

# Devices to aid speaking and listening report examples

[Sociology](#), [Communication](#)



## **1. Bone-anchored hearing devices**

a. This type of hearing aid is designed to enhance the individual's ability to hear clearly. The device is surgically implanted: one part of it is attached to the skull, inside the head whilst another part is seen externally (Caversaccio & Kompis, 2011, p7).

b. It works by removing the need for the external auditory canal and the middle ear which in issues of hearing, have frequently become blocked; causing the problem in the first place (Caversaccio & Kompis, 2011, p3). The device causes vibrations throughout the bones, sending the correct sound waves to the brain to be processed as hearing.

c. In the US, the device costs around \$4000.

## **2. Communication software**

a. This software can allow for the severely disabled to communicate effectively by controlling it simply with a small switch. This is my popularly known through Professor Stephen Hawking's use in his wheelchair. By informing the software what it is he wants to say, he is able to give lectures and hold conversations with relative ease, as the computer speaks for him (Hawking. org. uk, 2011).

b. The device is controlled by a series of buttons and switches (a single switch in the most simplest of cases) and works on the basis of the user telling the software what it is they want to say and the computer saying it for them, albeit in a robotic voice.

c. This type of software Professor Hawking uses is called Equalizer and is available to download for free online.

### **3. Lightwriter**

a. Similar to the previous device, the Lightwriter enables the user to synthesise speech but also has a screen so that the user can see the words “thereby helping with intelligibility” (Pullin, 2009, p267). It is designed and built by Toby Churchill who is, himself, speech impaired (Pullin, 2009, p267), meaning that it is designed with that specific purpose in mind.

b. The user types or selects the relevant letters and can see them appearing on screen to ensure that they are saying the correct words and the device then synthesises their speech for them.

c. According to the ‘Afforda Speech’ website, the device sells for \$825.

### **4. Digital Hearing Aids**

a. Digital hearing aids are devices which are placed into the ear canal from the outside of the head. They can be placed and removed with ease. Frequently, the device will come attached to a ‘hook’ which sits over the ear, much like headphones do. Its goal is to improve the hearing of the user and to enable them to function more completely in everyday situations. It is not designed for use by those who are completely deaf but, rather, by those whose hearing as faltered or is weak.

b. The device works by amplifying sounds within the ear so that the ear itself, although weakened, can still perform its tasks with more ease

(Schaub, 2008). It sits in the ear and processes sound as it enters into the ear drum.

c. Prices can vary and digital hearing aids and according to HearingAidsCentral. com, prices can be between \$495 and \$895.

## **5. Amplified Phones**

a. For people with speech impediments, the problem is not so much making themselves be understood as much as it is making themselves heard. For many, the softness of their voice causes issues in communication and amplified phones can allow for that by adding volume to their words so that the person on the other end of the phone can hear them clearly. The device's goal is to amplify the speaker's voice so that they can be heard.

b. The phone works by having an inbuilt amplifier which allows the user to speak in their normal voice whilst the phone bolsters their volume before sending the message down the line, so that the person at the other end of the phone can hear them sufficiently.

c. According to Assistech. com, the phone is \$129. 95.

## **6. Portable speech amplifiers**

a. Again, for many people with a speech impediment, it is the volume of their voice which is an issue and this can be tackled through the use of a wide range of products known as portable speech amplifiers. These devices can be fitted over the mouth or held up to the larynx in order to better project the voice box's vibrations as sounds.

- b. Depending on the device, they are used in a variety of ways. Some are worn like a mask around the back of the head and amplify speech as it leaves the mouth, whilst others are held up to the larynx (in the throat area) and project sound from there.
- c. Depending on the device, and according to Assistech. com, these devices can range from \$169. 95 up to around \$1000.

## **7. Telephone Fluency System**

- a. For many, their speech impediment is born out of a nervous stutter which many develop from childhood. Speaking on the phone can be hugely difficult and embarrassing for the individual. These telephones are designed to cancel out stuttering and project the user's speech to be as smooth and fluent as possible.
- b. The phone is plugged into a headphone jack and has a delayed audio system which enables it to process speech and eliminate any stuttering or unnecessary noises, whilst also removing feedback. It has a number of settings which allow the user to control how much of an effect it has on their speech and the lower the feedback setting, the smoother the output of their voice is.
- c. According to Assistech. com, this device is \$1495. 00.

## **8. Sound Signallers**

- a. For many people who are hard of hearing, recognising that there is a sound at all can be difficult. This is easily demonstrated by the daily

occurrence of the phone ringing, for example. Sound signallers aim to show the incoming sound to the user without relying on their ability to hear and instead, uses vibrations to signify that they need to respond to something.

b. The device works by being placed into a pocket or nearby (or in some cases, under their pillow) and responds to sounds wirelessly by vibrating to signify that the phone is ringing or the doorbell has been rung or even if the smoke alarm is going off, for example. The vibrations alert the hard-of-hearing user to the sounds, eliminating the need for them to hear.

c. The cost of these devices varies depending on what they do, the technology they use etc. and according to ILTSource. com, the prices can vary from around \$35 up to nearer \$700, with the latter containing much more detailed devices.

## References

AffordaSpeech. com. (2011). Lightwriter. Retrieved from <http://www.affordaspeech.com/KC200.htm?gclid=CLjnp72lx6wCFQENtAod6nEPGQ>

Assistech. com. (2011). Speech Devices. Retrieved from <http://www.assistech.com/products/Speech-Devices.htm>

Caversaccio, M. D. & Kompis, M. (2011). Implantable Bone Conduction

Hearing AIDS. Basel, Switzerland: S. Karger AG.

Hawking. org. uk. (2011). Professor Stephen Hawking's Computer. Retrieved

from <http://www.hawking.org.uk/index.php/disability/thecomputer>

HearingAidsCentral. com. (2011). BTE Digital Hearing Aids - Open Fit Hearing

Aids. Retrieved from <http://hearingaidscentral.com/index.asp>

ILTSOURCE. com. (2011). Sound Signallers. Retrieved from [http://www.iltsource.com/Sound\\_Signalers\\_s/115.htm?searching=Y&sort=13&cat=115&show=30&page=1](http://www.iltsource.com/Sound_Signalers_s/115.htm?searching=Y&sort=13&cat=115&show=30&page=1)

Pullin, G. (2009). Design Meets Disability. Massachusetts: MIT Press.

Schaub, A. (2009). Digital Hearing Aids. Stuttgart, Germany: Thieme Medical Publishers.