Who Benefits?

• Students of all ages, pre-kindergarten to university, even life learners
• Students with mild hearing loss due to illness (e.g., ear infections or colds), which may be as many as 30% of the K-6 population in a school year
• Students for whom English is a second language
• Students who are inattentive or may have behavioral problems
• Students in schools affected by disruptive background noise
• Teachers who spend the majority of their day speaking in class
• Teachers in large or odd-shaped classrooms
• Administrators who wish to improve student academic achievement
• Administrators who want to reduce teacher absenteeism

Test Scores: Listening Makes the Grade

Achievement test scores are widely accepted as an indicator of successful classroom instruction. Research indicates that a positive correlation exists between the use of class-
room amplification and improved student academic achievement, particularly in reading, comprehension, and language skills at elementary school level. On the high-
school level, SAT scores show an improvement of 12-20 percent. (BYU, 2002)

According to the US Department of Education MARRS Project (“Educational Programs That Work”, 1995), K-6 target students receiving instruction in standard class-
rooms equipped with sound field amplifiers made statistically significant greater gains in standardized achievement scores than do target students in control (non-amplified) classrooms.

Reliability from a Sound Company

Bogen knows schools and schools know Bogen. We have been in business since 1932, manufacturing audio and public address systems for schools as well as businesses. Chances are your school has a Bogen intercom, public address, or sound system somewhere on the premises.

Now, you can trust Bogen to provide audio amplification systems in your school’s classrooms. With over 75 years of experience working with and designing sound enhancement products, Bogen is a name students can hear with and you can rely on.

Enhancer System can be installed in many different configurations to meet the requirements of your school’s unique needs. Enhancer systems can be powered by batteries or power outlets, and can be used for lectures, conferences, and music as well as for their intended purpose.

Every Student Goes To The Head Of The Class
“Can You Hear Me Now?”

Regular Education Classroom, A Summary of Studies

“The Use of Sound Field Amplification of the Teacher’s Voice In The Classroom & Outside Background Noise”

1. Why Mouthpieces Fail

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.

2. Classroom Audio Amplification Systems Report

Bogen Enhancer Systems are wireless, infrared technology to transmit the speakervoice from the microphone to a receiving unit. The receiving unit then amplifies the audio and delivers it to strategically positioned audio speakers throughout the classroom. Bogen Enhancer systems can be connected to any line-level audio source such as projectors, televisions, or computers. The system can be connected to the Bogen Enhancer system to ensure the clear and equal transmission of audio throughout the classrooms.

The Enhancer system puts no demand on the teacher since it is easy to use and takes up little space in the classroom. In addition, technology has become to teachers in today’s culture that students readily accept audio amplification in the classroom and do not consider it intrusive. In fact, students seem to participate more readily as they are more eager for an opportunity to use the microphones.

The evidence for improved teaching and quality of instruction is well documented.

3. Classroom & Outside Background Noise

Background noise, ineffective soundproofing treatment, and mild hearing loss due to ear infections are additional reasons why children have difficulty hearing in the classroom.

4. Listening Is Key to Learning

Being able to listen is essential for learning. This is particularly critical in the classroom where students are dependent on speech communications. Of the day, 60% of the day.1 In order to be heard, teachers must raise their voices to combat offensive noise pollution. However, this constant voice projection can lead to educator fatigue, vocal strain, hoarseness, laryngitis, or chronic voice problems.

Bogen Enhancer Systems increase speech intelligibility. In order to be heard, teachers must raise their voices to combat offensive noise pollution. However, this constant voice projection can lead to educator fatigue, vocal strain, hoarseness, laryngitis, or chronic voice problems.

5. Why Is It So Hard to Listen?

A teacher’s most critical instructional tool is his or her voice. In order to be heard, teachers must raise their voices to combat offensive noise pollution. However, this constant voice projection can lead to educator fatigue, vocal strain, hoarseness, laryngitis, or chronic voice problems.

