

Phonak Roger Solutions

A complete classroom solution



The specific needs of children



Children depend more on audibility of high-frequency amplification (Stelmachowicz et al, 2002)



Children need higher signal-to-noise ratio (Hall et al, 2002)



Children need lower reverberation times (Neuman et al, 1983)



Children are less able to make use of context (Nittrouer & Boothroyd, 1990)



80% of children will experience glue ear before age of 10 (NDCS)

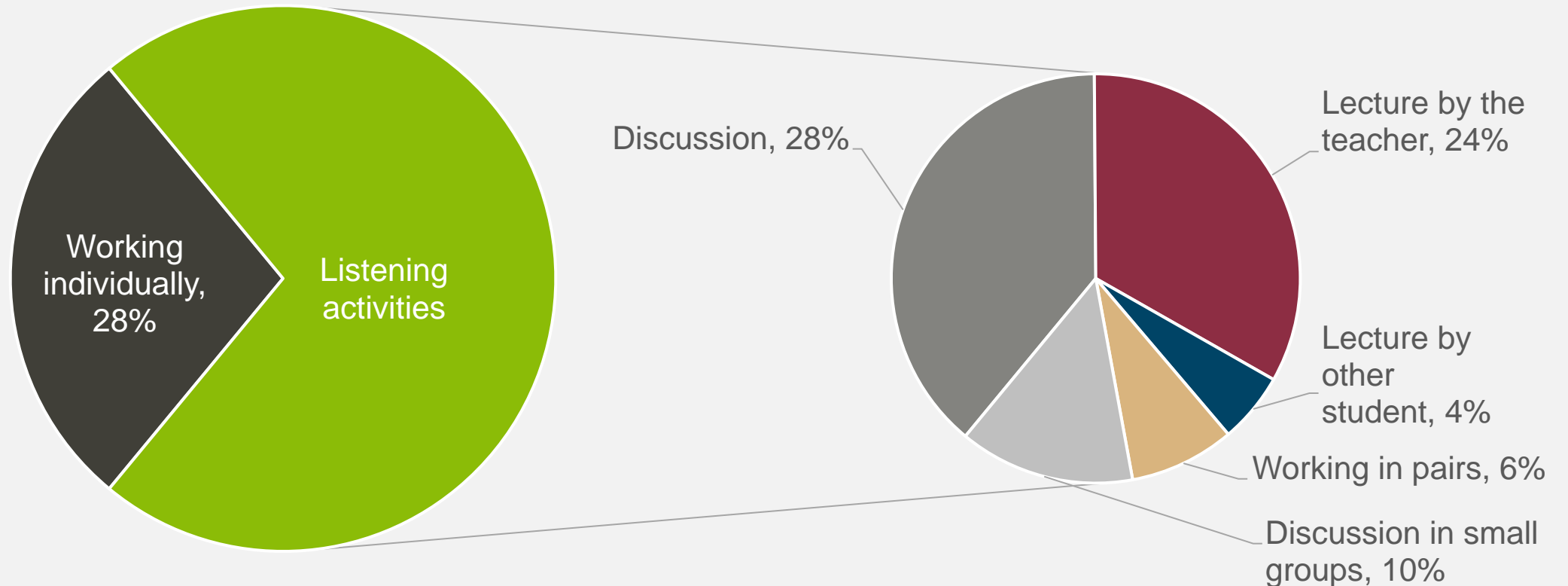


Poll question:

On average, what % of time is spent on listening activities in the classroom?

