

Impact of Classroom Audio on High ESOL: Student Population: Mid-Atlantic School District

A Classroom Audio 2009-2010 Evaluation Report

As a result of implementing classroom audio, teachers at a Mid-Atlantic school district experienced improved student attention, class interaction, and oral participation from their pre-k and kindergarten ESOL students.

“I have noticed that ESOL students are more engaged during the lessons. They are more willing to participate orally than in the past.”

ABSTRACT

English Language Learners make up a growing percentage of the U.S. student population. Classroom audio is an effective intervention strategy to help improve word recognition by ELL children.

Educators at a Mid-Atlantic school district face the growing challenge of assimilating high pre-k through kindergarten English language learning students. Nearly one-third of the student population at these lower grade levels are categorized as ESOL children. With the acknowledgement of English language acquisition as a primary goal, phonemic awareness and word recognition is critical to their ongoing academic success. As an ancillary solution, educators conducted a multi-school study to evaluate the effects of classroom audio on ESOL children within their learning environment.

Sixteen Redcat classroom audio units were placed in classrooms across three different schools. The school district conducted classroom observations and teacher questionnaires to measure the effectiveness of classroom audio on student response rates, participation in oral discussions, and attentiveness. Teacher questionnaires were distributed approximately six-months after implementation of the systems. The questionnaire focused on student phonic awareness, classroom management, comfort and ease-of-use of the wireless microphone, and overall student achievement.

Based on results from classroom observations and responses from the teacher questionnaire, immediate improvements in classroom interactions and participation by ESOL students were observed. As students become more accustomed to sound/voice enhancement in the classroom, their ability to respond and interact in the learning environment also improved. Overall, teachers recognized the positive outcomes classroom audio had on their students. As a result of implementing classroom audio, teachers experienced improved student attention, class interaction and oral participation from their ESOL students.

DEMOGRAPHICS OF STUDENT POPULATION

Elementary School A

Total Student Population:	547
Non-White:	88.62%
ESOL Students:	45.87%
Limited English Proficiency:	54.50%

Elementary School B

Total Student Population:	554
Non-White:	75.00%
ESOL Students:	28.08%
Limited English Proficiency:	40.40%

Elementary School C

Total Student Population:	603
Non-White:	84.13%
ESOL Students:	27.47%
Limited English Proficiency:	33.96%

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“I have enjoyed using the microphone to keep me from repeating directions and straining my voice during teaching.”

“I found it helpful to let students use the equipment to speak into when sharing their writing. It made it easier for the rest of the class to hear them.”

METHODOLOGY OF CLASSROOM OBSERVATION

The Mid-Atlantic School District implemented a study to evaluate the effects of classroom audio on its students. Each pre-k and kindergarten classroom were observed by at least one central office staff member two times during the 2009-2010 school year. The first observation was conducted after Redcat units were in place for approximately one month. The second observation occurred in the spring of 2010.

A Classroom Observation Tool was designed by school administrators to measure the effectiveness of classroom audio based on the below criteria. Observers used a Likert rating scale of 1-5 with 5 being the highest rating:

- Student response to teacher directions
- Student participation in oral discussions
- Students look at the teacher when he/she is talking
- Teachers’ use of conversational tone when speaking to students
- Teachers’ appropriate use of the wireless microphone (i.e. awareness of when the microphone is on and off)

RESULTS OF CLASSROOM OBSERVATION

The data from the observations demonstrates that for most questions, the observation criteria was met over 75% of the time.

Immediate improvements in classroom interactions and participation by ESOL students were observed. Response to teacher directions, participation in oral discussions, and teacher-student eye-contact received an average rating of 4.23, 4.19, and 4.16 respectively. Interestingly, criteria scoring improved even more in the second observation with average ratings of 4.47, 4.44, and 4.32. As students become more accustomed to sound/voice enhancement in the classroom, their ability to respond and interact in the learning environment also improved.

Additionally, improvement was particularly evident in the question regarding the teacher’s awareness of the wireless microphones. As teachers become more familiar and used the technology, it was more appropriately incorporated in the daily classroom environment. (Scoring of Classroom Observation can be found in Appendix B.)

METHODOLOGY OF TEACHER SURVEY

In January 2010, participating teachers were asked to complete an online questionnaire to evaluate their experience using the audio system. Teachers responded to eleven questions using a 1-5 Likert scale, 5 being the highest rating. The four key learning objectives are listed below. (Questions and ratings can be found in Appendix C.)