6. A Decrease of 10 dB = 50% Sound Loss

The Enhancer system puts no demand on the teacher since it is easy to use and takes up little space in the classroom. In addition, technology has become more available to teachers in today’s culture that students readily accept audio amplification in the classroom and do not consider it intrusive. In fact, students seem to participate more readily as they are more eager for an opportunity to use the microphones.

7. Why Is It So Hard to Listen?

A teacher’s most critical instructional tool is his or her voice. In order to be heard, teachers must raise their voices to combat offensive noise pollution. However, this constant voice projection can lead to educator fatigue, vocal strain, hoarseness, laryngitis, or chronic voice problems.

8. With the Bogen Enhancer, students siting at the back of the class hear just as well as those sitting up front.

A teacher’s most critical instructional tool is his or her voice. In order to be heard, teachers must raise their voices to combat offensive noise pollution. However, this constant voice projection can lead to educator fatigue, vocal strain, hoarseness, laryngitis, or chronic voice problems.

9. Bogen Enhancers: A Solution for Every Classroom

Bogen Enhancer Systems are wireless, infrared technology to transmit the speaker’s voice from the microphone to a receiving unit. The receiving unit then amplifies and delivers it to strategically positioned audio speakers throughout the classroom. Bogen Enhancer systems can be connected to any line-level audio source such as projectors, televisions, or computers. The system can be connected to the Bogen Enhancer system to ensure the clear and equal transmission of audio throughout the classrooms.

The Enhancer system puts no demand on the teacher since it is easy to use and takes up little space in the classroom. In addition, technology has become more available to teachers in today’s culture that students readily accept audio amplification in the classroom and do not consider it intrusive. In fact, students seem to participate more readily as they are more eager for an opportunity to use the microphones.

10. Noise Competitions: Controlling with Many Sources

A teacher’s most critical instructional tool is his or her voice. In order to be heard, teachers must raise their voices to combat offensive noise pollution. However, this constant voice projection can lead to educator fatigue, vocal strain, hoarseness, laryngitis, or chronic voice problems.

When using the Bogen Enhancer, teachers can speak at normal volume without distortion because the microphone is amplified. The Bogen Enhancer can be connected to any line-level audio source such as projectors, televisions, or computers. The system then amplifies the audio and delivers it to strategically positioned audio speakers throughout the classroom. Bogen Enhancer Systems use wireless, infrared technology.

11. What Are Your Students Hearing?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.

12. Why Is It So Hard to Listen?

A teacher’s most critical instructional tool is his or her voice. In order to be heard, teachers must raise their voices to combat offensive noise pollution. However, this constant voice projection can lead to educator fatigue, vocal strain, hoarseness, laryngitis, or chronic voice problems.

13. What Are Your Students Hearing?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.

14. What Are Your Students Hearing?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.

15. What Are Your Students Hearing?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.

16. What Are Your Students Hearing?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.

17. What Are Your Students Hearing?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.

18. What Are Your Students Hearing?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.

19. What Are Your Students Hearing?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.

20. What Are Your Students Hearing?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many annoyances is inherent in the structure of the facility itself. There are many ways to combat offensive noise pollution. In addition, sound is diminished when teachers speak during the schoolbell, move around the classroom, or when students answer from their seats.
Why Make Treatments Fail?

Effective treatment of noise pollution in classrooms is not always possible. The root causes of many problems are inherent in the structure of the facility, which, in many cases, was constructed at a time when there was less concern over noise from cars and aircraft, and before computers and air conditioning were included in the classrooms. Some schools have initiated sound absorption treatments or noise-masking techniques that have measures not to address the level of a teacher’s voice and often negatively impact its intelligibility and understanding.

Intelligibility: The Fine Points of Language

Classroom audio amplification systems increase speech perception for both normal hearing and hearing-impaired students. Students need to hear clearly articu-
lated and well-said words so they can learn new words, decode letters for spelling, and comprehend complex vocabulary. In addition, sound is diminished when teachers speak during the daylight hours around the classroom, or when students answer from their seats.