- A. 50-60%
- B. 60-70%
- C. 70-80%

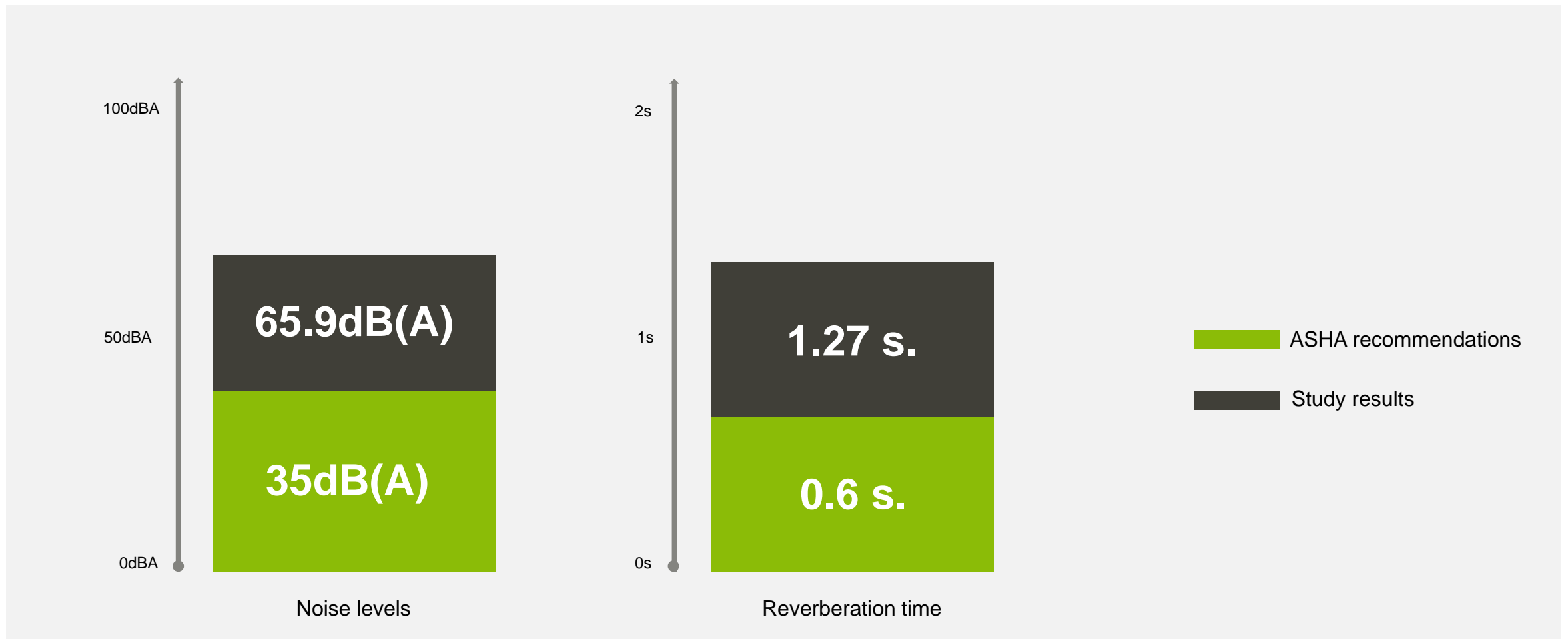
Hearing more means learning more



Lejon, A.K. (2013). Inclusion or Exclusion: Children with hearing loss, are they really integrated in the classroom? Comfort Audio White Paper. Retrieved from www.phonakpro.com



Typical classroom acoustics

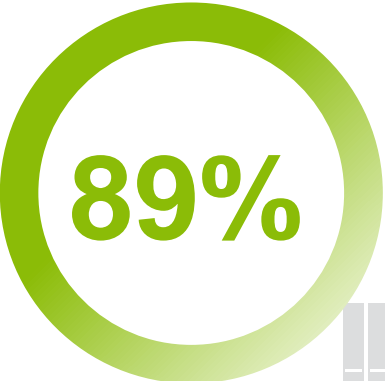


1 Knecht, H.A., Nelson, P.B., Whitelaw, G.M. & Feth, L.L. (2002). Background noise levels and reverberation times in unoccupied classrooms: Predictions and measurements. American Journal of Audiology, 11, 65-71