RESULTS OF TEACHER SURVEY

The following are the average rating score for the question sets associated with each objective:

Learning Objective	Mean Rating
1. Student understanding and phonic awareness	4.50
2. Classroom management	4.36
3. Comfort and ease-of-use	4.33
4. Overall student achievement	4.44

Overall, teachers observed positive outcomes as a result of classroom audio. Nearly sixty-percent of responding teachers strongly agreed that classroom audio improved the rate at which students could hear and understand phonics. All respondents either agreed or strongly agreed that classroom audio improved their ability to control and manage the classroom. “The ELL students get the benefit of hearing you speak in a regular tone,” comments one participating teacher. “I have noticed [students] are more engaged. ESOL students are more willing to participate orally than in the past,” observed another teacher. (All open-ended responses to the Teacher Survey can be found in Appendix C-2.)

As a result of implementing classroom audio, teachers experienced improved student attention, class interaction and oral participation from their ESOL students.

“I feel this has been a beneficial addition to our existing technology for the classroom. It is so nice not to have to raise the level of your voice in order to communicate with the students.”

“The system is good for encouraging students to share in a group setting, especially students who are shy or ESL learners.”

Appendix A: School Population Demographics

Data compiled for 2008-09 School Year

Student Demographics	School A		School B		School C	
Enrollment	#	%	#	%	#	%
General Education	420	77.06	379	68.66	280	47.78
Gifted School-Based	69	12.66	78	14.13	160	27.3
ESOL	250	45.87	155	28.08	161	27.47
Special Education Services	58	10.64	97	17.57	82	13.99
Gender						
Female	248	45.5	274	49.64	289	49.32
Male	297	54.5	278	50.36	297	50.68
Ethnicity						
Asian or Pacific Islander	107	19.63	118	21.38	35	5.97
Black (Not of Hispanic Origin)	24	4.4	29	5.25	226	38.57
Hispanic	327	60	222	40.22	200	34.13
White (Not of Hispanic Origin)	62	11.38	138	25	93	15.87
Other	25	4.59	45	8.15	32	5.46
English Proficiency						
English Proficient	248	45.5	329	59.6	387	66.04
Limited English Proficiency	297	54.5	223	40.4	199	33.96
Free/Reduce - Priced Meals						
Yes	349	64.04	275	49.82	352	60.07
No	196	35.96	277	50.18	234	39.93
Mobility Rate						
Division	---	14.59	---	14.59	---	14.59
School	---	20.4	---	25.96	---	25.82

Appendix B: Classroom Observation Scoring

Each question was rated using a Likert scale of 1-5 with 5 being the highest score. The following is the combined scoring of all responses.

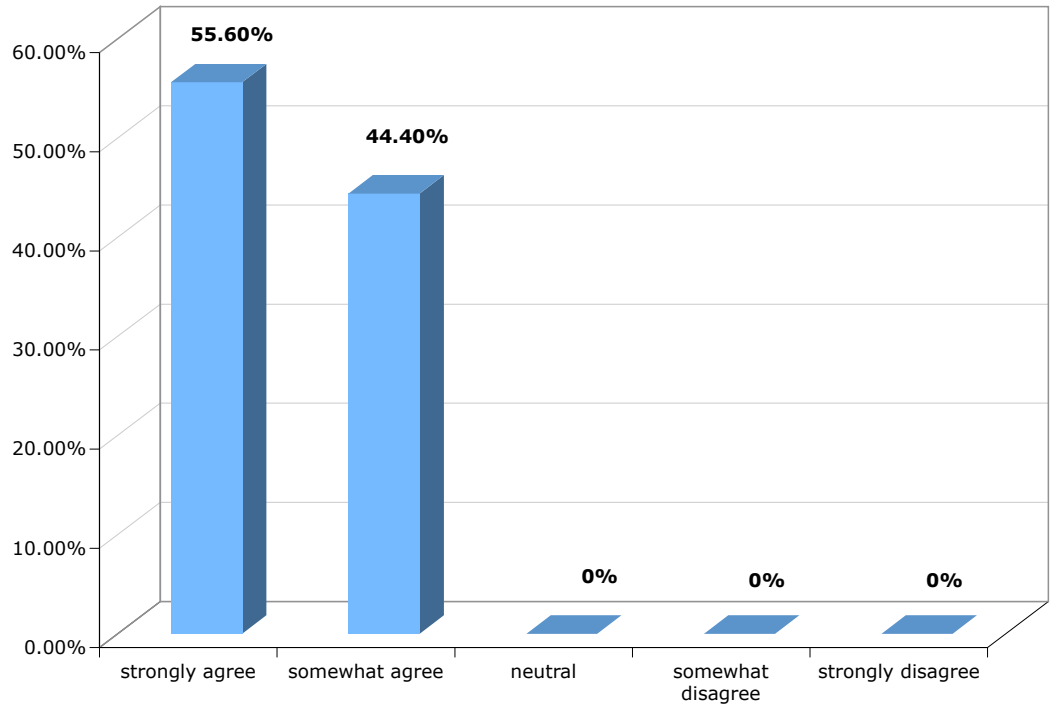
Rating	Rating Description
1	Almost Never - about 10% of the time
2	Seldom - about 25% of the time
3	Half of the Time - about 50% of the time
4	Usually - about 75% of the time
5	Almost Always - about 90% or more

