

One district’s pilot shows that 1st-grade students and teachers both benefit from an amplified classroom.

Soundfield amplification is a universal design initiative that can help make classrooms more conducive to hearing and listening for all. Benefits of soundfield include improvements in student engagement, classroom behaviour, and academic achievement—as well as decreases in teacher vocal fatigue and sick time. For example, studies show that amplified classrooms have 8-13% less teacher absenteeism and a 64% decrease in voice-related problems among teachers.

When audiologists in Winnipeg School District (WSD) identified the need to provide soundfield systems for young students, the district kicked off a three-year pilot focusing on 1st-grade classrooms. “We chose first grade because we wanted to help students at the very beginning of their academic careers, and also studies show that 1st-grade classes are especially loud,” said Jerry Lee, the Director of Audiology at WSD.

In the first year of the pilot, 26 1st-grade classrooms in the Inner City District were equipped with Front Row Juno soundfield systems. A total of 54 Lightspeed Technologies Redcat systems were installed in years 2 and 3. The goals of the project were the following:

- To improve communication and ultimately learning outcomes for students in participating classrooms;
- To improve student attention;
- To improve teachers’ vocal health; and
- To assist in achieving a calm, gentle classroom environment.

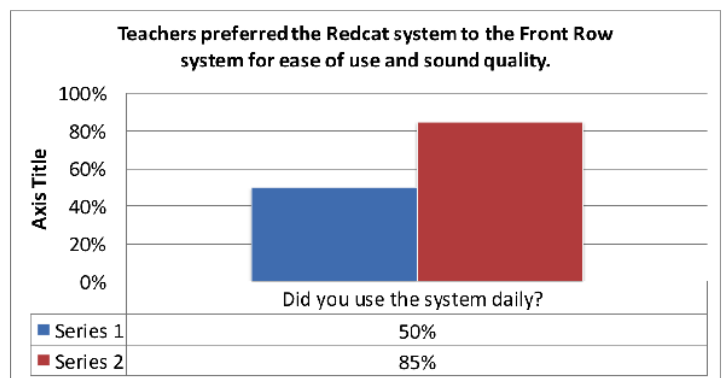


Studies have shown that students sitting in the back row miss up to 40% of what the teacher says.

The project began in the fall with a lunch and learn where principals were asked to volunteer to participate. Systems were installed in November, and the district used Survey Monkey to obtain teacher feedback and evaluate the project. All teachers were surveyed in May of each school year, and were also asked to identify two students from each classroom to participate in an interview.

Benefits for Teachers: Amplified Learning

Teachers who participated in the pilot were much more likely to use the Redcat systems than the Front Row system. When asked whether they used the equipment every day, only 50% of Front Row users said yes, while 85% of teachers with Redcats in their classrooms used them every day.



The effect of amplifying classrooms on teaching and learning was undeniable. When asked if they thought their students showed greater academic achievement as a result of having a soundfield system in the classroom, 67% of teachers said yes. An impressive 93% of Redcat users said that their students paid more attention in class, while 76% of these teachers experienced less throat irritation and vocal fatigue.

Other striking highlights of the surveys of Lightspeed Redcat users included the following:

- 93% experienced improved response to vocal instruction;
- 70% said their students were better able to stay on task;
- 57% reported a decrease in “settling” time; and
- 70% said they had to repeat themselves less often.



In a five-month study of first grade students, classrooms with soundfield had twice as many children achieving significant literacy gains.

Benefits for Students: Better Comprehension and Behavior

When asked about the Redcat's effect on the classroom, one student said, "I like it because my teacher doesn't need to raise her voice. When it's your birthday you get to speak into it and talk about stuff so everyone can hear you."

Another student added, "I like it when she uses it. When the class is loud, class settles. It happens faster when she uses it."

A third said simply, "When he wears it, the class behaves better."

The interviewers also asked students how they would feel if the Redcat was taken away. One student said he "would be sad if it was taken out because it would be quieter and the teacher would have to talk loud and she would sound mad."

And perhaps most poignantly, one student said that losing the Redcat "would be a little hard for the kids in the back to listen. It would matter to me if it was gone because I'm one of the kids at the back."

A Clear Conclusion

After three years, WSD concluded that "the benefits of soundfield amplification have been clearly demonstrated through this project. Teachers and students alike reported benefits."

The district concluded that amplification increases students' ability to hear and listen, improves acoustical environments, and alleviates teachers' vocal strain. It is easy to use, costs no more than other technology used in the classroom, and is an outstanding example of how universal design principles benefit everyone.

Their final recommendation was to expand soundfield use to every K-3 classroom throughout the Winnipeg School Division. "Redcats help our teachers stay healthy and help our kids hear better, stay on task, and ultimately retain more information. It just makes sense to have them in every class."



The speech perception accuracy and listening effort of children who are not native speakers is similar to children who have 25-40dB hearing loss. Using soundfield equipment in class improves comprehension among ESL students by as much as 60%.