The impact of distance

Speech understanding decreases with distance¹



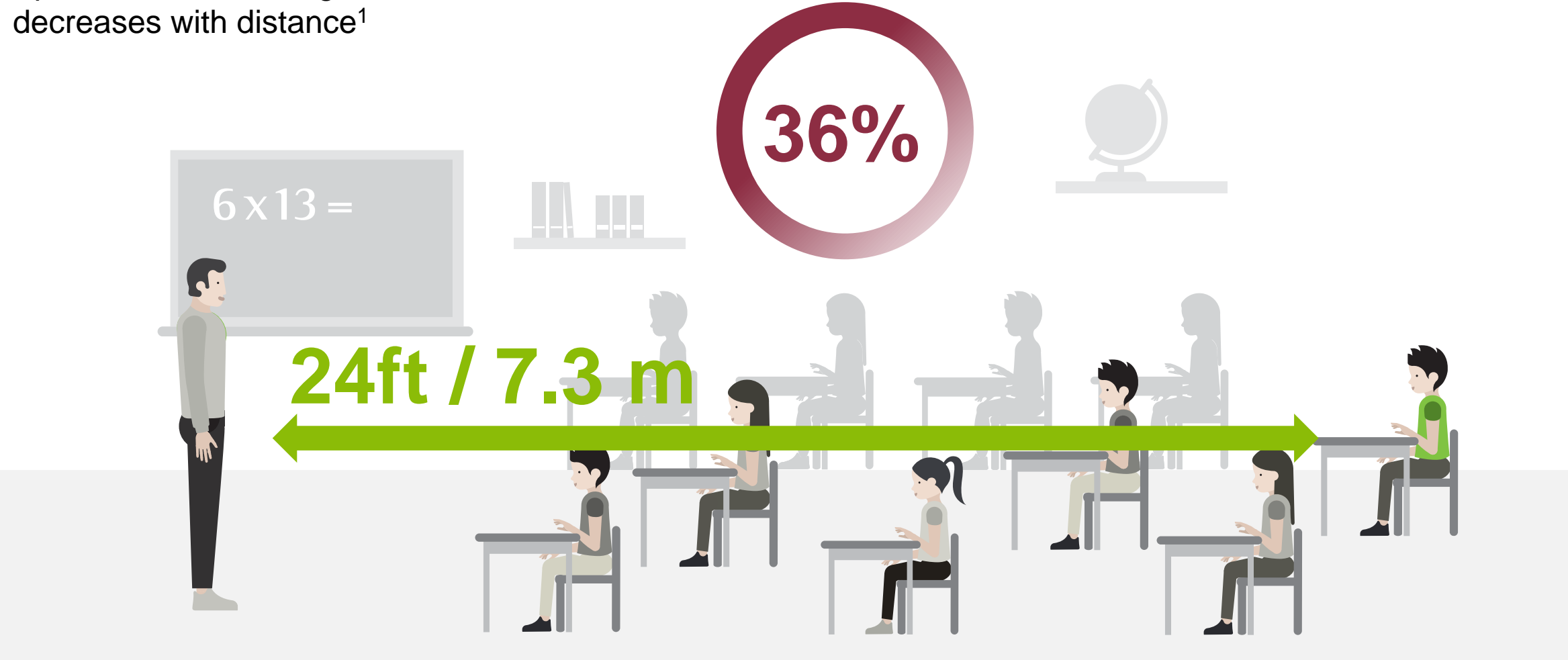
¹ Crandell, C., & Bess, F. (1986). Speech recognition of children in a "typical" classroom setting. American Speech, Language, & Hearing Association, 29, 87.



What is the impact of distance?

Speech understanding decreases with distance¹

36%



¹ Crandell, C., & Bess, F. (1986). Speech recognition of children in a "typical" classroom setting. American Speech, Language, & Hearing Association, 29, 87.



Teacher Vocal Strain

According to the NASUWT voice strain is a common occurrence amongst teachers. Recent research has shown that possible contributory factors are:

- noisy environments;
- poor classroom acoustics;
- over-use of the voice;
- colds and throat infections.

In fact a survey undertaken by London South Bank University (LSBU) indicated that over 65% of the surveyed teachers had experienced voice problems during their career.