1st Observation	Mean	Median	Mode
Teachers uses conversational tone when speaking to students	4.60	5	5
Teacher is aware of when the microphone is on and off and uses appropriately	3.41	4	4
Students respond to teacher directions	4.23	4	4
Students participate in oral discussions	4.19	4	4
Students look at the teacher when he/she is talking	4.16	4	4

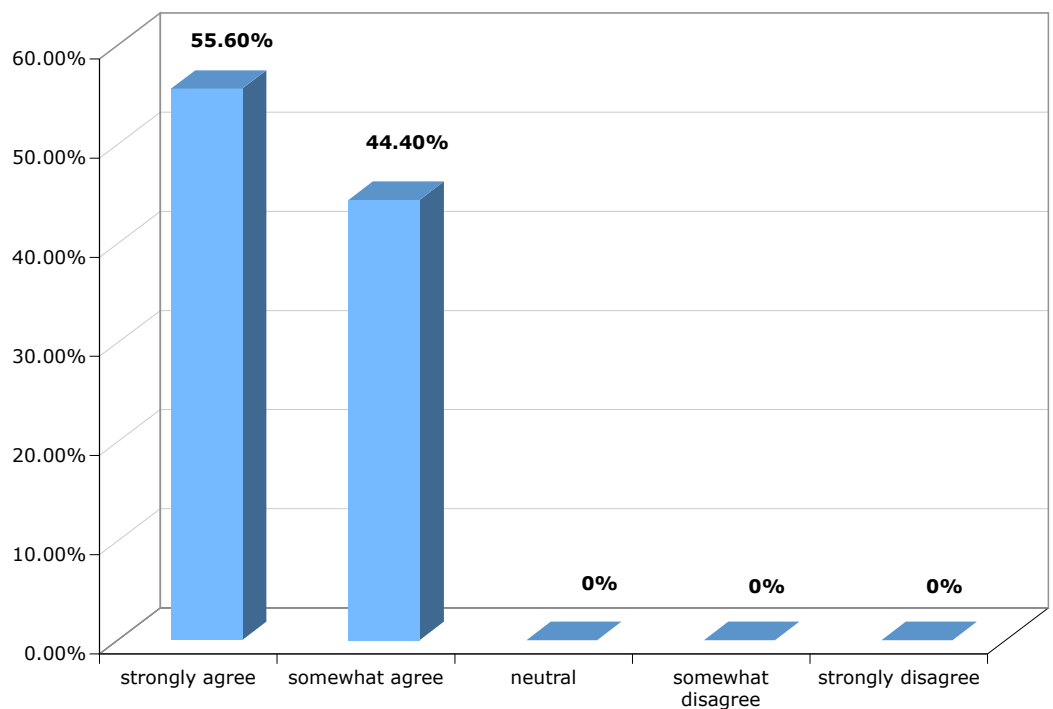
2nd Observation	Mean	Median	Mode
Teachers uses conversational tone when speaking to students	4.58	5	5
Teacher is aware of when the microphone is on and off and uses appropriately	4.20	4	5
Students respond to teacher directions	4.47	5	5
Students participate in oral discussions	4.44	4.50	5
Students look at the teacher when he/she is talking	4.32	4.50	5

