FINDINGS

Sound-field dramatically improves listening and reading

PAT percentile rankings are normally stable for each child from year to year. Significant improvements were noted in the intervention group’s scores in the PATs for listening comprehension, reading, vocabulary, and mathematics for all ten sub-scores. A significant improvement was noted in mean difference of the control group’s 2001 versus 2002 scores in reading, vocabulary, and mathematics comprehension scores. This is not statistically significant. The deterioration in the control group’s scores for mathematical skills was statistically significant.

Increased on-task behaviour

Sixty-six percent of teachers reported lower noise levels, resulting in greater student attention.

“it is easier to keep the kids down as you don’t have to raise your voice level. I am not competing with them.”

The high acceptability of teachers noted in the study is an important aspect, as many teachers are resistant to using technology to transmit and amplify a teacher’s voice (signal) above the classroom noise, with the aim of making it easier for students to hear the teacher no matter where they are in the classroom.

High acceptance of sound-field by teachers

Some 63 percent of teachers used the equipment consistently for most teaching sessions while 27 percent used it consistently for selected sessions.

Students find it easier to hear

Sixty-eight percent of students reported improved listening and reading comprehension.

“Improved student cooperation

Over half of the teachers involved in this study identified being able to refocus student behaviour as much as a benefit of using the sound-field system and it was easier to refocus when they went off-task.”

Reduced vocal strain

In a previous study of classroom acoustics, 35 percent of teachers claimed that the noise levels they needed to speak to be heard strained their voices. “Sound-field systems address the issue of voice strain by reducing the effort required by teachers to project their voices. Over half of the teachers involved in this study identified being able to speak naturally at reduced voice intensity levels and the use of communication as key factors in feeling less tired and being able to maintain energy reserves.”

“Vocal strain is completely minimised.”

“I feel far less tired after a day at school as I am not having to battle to be heard and the classroom is much quieter and calm.”

Over 50 percent of teachers who used the systems consistently for all teaching sessions noted reduced irritability levels in themselves and in their students. One teacher enthusiastically considered it a teacher-altering intervention with 100 percent improvement.

“Behaviour is easier to manage and refocusing of students easier to do by the teacher.”

Teachers found that fewer students needed individualised instructions or repeated. Students were also able to hear instructions more clearly no matter where the teacher or they were in the classrooms.

Students find it easier to hear

Most students commented that it was easier to hear the teacher and that the teacher’s voice was clearer. Students also commented that it was easier to hear the teacher and that the teacher’s voice was clearer. Students also commented that it was easier to hear the teacher and that the teacher’s voice was clearer. Students also commented that it was easier to hear the teacher and that the teacher’s voice was clearer. Students also commented that it was easier to hear the teacher and that the teacher’s voice was clearer. Students also commented that it was easier to hear the teacher and that the teacher’s voice was clearer. Students also commented that it was easier to hear the teacher and that the teacher’s voice was clearer. Students also commented that it was easier to hear the teacher and that the teacher’s voice was clearer. Students also commented that it was easier to hear the teacher and that the teacher’s voice was clearer.

Students found it easier to hear

The students on average were better listeners than the control group.

“Improved understanding of instructions

Teachers commented on the quieter calmer classroom tone and that it was easier to hear teachers when they read stories. Noted that teachers could discipline students without raising their voices and that it was easier to hear the teacher’s voice.

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Sound-field use was most beneficial for low decile schools. There was no significant difference between the deciles, though in the higher decile schools improved more than those in high decile schools.

The benefits of sound-field when they
had a cold, sore throat, or had an asthmatic condition meant that students could experience the benefits for themselves. Sound-field is not a panacea for all problems in modern classrooms. Behaviour, and reduces voice strain among teachers. Sound-field achieves this by overcoming problems associated with noise, distance and reverberation.

Some 32 percent of students in the intervention group were deaf and hearing impaired students’ personal FM systems. Trainee teachers should be made aware of the issues associated with middle ear dysfunction. Sound-field is not an alternative to well-being. Absenteeism was recorded from each school’s weekly returns as well as student perceptions – teachers were asked to invite students to comment on the sound-field systems from their perspective.

For more information please contact the Oticon Foundation in New Zealand.

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