Phonak Roger

A comprehensive portfolio
with the right solution for
every teacher and student



Made for the Classroom



DigiMaster 5000



Pass Around



Multimedia Hub



TouchScreen Mic



Hearing aid or Roger Focus

Roger DigiMaster 5000



12 individual speakers
within the tower

Roger Digimaster v2

- Bluetooth enabled
 - Tablets
 - Computers / Laptops
 - Smartboards
 - TVs
- Audio Input/Output





CIRCLE
 $A = \pi r^2$
 $C = 2\pi r$
 $\pi = 3.14$
 $r = 5\text{cm}$
 $A = 3.14 \cdot 5^2$
 $= 3.14 \cdot 25$
 $= 78.5$

GEOMETRY
 $s = \frac{1}{2}A$
 $D = 2r$



Roger DigiMaster



Roger Multimedia Hub



Roger Pass-around



Roger Charging Rack



The Roger SoundField System



Roger Pass-around



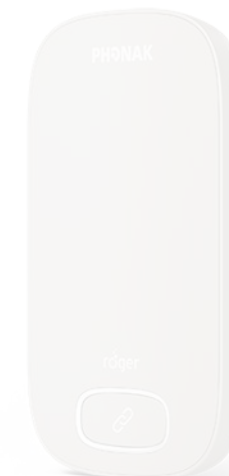
Roger Charging Rack



Roger Touchscreen Mic



Roger DigiMaster



Roger Multimedia Hub

Flexible for every classroom - Floor Stand



Flexible for every classroom - A Desk Stand



Flexible for every classroom - A Tripod



Flexible for every classroom - A Wall Mount



Flexible for every classroom - Setup options



A Wall
Mount



Floor Stand

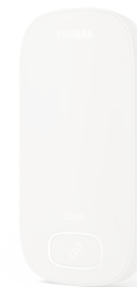


A Desk Stand



A Tripod

Roger Touchscreen Mic



Easy as ABC

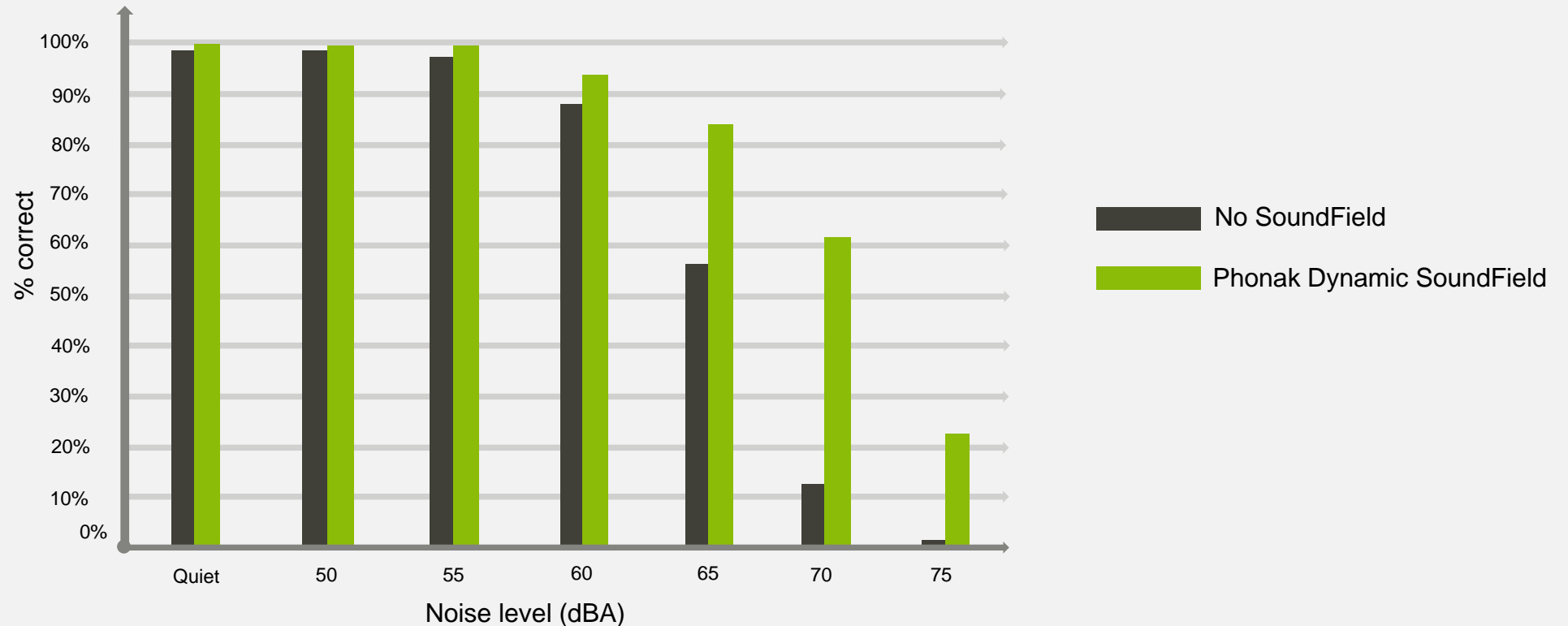


Learn more about Roger SoundField
visit Phonakpro-us.com/roger-dynamic-soundfield



Evidence of excellent performance

Average speech-recognition scores across the noise conditions for children with normal hearing with and without the classroom audio distribution (CAD) systems¹



¹ Wolfe, J., Morais, M., Neuman, S., Schafer, E., Mülder, H., Wells, N., John, A., & Hudson, M. (2013). Evaluation of speech recognition with personal FM and classroom audio distribution systems. *Journal of Educational Audiology*, 19, 65-79.



Accessibility for everyone

- Remove seating limitations¹
- Remove mobility limitations for teachers¹
- Improved reading skills³
- Greater ability to learn⁴
- Reduce vocal straining and throat infections for teachers²



¹ Kreisman, B.M. & Crandell, C.C. (2002). Frequency modulation (FM) systems for children with normal hearing. *Journal of Education Audiology*, 10, 21-25.

² Roy, N., Weinrich, B., Gray, S.D, Tanner, K., Toledo, S.W., Dove, H., Corbin-Lewis, K. & Stemple, J.C. (2002). Voice amplification versus vocal hygiene instruction for teachers with voice disorders: A treatment outcomes study. *Journal of Speech, Language and Hearing Research*, 45, 625-638.

