

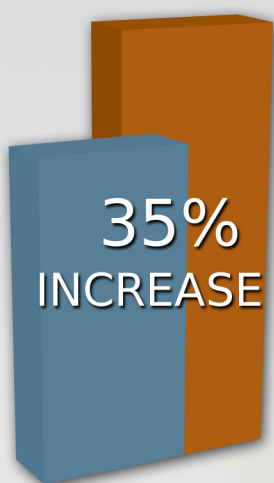


# THE TROST STUDY

An independent study of the effects of classroom amplification in general education

Classroom Amplification is defined as "a speech intelligibility system that provides clarity of voice and even sound distribution throughout the learning environment."

With auditory learning as the primary tool of instruction, it's essential that every student is able to hear every word, every time. This simple, yet powerful technology should be considered for every classroom in the country.



## DIBELS™ SCORES

*1st Grade*

Students in the amplified classroom scored an average of 35% higher on the DYNAMIC INDICATORS OF EARLY LITERACY SKILLS (DIBELS™) Composite Score than students in the non-amplified classrooms. Testing ran from winter through spring.



## DRA™ SCORES

*1st Grade*

Students in the amplified classroom scored an average of 21% higher on the DEVELOPMENTAL READING ASSESSMENT (DRA™) than students in the non-amplified classrooms. Testing ran from winter through spring.

"Hearing is the primary channel for learning. The more children hear, the better they learn."

—Mark Ross, Ph.D.  
Professor Emeitus  
Audiology, Aural Rehabilitation  
University of Connecticut



# THE TROST STUDY

## TEACHER REDIRECTION

Teacher redirections (any kind of redirection involving student behavior) were reduced by 72% between pre and post-test observations.



72%  
DECREASE

## OFF-TASK BEHAVIOR

Off-task behaviors (calling out of turn or leaving assigned seat) were reduced by 43% between pre and post-test observations.



43%  
DECREASE

## READING FLUENCY

*4th & 5th Grades*

Student's words per minute reading scores increased an average of 35% higher than students in the non-amplified classrooms. Testing ran from winter through spring.



35%  
INCREASE

## PROCEDURES

Three systems were installed in the classrooms at Trost Elementary on December 4, 2002. One was placed in a first grade classroom, and one in a fourth grade classroom. Two types of data were gathered: behavioral data taken from classroom observations before and after system installation, and state test data comparing same-grade classrooms with and without the systems.

Behavioral data was taken during 20-minute observation periods. Tallies were counted of the following behaviors: 1) student participation as evidenced by raising their hand to speak, 2) off-task behaviors as evidenced by calling out of turn and leaving their assigned seating area, and 3) teacher redirections when the teacher redirected students who were not listening or were misbehaving in some way. Observations were done in each of the three amplified classrooms at the following time: 1) before placement of the systems, 2) two December observations after the systems, 2) two December observations after the systems were in place, 3) an observation in January, and 4) an observation in March.

Observations were scheduled at the same time on the same day of the week for each classroom in order to maximize the consistency of the activity occurring in the classroom during the observations.

Test data was compared between classrooms at the same grade level, one group being the non-amplified classrooms and the other group being the amplified classroom. These were tests that are routinely given in the Canby School District, and were not administered solely as a part of this study. They were already scheduled to be given to the students as the normal testing battery given during the year. Due to availability of data, some comparisons were made between reading groups. Reading instruction at Trost occurs during a common reading block time when students are grouped in smaller groups according to ability levels. Each chart comparing test data is labeled accordingly.

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## TESA™

*Oregon Department of Education*

Students in the amplified classroom scored an average of 21% higher on the TECHNOLOGY ENHANCED STUDENT ACHIEVEMENT (TESA™) than students in the non-amplified classrooms. Testing ran from winter through spring.



21%  
INCREASE