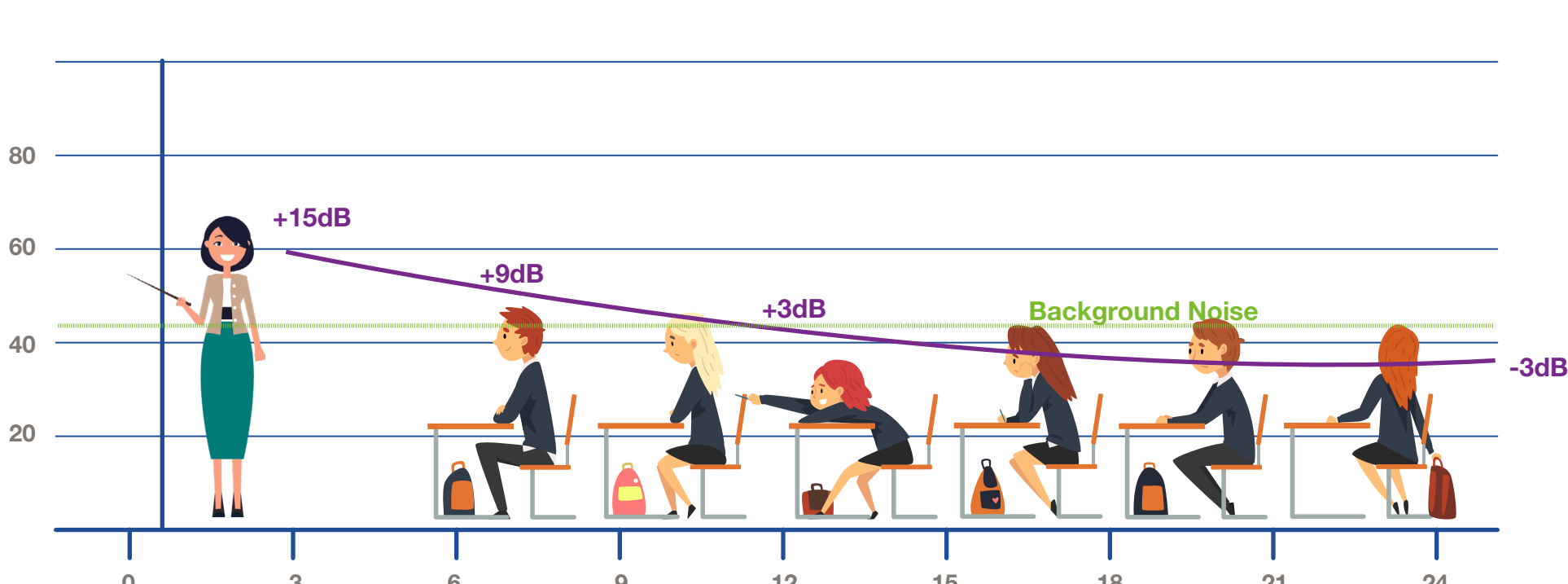
Many students have conditions, such as Auditory Closure and Auditory Process Disorder (APD), where they can hear, but distracting noises like shuffling papers, coughing, or other common classroom sounds interfere with them processing information properly. **Students with these conditions greatly benefit from sound being evenly distributed throughout the classroom.**