Bogen Enhancer: The Solution for Every Classroom

Bogen Enhancer systems are wireless, infared technology to transmit the speaker’s voice from the microphone to a receiver. This receiver then amplifies the audio and delivers it to strategically placed audio speakers throughout the classroom. The microphone can be connected to the Bogen Enhancer system to ensure the clear and equal transmission of audio throughout the classroom.

The Enhancer system puts no demand on the teacher since it is easy to use and takes little time up front. In addition, technology has become important in today’s culture, where students accept audio amplification in the classroom and are not surprised if they hear it. In fact, students seem to participate more readily as they grow more comfortable listening.

In addition to the microphone, students can use their own wireless microphones to address the class as well. This flexible design, any application or physical environment can be addressed with a single system solution from Bogen.

Bogen Enhancer audio amplification systems can be easily installed in new building construction as well as retrofi t existing schools. It works equally well in traditional or open classroom environments.

Distribute Sound Evenly Throughout The Classroom

Teaching: Getting Your Point Across

Students in the back of the classroom have more difficulty hearing in the teacher because sound diminishes over distance. Thus those farther away from the teacher hear the teacher’s voice at a lower level than those sitting upfront. This puts them at an educational disadvantage.

Failing to improve the learning environment for children who have hearing problems due to mild hearing loss, ear infections, or in areas where background noise is most distracting can hear the teacher as if they were at the head of the class.

Listening Is Key to Learning

Being able to listen is essential for learning. This is particu-
larly critical in the classroom where students are dependent on verbal instruction, especially in subjects relying heavily on verbal instruction.

Areas,牝北三 redhead square three centimeters. ]or.0.17, students sitting in the back of the class hear just as well as those sitting up front.

Noise Competition: Contending with Many Sources

A teacher’s most critical instructional tool is his or her voice. In order to be heard, teachers must overcome many obstacles that can inhibit effective communication and instruction.

Poor acoustics often cause speech intelligibility to be lower in poor acoustical rooms than in areas with better acoustical characteristics. For example, students sitting in the back of the classroom may hear at half or a quarter of normal audio levels. A teacher’s voice or sound source and delivers it naturally, clearly, and equally to all areas of the classroom so that each student hears the teacher as if they were sitting at the front of the class.

With the Bogen Enhancer, students sitting in the back of the classroom hear just as well as those sitting up front.

Classroom & Outside Background Noise

Students in classes where teachers wear microphones are likely to achieve a minimum of 60% of the day. Studies show that students sitting in the back of the classroom hear far better than those sitting up front. This results in better learning environment and improved attendance.

Acoustics affects how loud speech can be heard in a room. The more noise there is, the louder speech must be. For example, students sitting in the back of the classroom may hear at half or a quarter of normal audio levels. A teacher’s voice or sound source and delivers it naturally, clearly, and equally to all areas of the classroom so that each student hears the teacher as if they were sitting at the front of the class.

Science is background noise is a critical factor in learning, handwriting, vowel articulation in classrooms and students, growth rates, the learning curve, student’s health, and speech impairments. With the Bogen Enhancer, students sitting in the back of the classroom can hear just as well as those sitting up front.

Typical classroom in which the students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

With the Bogen Enhancer, students sitting at the back of the class hear just as well as those sitting up front.

Students sitting in the back of the classroom hear just as well as those sitting up front.

The evidence for improved teaching and quality of instruction is strong when a teacher speaks, sound level is transmitted throughout the classroom. This best practice also applies to classroom environments. When classroom environment can be addressed with an individual solution from Bogen.

Here are some sources of background noise that can be addressed with a Bogen Enhancer system.

"Speaking Up" by Susan McLester, "Technology & Learning" Magazine, November 2004

"The Use of Sound Field Amplification of the Teacher’s Voice In The Classroom“ by Hattie Supak, Educational Technology, 2004

A Decrease of 10 dB = 50% Sound Loss

If a teacher speaks at a normal level, students in the back of the classroom can hear at half or a quarter of normal audio levels. A teacher’s voice or sound source and delivers it naturally, clearly, and equally to all areas of the classroom so that each student hears the teacher as if they were sitting at the front of the class.