Appendix C: Teacher Survey Scoring

1. My students were able to hear and understand me better when using the sound amplification system.

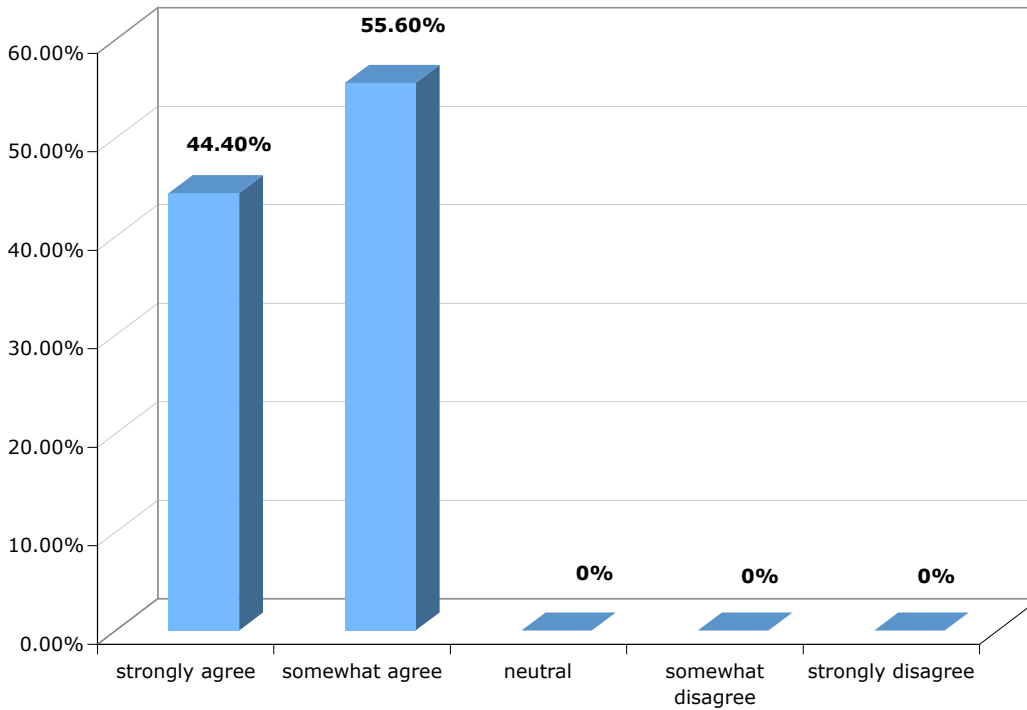


2. I feel that using the sound amplification system helped improve the rate at which my students learned phonics because they were able to listen and understand better.

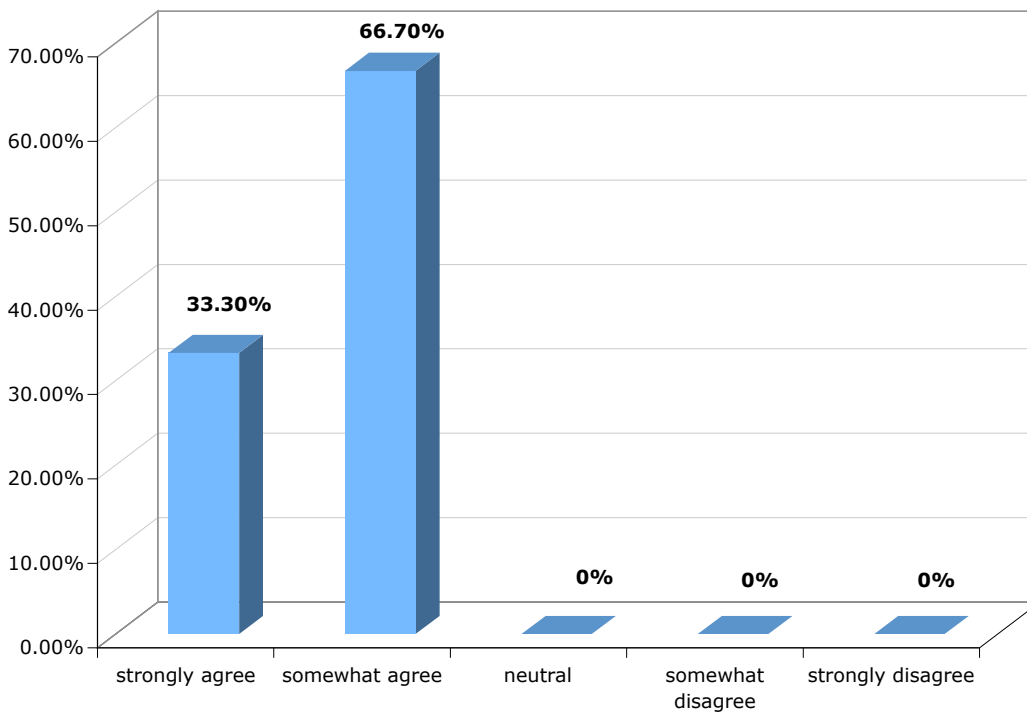


Appendix C: Teacher Survey Scoring Cont.