GETTING THROUGH TO STUDENTS CLEARLY

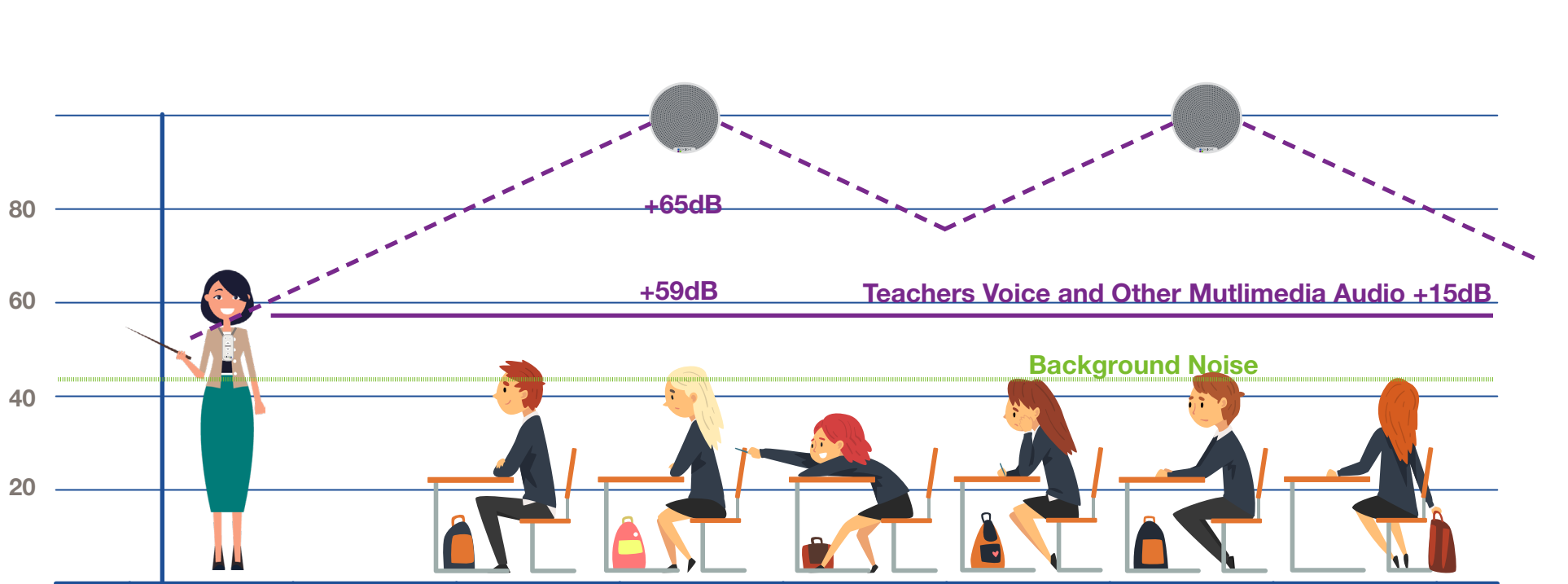
Technology, Hearing, and Learning

Through the use of technology, like the MimioClarity™ system, we have the ability to better control and overcome the challenges of sound absorption and present audio in a more uniform matter throughout the classroom—regardless of the location of the instructor. In addition, we have the ability to counteract hearing losses for students in need and provide audio to those with a clear level of intelligibility, which will aid in their learning. In short, we can provide clarity to the classroom.

