

Radio aid workshop

Cyprus, 2014

FM amplification [Radio aids]



Content

- What about hearing aids?
- What is a radio aid?
- Why might it be useful?
- What has to be in place for positive use?
- What potential benefits are there?

Hearing aids

- Provide amplification- make sounds louder
- Can be programmed for a range of listening environments
- Do not pick out the speaker –amplify all speech
- Do not function over distance, best at 1m.
- BUT do, if checked daily, provide amazing opportunities for deaf children

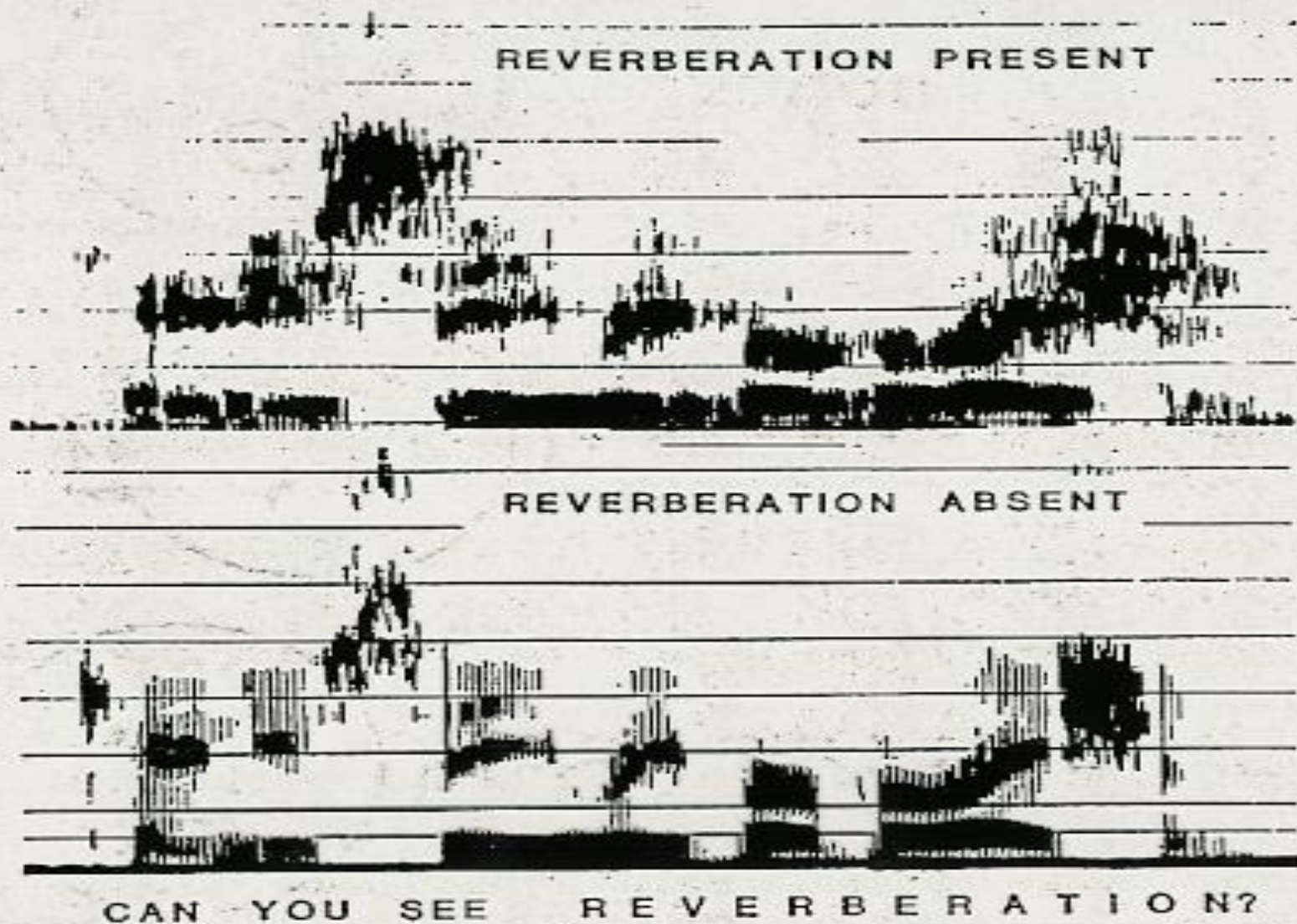
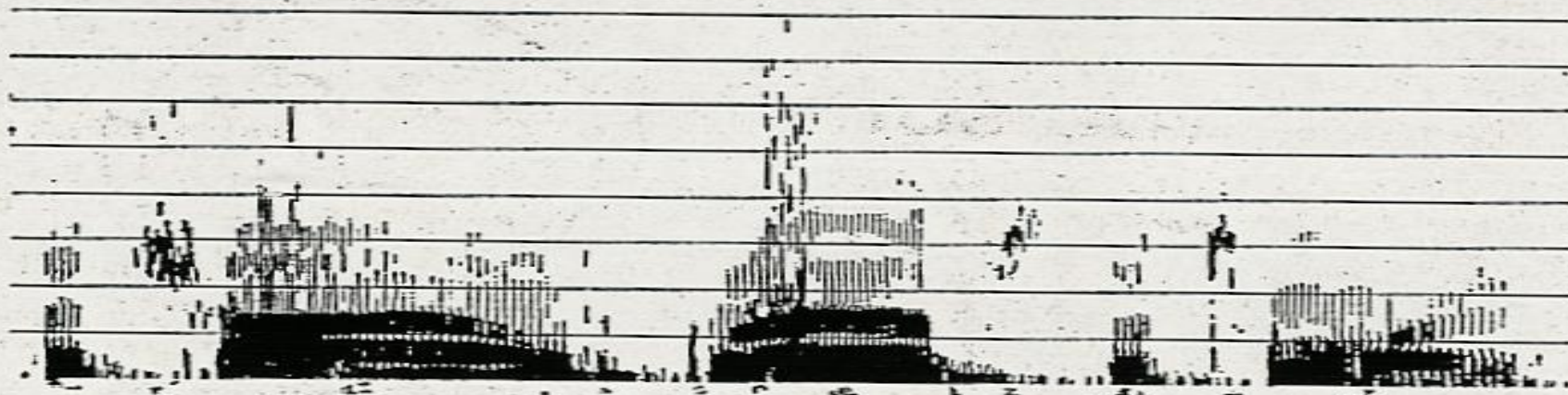