3. I feel that the sound amplification system improved my ability to control and manage the classroom.

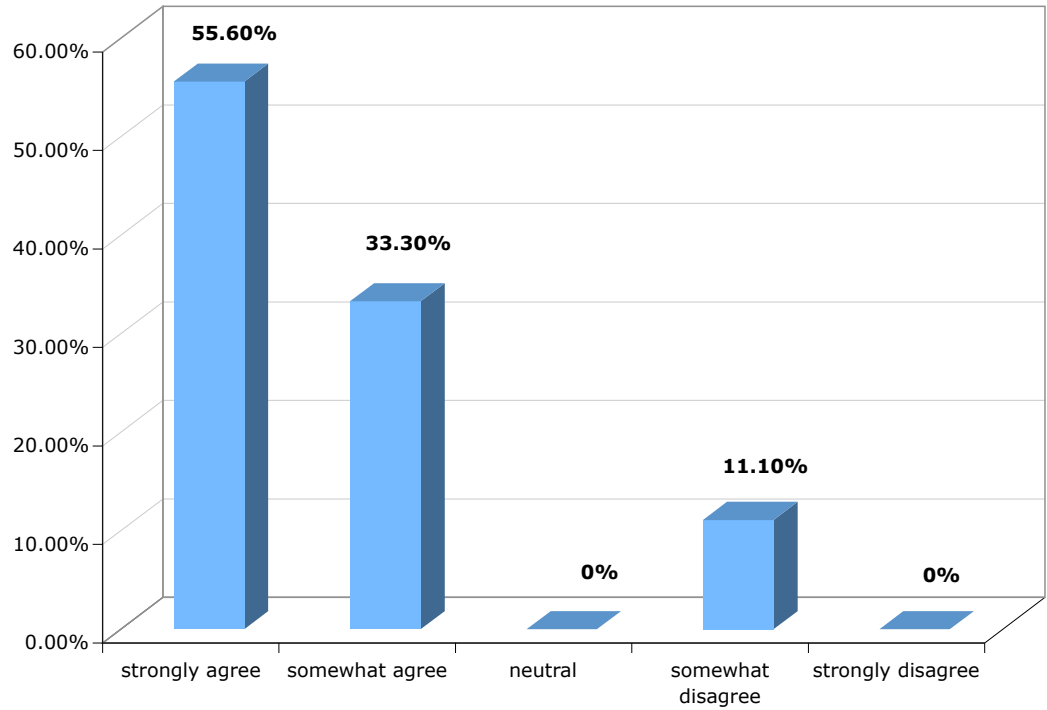


4. My students demonstrated an increased ability to follow directions when I used the sound amplification system.

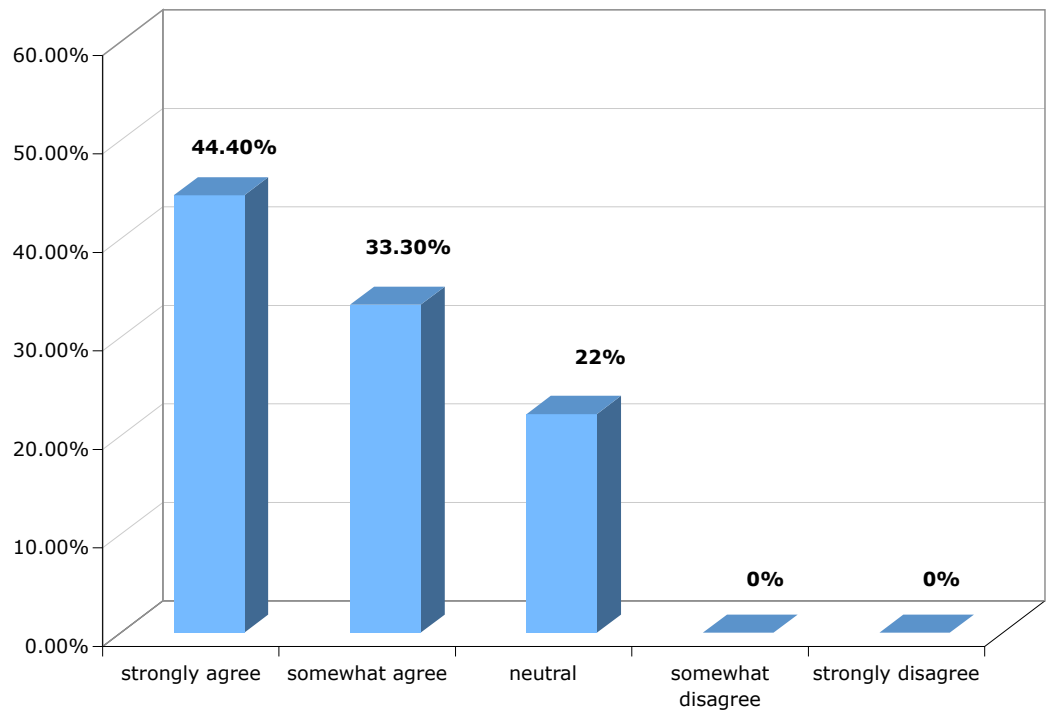


Appendix C: Teacher Survey Scoring Cont.