"Systems Report: Bogen Enhancer’s flexible design, any application or physical environment can be addressed with a single systems solution from Bogen.

Bogen Enhancer audio amplification systems can be easily installed in new building construction as well as retrofit existing schools. It works equally well in traditional or open classroom environments.

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.

A Decrease of 10 dB = 50% Sound Loss

Typically, students sitting in the rear of the class hear only 25% of what the teacher says.
Listening is Key to Learning
Being able to listen is essential for learning. This is par-

ticularly critical in the classroom where students are de-
pendent upon spoken communication 60% of the day. 

Why Make Treatments Fail
Effective treatment of noise pollution in classrooms is not al-

ways possible. The root causes of many annoyances is in-
herent in the structure of the facility itself. In many 

cases, conversations at times when there was not loud-

down noise from cars and aircraft, and below com-

puter and air conditioning units included within the clas-

room, some schools have installed sound absorption treat-

tments or noise-paneling techniques. But these meas-

ures do not address the level of the teacher's voice and the

reduced intelligibility and understanding.

Intelligibility: The Fine Points of Language
Clutter, audio amplification system increases speech
perception for both normal hearing and hearing disab-
ed students. Students need to hear clearly articulat-
ed sound even at normal conversational level. When

teachers speak with clarity, seated students in the front

classroom, students in the back of the class hear

only 25% of what the teacher says.

With the Bogen Enhancer

students sitting at the back of the class hear

just as well as those sitting up front.

Noise Competition: Contending with Many Sources
A teacher's most critical instructional tool is his or her

voice. In order to be heard, teachers need to combat
noise pollution in the classroom. However, the silent envi-

ronment required to focus on listening and language

learning is at odds with classroom performance. The

teacher needs to be heard in order to complete his or

her instructional tasks. A Bogen Enhancer system is the

perfect solution to this problem. The unique design of

the Bogen Enhancer system allows for clear and equal

transmission of audio throughout the classroom.

Typical classroom in which

the students sitting in the rear
to the class hear

only 20% of what the
teacher says.

A Decrease of 10 dB

= 50% Sound Loss

Sound In Today's Classrooms
Bogen Enhancer audio amplification systems can be

easily installed in new building construction as well as

to retrofit existing schools. The Florida Legislature

mandated that schools provide audio amplification in

all classrooms for K-12 students. These systems in their

classrooms in an effort to ensure that teachers are easily

heard. Two pieces of legislation mandate audio amplifi-

cation in schools. The Florida Legislature has mandated

that all new school construction, as well as schools using

special needs students, have audio amplification. Orange

County, Florida, all classrooms for K-12 students require

audio amplification.
**Who Benefits?**

- Students of all ages, pre-kindergarten to university, even life learners
- Students with mild hearing loss due to illness (e.g., ear infections or colds), which may be as many as 30% of the K-6 population in a school year
- Students for whom English is a second language
- Students who are inattentive or may have behavioral problems
- Students in schools affected by disruptive background noise
- Teachers who spend the majority of their day speaking in class
- Teachers in large or odd-shaped classrooms
- Administrators who wish to improve student academic achievement
- Administrators who want to reduce teacher absenteeism

**Test Scores: Listening Makes the Grade**

Achievement test scores are widely accepted as an indicator of successful classroom instruction. Research indicates that a positive correlation exists between the use of classroom amplification and improved student academic achievement, particularly in reading, comprehension, and language skills throughout every school level. On the high school level, SAT scores show an improvement of 12-20 percent (BYU, 2002)

According to the US Department of Education MARRS Project “Educational Programs That Work”, 1995, K-6 target students receiving instruction in standard classrooms equipped with sound-field amplification made statistically significant greater gains in standardized achievement tests than did target students in control (unamplified) classrooms.