³ Kirketerp, M. & Larsen, N.B. (2006). Soundfield enhances sounds and learning environments for teachers and students. Danish Soundfield study. *Phonic Ear*. Retrieved from www.phonicear.dk

⁴ Cornwell, S. & Evans, C.J. (2001). The effects of soundfield amplification on attending behaviours. *Journal of Speech-Language Pathology and Audiology*, 25(3), 135-144.



Roger Focus II

Focus on what matters

A Sonova brand

PHONAK
life is on

Functional hearing loss in APD

Difficulties with:

- Spatial sound processing
- Auditory discrimination
- Auditory pattern recognition
- Auditory temporal processing
- Degraded auditory information in competing sound

Impact on kids with APD

- Functional hearing loss can result in poorer behaviour, attention and concentration
- Reduced communication in social situations
- Leading to negative psychosocial effects
- Lack of support within the UK for children with APD



Kristin N. Johnston, Andrew B. John, Nicole V. Kreisman, James W. Hall III & Carl C. Crandell (2009) Multiple benefits of personal FM system use by children with auditory processing disorder (APD), *International Journal of Audiology*, 48:6, 371-383.

Help for kids with APD

When using Phonak remote microphone technology like Roger Focus II

- Parents report improved academic success
- Students report improvement in hearing the teacher
- Students report improvement in anxiety, depression and interpersonal relationships



Kristin N. Johnston, Andrew B. John, Nicole V. Kreisman, James W. Hall III & Carl C. Crandell (2009) Multiple benefits of personal FM system use by children with auditory processing disorder (APD), *International Journal of Audiology*, 48:6, 371-383.

Form factors

Up to
20

Hrs battery life
on a full charge



Roger Focus II
Rechargeable

Up to
52

Hrs battery life



Roger Focus II-312
Zinc-Air

Colors



Q2
Electric Green



Q3
Caribbean Pirate



T7
Alpine White



T3
Precious Pink



M6
Lava Red



M7
Blue Ocean



P8
Majesty Purple



H0
Beige



P6
Velvet Black



P6
Silver Gray



P6
Silver Gray



P8
Velvet Black

Roger Focus II
Rechargeable

Roger Focus II-312
Zinc-Air

Keeping kids safe with:

- Tamperproof battery door options
- Volume control range
- Lockable volume control
- Indicator light
- IP68



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Together, we
change lives