5. I feel that the sound amplification system improved my students' attention skills and helped hold their attention.

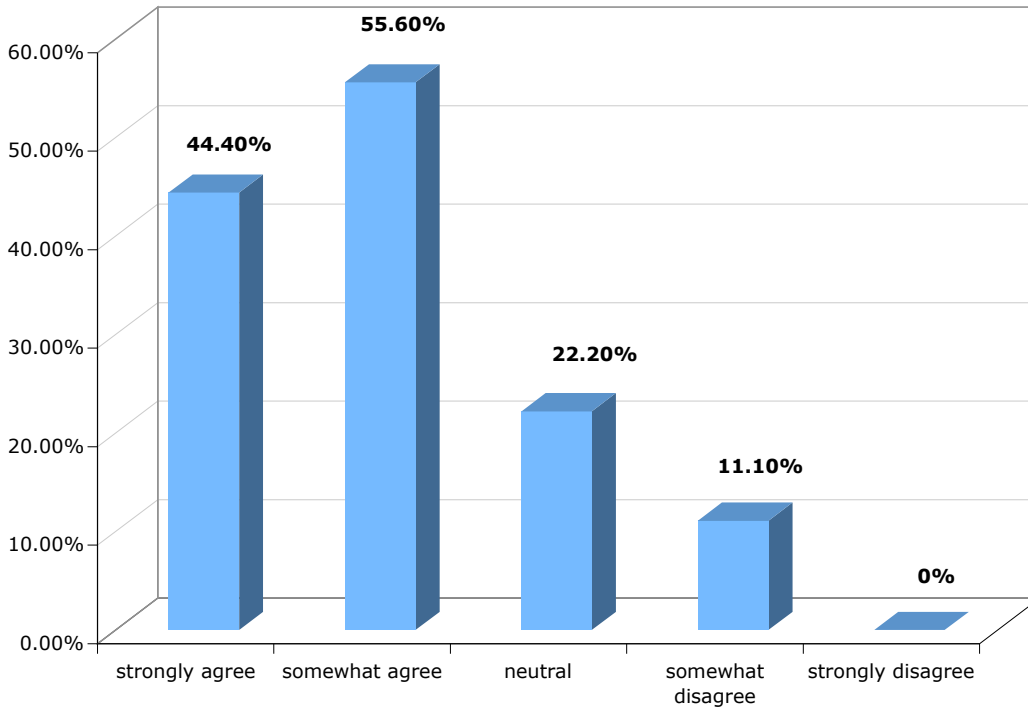


6. I experienced a decrease in the need to repeat directions and information (i.e. redirection and reinstruction).

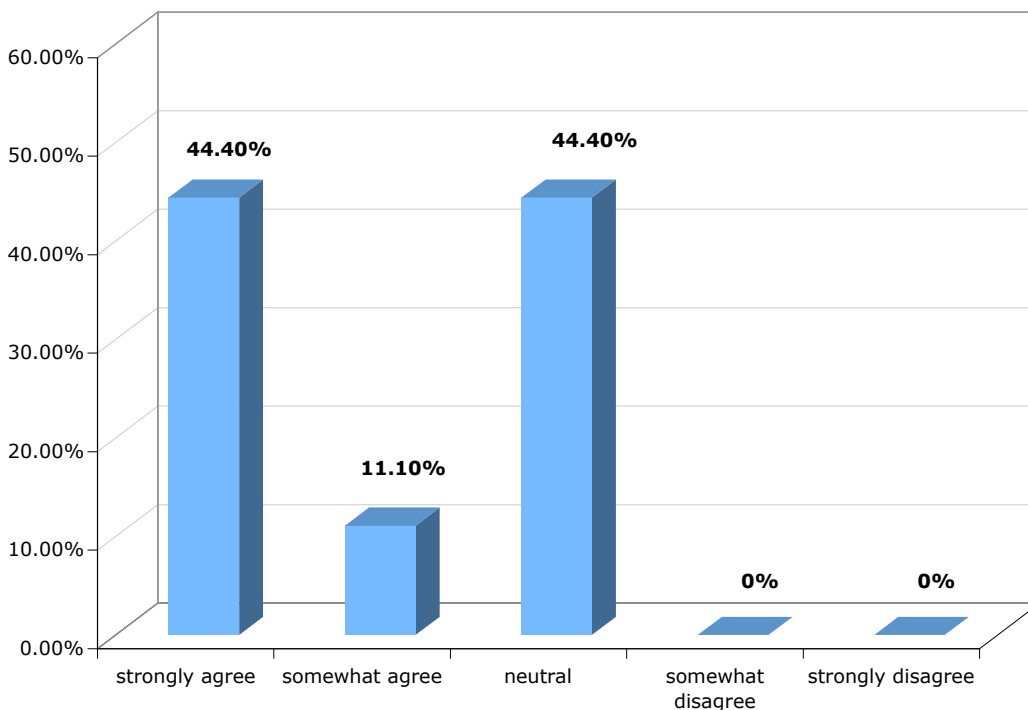


Appendix C: Teacher Survey Scoring Cont.