HOW SOUND TRAVELS IN THE CLASSROOM

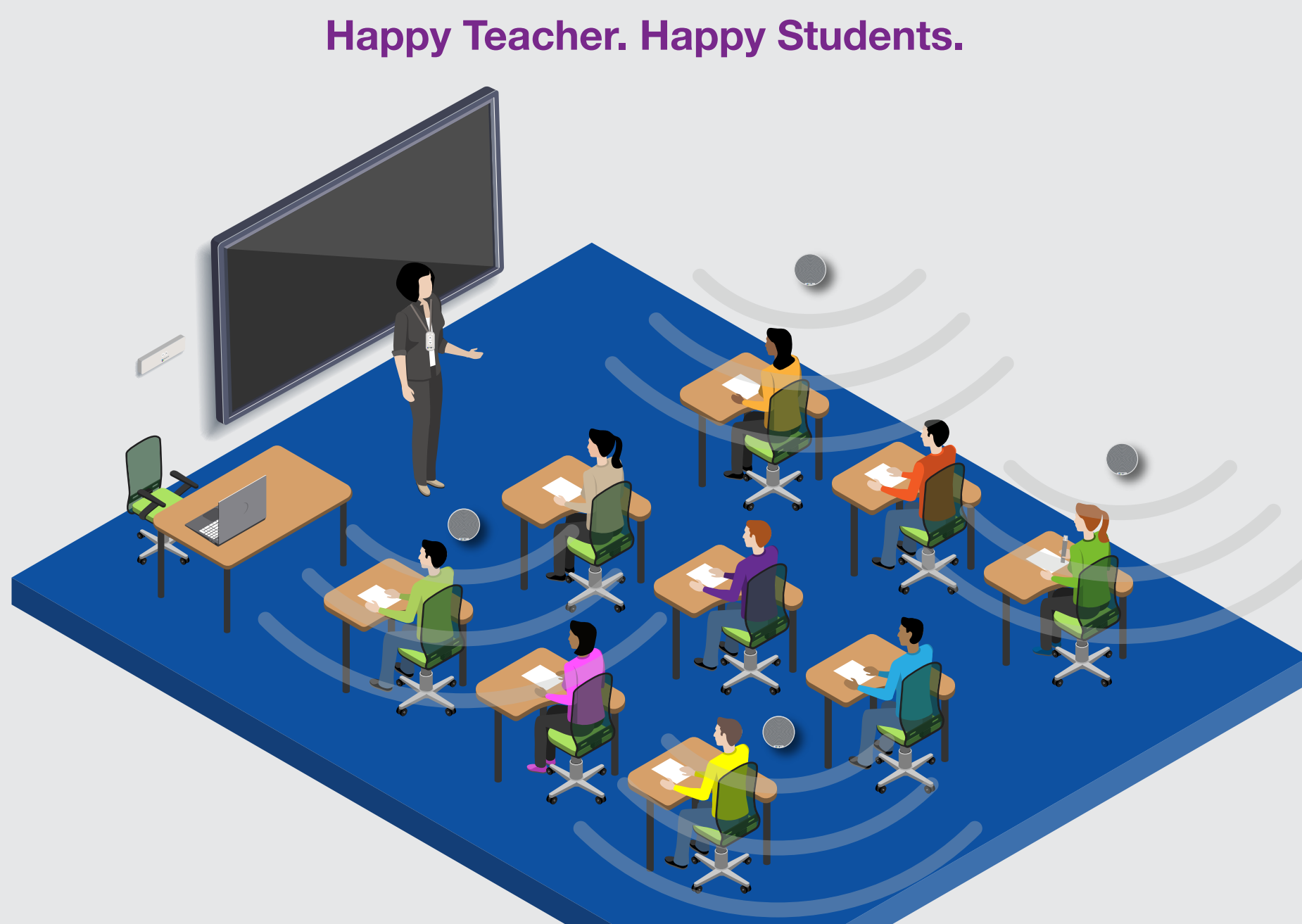


A good signal-to-noise ratio is +15dB above the background noise of the classroom. Within six feet of the teacher, the signal-to-noise level has dropped. By the time the teacher's voice gets to the back row of the classroom, the noise level is well below the level of background noise.

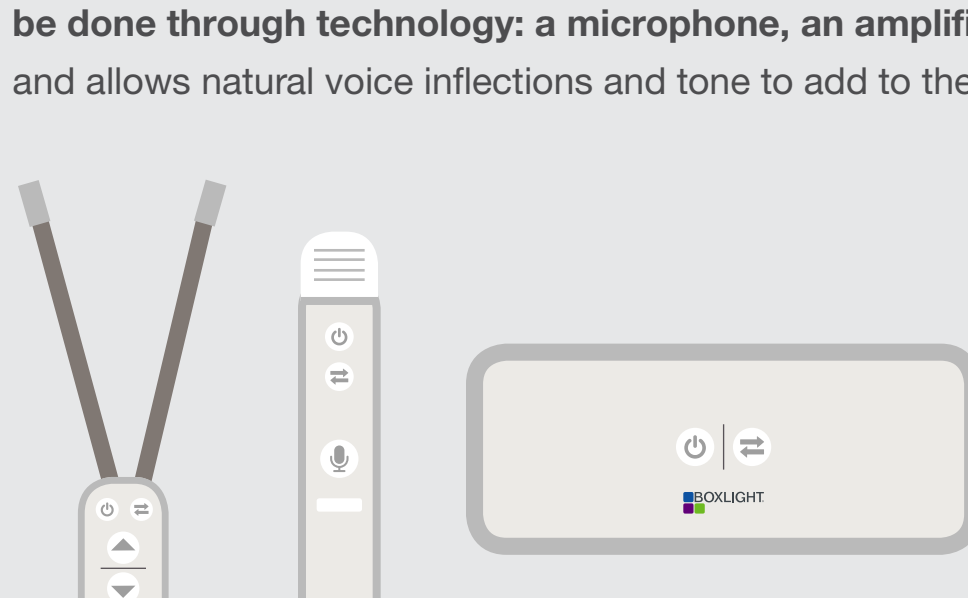


If we modify the classroom with speakers located strategically around the room, we can not only amplify the teacher's voice, we can also ensure that every student in the room will be in a position to hear the teacher's voice as well as all other multimedia audio at a level +15dB above the background noise.

Happy Teacher. Happy Students.



A teacher can speak as if they are 18 inches away from the person with whom they are engaging. This can be done through technology: a microphone, an amplifier, and speakers. This solution minimizes voice strain and allows natural voice inflections and tone to add to the expressiveness of the lesson and material.



BONUS FEATURES INCLUDE

- The ability to mute the teacher mic when having one-on-one conversations.
- An involved mic so students can become easily involved and heard in classroom discussions.
- Easily move through lessons and slides with the teacher mic's control buttons, which function like a separate clicker.



Learn how to help students hear and learn more clearly with the MimioClarity audio distribution system

¹ <https://www.additudemag.com/what-is-auditory-processing-disorder/>