Figure 5. A sound spectrogram of the sentence "Can you see reverberation" spoken in a sound booth and a room with a reverberation time of .5 second. (Hawkins 1988, used with permission.)

Listening environments

- School
- Home
- Shops, parks, beach, restaurants, coffee shops, nursery, playgroup, church

QUIET



THE

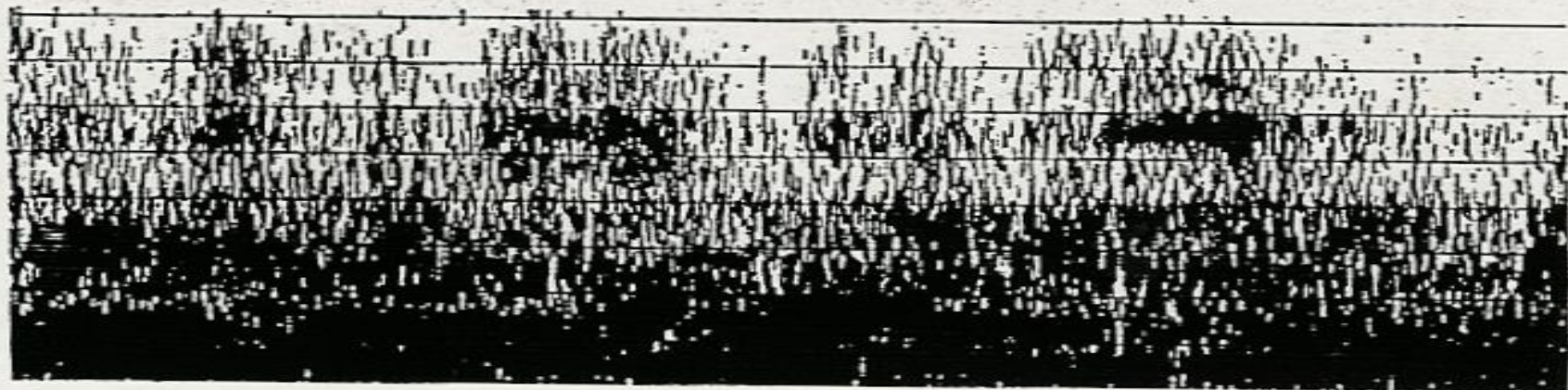
CHILD

GRABS

THE

TOY

NOISE and REVERBERATION



THE

CHILD

GRABS

THE

TOY

Hearing aids are compromised when:

- There is unwanted background noise
- Sounds echo round the room [reverberation]
- There is distance between the person who is speaking and the deaf child
- **BUT NOTE they offer amazing potential benefits to children if well managed**

Radio aids

2 parts:

- transmitter [Tx] worn by the speaker
- receiver [Rx] worn by the child

Transmitter [Tx]

- Worn by the teacher, parent, brother/sister.....
- The microphone picks up speakers voice
- They automatically limit the volume of the radio aid

FM radio aid



Tx and Rx must be on same frequency.
Most allow you to change frequency

Digital radio aid



Tx and Rx must be on same frequency.
Systems use very high digital signals, no interference and clean signal



Microphones

- May be built in to the Tx
- May be worn with a neck strap with mic clipped to clothing
- Headworn
- Conference mics- great for group work but can pick up unwanted noise
- Hand held mics-can be linked to some radio aids and to soundfield systems

Receivers

There are 5 types:

- Ear level that attach via an audio input shoe
- Integrated –built in to hearing aid
- Neckloops that require T setting to be active*
- Bodyworn receivers
- Earlevel for children who do not wear h. aids

Who can use a radio aid?

Children who have:

- Hearing aids
- A cochlear implant
- A bone anchored hearing aid
- A bone conduction aid



Radio aids can also be used with children who do not use hearing aids - mild, auditory processing disorder or attention deficit disorder

What do parents' deaf children say about using radio aids? [NDCS 2013]

- *“The radio aid has made a huge difference to him. Everything has changed –his attitude and his behaviour. He was struggling with school, he was below average, but now he’s above average”*

- *“Classrooms are loud and busy places . Using a radio aid helped my daughter feel involved.”*
- *“ Now she can hear everything, even when the teacher turns around or she sits at the back of the class. She has gone up a level in every class”*

‘Real life’ use of FM amplification

- Teenagers don’t like wearing FM systems
- Teachers of the Deaf provide INSET training
- For many Education = School

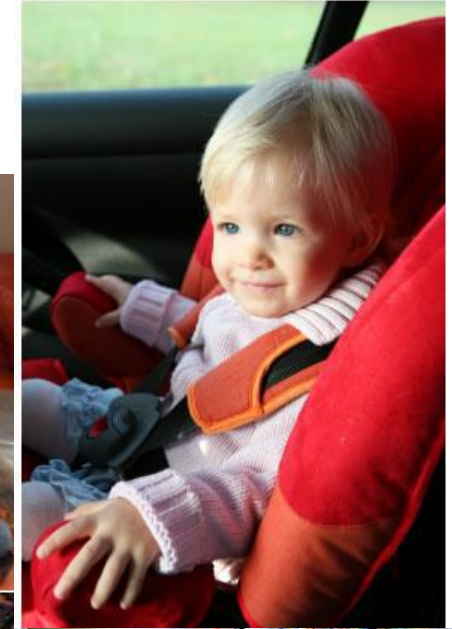
Real life use of FM amplification

- Mainstream settings
- MUTE facility
- Responsibility without choice
- Options to use with Ipads, Tablets, Smart phones, TV, DVD, Ipods and MP3 players
- In the car, shopping, Brownies, Scouts, park

Why restrict opportunities?



Why school age?