7. The system was comfortable and easy to use on a daily basis.

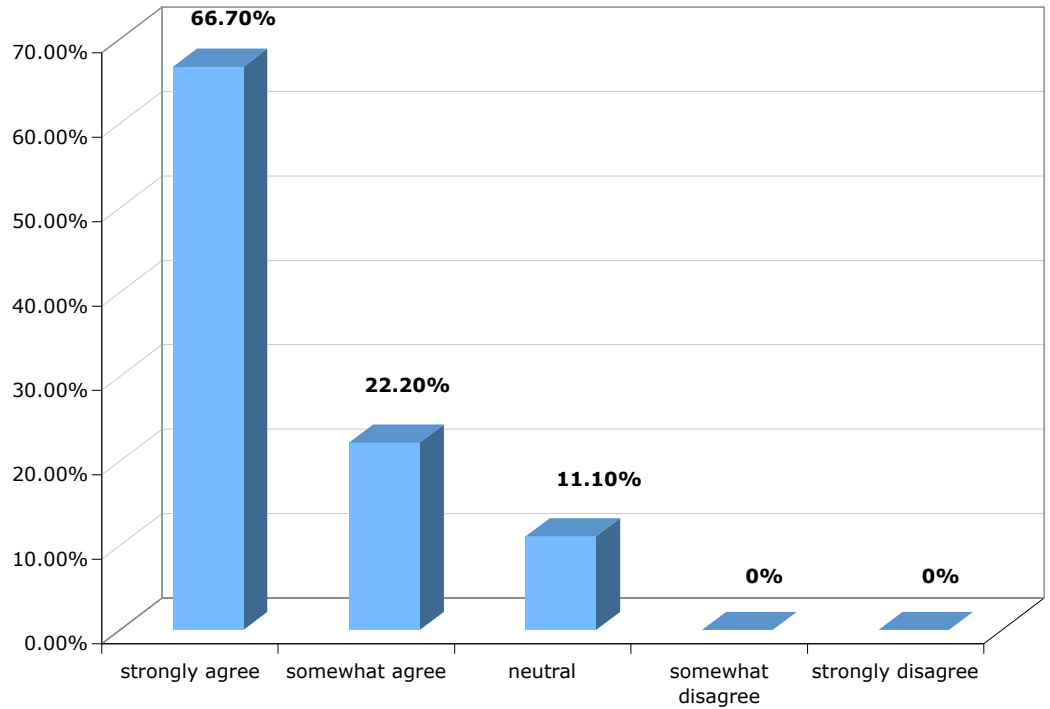


8. I felt more relaxed and less tired at the end of the teaching day when I used the sound amplification system.

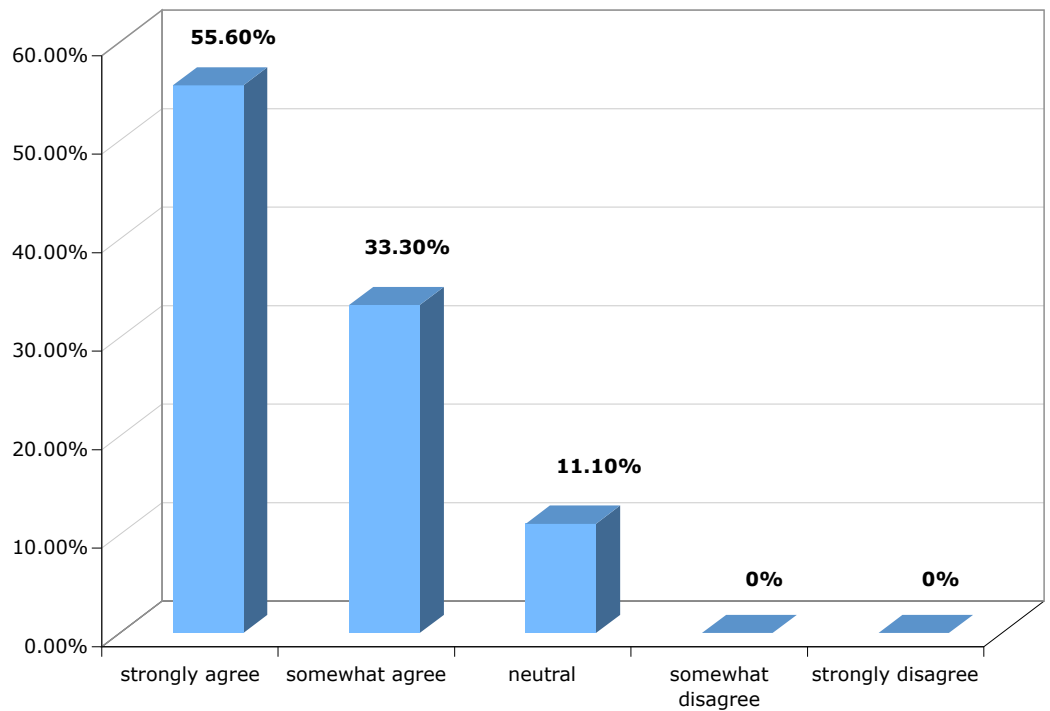


Appendix C: Teacher Survey Scoring Cont.