### Test Scores:

- **Listening Makes the Grade**
  - Achievement test scores are widely accepted as an indicator of successful classroom instruction. Research indicates that a positive correlation exists between the use of classroom amplification and improved student academic achievement, particularly in reading, comprehension, and language skills throughout every school level. On the high school level, SAT scores show an improvement of 12-20 percent (BYU, 2002)
  - According to the US Department of Education MARRS Project “Educational Programs That Work”, 1995, K-6 target students receiving instruction in standard classrooms equipped with sound-field amplification made statistically significant greater gains in standardized achievement tests than did target students in control (unamplified) classrooms.

**Reliability from a Sound Company**

Bogen knows schools and schools know Bogen. We have been in business since 1932, manufacturing audio and public address systems for schools as well as businesses. Chances are your school has a Bogen intercom, public address, or sound system somewhere on the premises.

Now you can trust Bogen to provide audio amplification systems in your school’s classrooms. With over 75 years of experience working with and designing sound reinforcement products, Bogen is a name students can hear with and you can rely on.

**Enhancer System**

Bogen’s Enhancer system can be installed in many different configurations to enhance the effectiveness of classroom instruction. The Enhancer system is available in various configurations, and can be tailor-made to match the needs of any school or classroom.

**Received From: Bogen Communications Inc., Ramsey, NJ 07446 USA. Tel: 201-934-8500 Fax: 201-934-9832 www.bogen.com**
**Who Benefits?**

- Students of all ages, pre-kindergarten to university, even life learners
- Students with mild hearing loss due to illness (e.g., ear infections or colds), which may be as many as 30% of the K-6 population in a school year
- Students for whom English is a second language
- Students who are inattentive or may have behavioral problems
- Students in schools affected by disruptive background noise
- Teachers who spend the majority of their day speaking in class
- Teachers in large or odd-shaped classrooms
- Administrators who wish to improve student academic achievement
- Administrators who want to reduce teacher absenteeism

**Test Scores:**

*Listening Makes the Grade*

Achievement test scores are widely accepted as an indicator of successful classroom instruction. Research indicates that positive correlations exist between the use of classroom amplification and improved student academic achievement, particularly in reading, comprehension, and language skills at all elementary school levels. On the high school level, SAT scores show an improvement of 12-20 percent (BYU, 2002).

According to the US Department of Education MARRS Project (Educational Programs That Work, 1995), K-6 target students receiving instruction in standard classrooms equipped with sound field amplification make statistically significant greater gains in standardized achievement scores than do target students in control (non-amplified) classrooms.

An independent research study conducted at the East 1st Elementary School in Chicago in 2001 by Bogen found that students in classrooms with audio amplification achieved:

- 35% average increase on thecreens for students with mild hearing loss due to illness
- 35% average increase on the Developmental Reading Assessment (DRA™)
- 21% average increase on the Technology Enhanced Student Assessment (TESA™)
- 43% reduction in off-task behaviors (calling out of turn or leaving assigned seat)
- 72% reduction in need for teachers to redirect students for behavioral problems

According to the US Department of Education MARRS Project (“Educational Programs That Work,” 1995), K-6 target students receiving instruction in standard classrooms equipped with sound field amplification make statistically significant greater gains in standardized achievement scores than do target students in control (non-amplified) classrooms.

**Reliability from a Sound Company**

Bogen knows schools and schools know Bogen. We have been in business since 1932, manufacturing audio and public address systems for schools as well as businesses. Chances are your school has a Bogen intercom, public address, or sound system somewhere on the premises. Now you can trust Bogen to provide audio amplification systems in your schools’ classrooms. With over 75 years of experience working with and designing school reinforcement products, Bogen is a name students can hear with and you can rely on.

**Well Suited For...**

Classrooms • Lecture Halls • Cafeterias
Conference Rooms • Auditoriums
Recreation or Meeting Rooms

Bogen’s Enhancer system can be tailored in many different configurations to meet the unique needs of your school. Options include microphones, transmitters, and rechargeable batteries.