“A deaf child”

In the UK the term deaf is currently used to describe any degree of deafness affecting a child

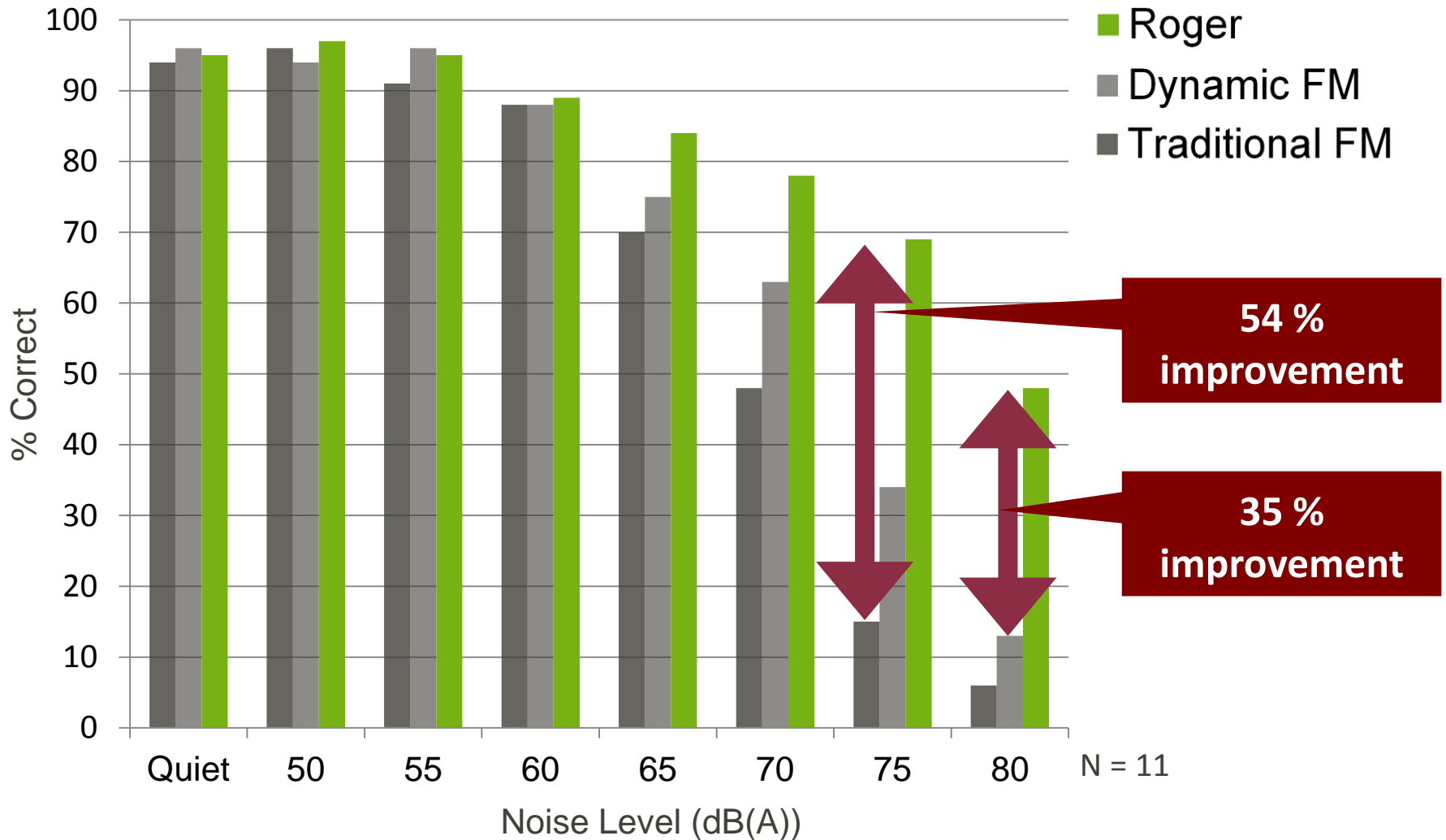
General public’s view of a deaf child in 2014



Your understanding of a deaf child?



Maximum performance



Practical !!!!!

- Try listening through hearing aid
- Try listening through hearing aid plus radio aid

Successful use of radio aids

- **MUST** have hearing aids “FM enabled”- click of a button for Audiologist
- **MUST** be set up to work with hearing aid
- Radio aids **do not provide amplification** they provide short microphone distance
- ALL staff using the equipment **MUST** be trained to make best use of it, to check it etc...
- Needs use of an electro-acoustic test box

QUESTIONS?

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