9. I experienced less voice/vocal strain when using the sound amplification system.

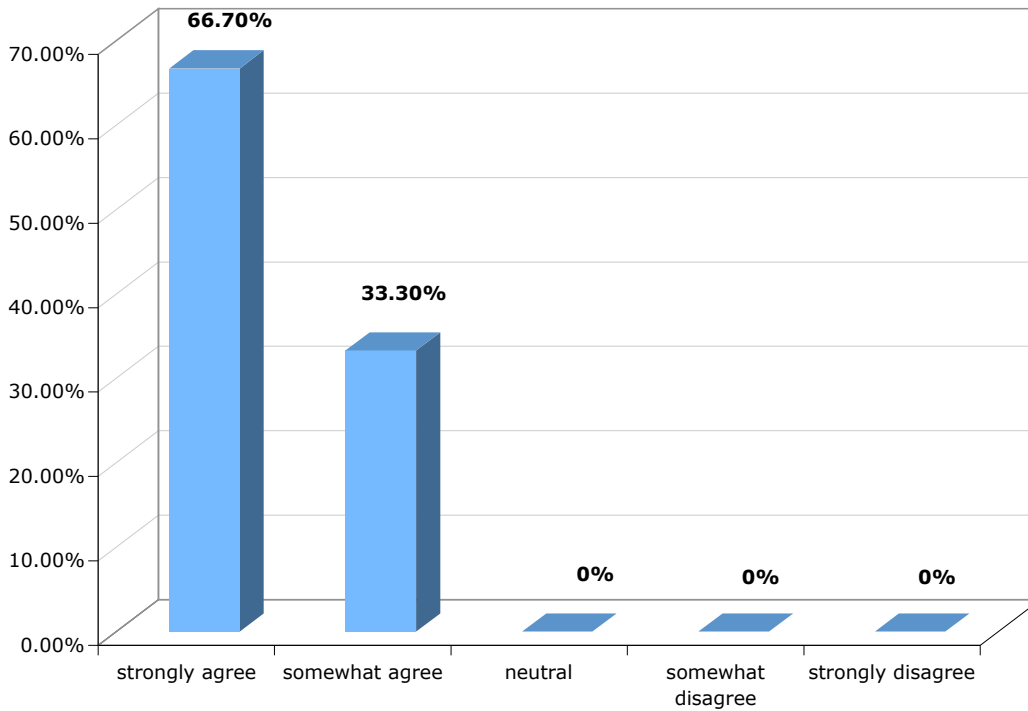


10. I believe that using the sound amplification system had a positive effect on the students' overall achievement.



Appendix C: Teacher Survey Scoring Cont.

11. I would like to keep the sound amplification system in my classrooms.



Appendix C-2: Teacher Survey Open-ended Responses

What benefits have you observed in using the Sound Amplification system with students who are English Language Learners? Do you feel it has assisted in their academic progress? If so, how?

I have noticed that they are more engaged during the lessons. I often use the second mic as a pass around tool for the children to speak into. The ESOL students are more willing to participate orally than in the past. The children really like hearing themselves and the other children seem to listen to each other better as well.

The sound system makes the teacher's articulation clearer and less muffled by background noise.

The ELL students get the benefit of hearing you speak in a regular tone to all the students, even when you are not talking to the whole group and they are not in the group you are talking to (if you choose to keep it on.) I do this sometimes in writing, so they can hear words, sounds, etc. Or in math, when I work with a small group, they hear the same words as in a large group, thus more exposure to the landscape.

I feel that the students are able to hear me without my having to raise my voice. My words are clearer and I don't have to repeat my instructions as often.

They are more easily able to hear directions and are able to hear sounds and words clearly.

When I stretch out words, the students are better able to hear the sounds.

I have enjoyed using the microphone to keep me from repeating directions and straining my voice during teaching. It helps to manage the noise level without having to yell over the students.

What additional information would you like to share about your experience?

I found it helpful to let students use the equipment to speak into when sharing their writing. It made it easier for the rest of the class to hear them.

Personally, I have loved using this sound system.

I forget when I am out of the room and try to rely upon it and it doesn't work. It is also good to hand to the students and let them talk into it to amplify their voice.

The system is good for encouraging students to share in a group setting, especially students who are shy or ESL learners.

I sincerely appreciate the opportunity to try the system. It's terrific, and after I got accustomed to wearing the mic around my neck, it was a wonderful tool.

I do notice that I speak louder and have more strain on my voice when I don't use it.

I feel this has been a beneficial addition to our existing technology for the classroom. Many visiting teachers have commented on wanting one as well. It is so nice not have to raise the level of your voice in order to communicate with the students.

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