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EduMic

An outstanding sound experience in the classroom

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Speech and language development is one of the most important development processes during childhood.

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Goals in amplification

“

The goal of amplification is to provide an infant or child with impaired hearing the opportunity to have access to as much of the auditory environment, and in particular speech, as feasible.

American Academy of Audiology, 2013

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What are the learning barriers in the classroom?

What are the barriers in the classroom?

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It’s a real struggle in the classroom

Learning and development

Noise **masks** the most **important** acoustic **information** for speech perception

(Crandell & Smaldino, 2002)

Children have **less-well developed** language and communication systems

(Johnson, 2000)

Children with a hearing loss need a **minimum +15 dB SNR**

(Riley & McGregor, 2012; ANSI, 2010)

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Introducing EduMic

Breaking barriers in the classroom

Quality of sound

Easy to use

Compatible

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What can EduMic do?

A bridge builder

Microphone mode
(20 m range)

FM mode
(3 m range)

Jack mode
(20 m range)

Telecoil mode
(3 m range)

2.4 GHz

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OpenSound Navigator in EduMic

How does it work?

Same two-microphone system with new microphone placement

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OpenSound Navigator in EduMic

Optimised for learning and classroom usage

Analyse

Balance

Noise removal

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Wind Noise Management

Optimal conditions for learning outside of the classroom

Air flow creates fluctuations at each of the microphones

Wind Noise Management attenuates wind noise between words

Wind Noise Management

A clear speech signal minus the wind noise is sent to the hearing aids

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What did teachers have to say about EduMic?

“ I prefer the EduMic because it is **easier to use**, **smaller** and **lighter**…..**I like the wearing options** of the EduMic on the lanyard or on the clip.

“ The EduMic is **lighter**, **smaller**, **less bulky**, and more **discreet.**

“ I am excited to see the EduMic – it’s new **design** – because it is more **discreet**. This is very important for the **self-esteem** of the students.

“ The EduMic is **beautiful** and it is **light**, **I love that.**

Gordey & Rumley, 2019 - Oticon Whitepaper

These testimonials represent the opinion of the concerned individuals only and may not be representative of the experience of others. The participants have not been paid for their participation, but received a gift card to offset their travel expenses. The testimonials may not be indicative of the future performance or success of any other individuals.

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EduMic usability study

How did EduMic weigh up?

n = 20

85%
were experienced remote microphone system users

45%
Elementary

5%
Secondary

50%
Special ed.

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So how did EduMic weigh up?

Ease of use

Mean (EduMic) = 1.47

Mean (Competitor RMS) = 1.80

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So how did EduMic weigh up?

Design and discreetness

So how did EduMic weigh up?

Wearing comfort

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EduMic speech understanding study

Opn S vs Opn S + Amigo vs Opn S + EduMic

n = 10

Target:
65 dBA HINT sentences

Noise:
0, 55, 65 & 75 dBA diffuse cafeteria noise

Gordey & Rumley, 2019

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EduMic speech understanding study

Opn S vs Opn S + Amigo vs Opn S + EduMic

- Speech understanding decreases as the noise level increases
- Wireless microphones are better than HA alone when noise is added
- Participants perform significantly better with EduMic than Amigo at 75 dBA (-10 dB SNR)

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Student benefit when listening in noise & reverberation

Study methodology

n = 21

Age:
7 – 18 years of age

Device configurations

Boys Town National Research Hospital

Target:
Paediatric AZ-Bio sentences
60 dB SPL

Acoustic environments

Lewis, Spratford, Stecker & McCreery, in preparation

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Student benefit in noise & reverberation

Results

- Adding reverberation to noise has a detrimental effect on speech understanding (better SNRs are needed)
- In both conditions, using EduMic significantly improves speech understanding compared to the use of HA alone

Gordey & Rumley, 2019
Lewis, Spratford, Stecker & McCreery, in preparation

Getting started

EduMic Overview

Buttons & microphones

EduMic Overview

Connections, charging and rotating clip

3.5 mm jack input
Connection to external audio sources

FM connector
For universal receivers

Micro USB port
For charging

Rotating clip
Attaches to lanyard or clothes

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Battery performance and charging time

10 hours of use

Charging during use

Charge status	Time
Fully charged	2.5 hours
50% charged	1 hour
25% charged	0.5 hours

Charging time

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Using EduMic

Microphone mode

Direct voice transmission to hearing aids

Microphone mode

Mute microphone mode

Microphone mode

Direct voice transmission to hearing aids

What about outside of the traditional classroom?

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Jack mode

Meeting technological needs

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Connecting to classroom sound field systems

FrontRow Juno

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Telecoil mode

Providing direct access to teleloop systems

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FM mode

Connecting to existing FM or remote microphone systems

EduMic is the **link to other classroom systems**

The classroom system should <u>no longer dictate</u> the **choice of hearing aids**

OTICON | **Xceed Play**
OTICON | **Opn Play**

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Compatibility with classroom systems

Phonak Roger TouchScreen

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Compatibility with classroom systems

Oticon Amigo FM

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Summary

- Provides outstanding sound quality in the classroom
- Connects students with the teacher, multimedia sources and classroom systems
- Teachers voted EduMic highly on ease of use, design, discreetness and wearing comfort
- EduMic improves speech understanding in the classroom
- The classroom system should no longer dictate the choice of hearing aids

Thank you