SOCIETY FROM YOUR SOFA

Academic and social benefits of cochlear implants for children

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Greater advantages in sound.. Greater advantages in language?

- Cochlear implantation **improves speech perception** and production and facilitates the development of spoken language (e.g Geers, 2002; O'Donoghue et al., 2000; Tait et al., 2001;)
- Expressive and receptive language skills lower than their hearing peers (Cupples, et al., 2018;) but when matched on receptive language skills, children with cochlear impacts have larger expressive vocabulary size compared to their hearing peers(Jung et al., 2020).
- **Age at implantation is a key variable** in spoken language outcomes for congenitally deafened children (e.g Ching et al., 2017; Dettman et al., 2016; Geers & Nicholas, 2013)

Wear time of cochlear implants predicts receptive language skills of deaf children after 1 year of cochlear implant use (Gagnon et al.,2020)

What about communication skills?

- Children with cochlear implants perform less well in **communication skills** (teacher rating scale) in mainstream classrooms compared to their hearing peers (Damen, 2007; Mukari et al, 2007)

- **Pragmatic skills** : Deaf children with cochlear implants begin to acquire these skills at 6 years of age -hearing children at 3 to 4 years of age (Yoshinaga-Itano, 2012)
- <u>BUT</u>

  Socher, et al. (2019) found no difference between deaf and hearing peers.

HUGE variability

Reading skills

Positive outcomes:

- Children implanted under 42 months of age (8- 11 years of age) were reading at age appropriate level (Archbold et al., 2008);
- 88 % of the participants scored at an age-appropriate level in reading comprehension (Mayer et al.,2016)

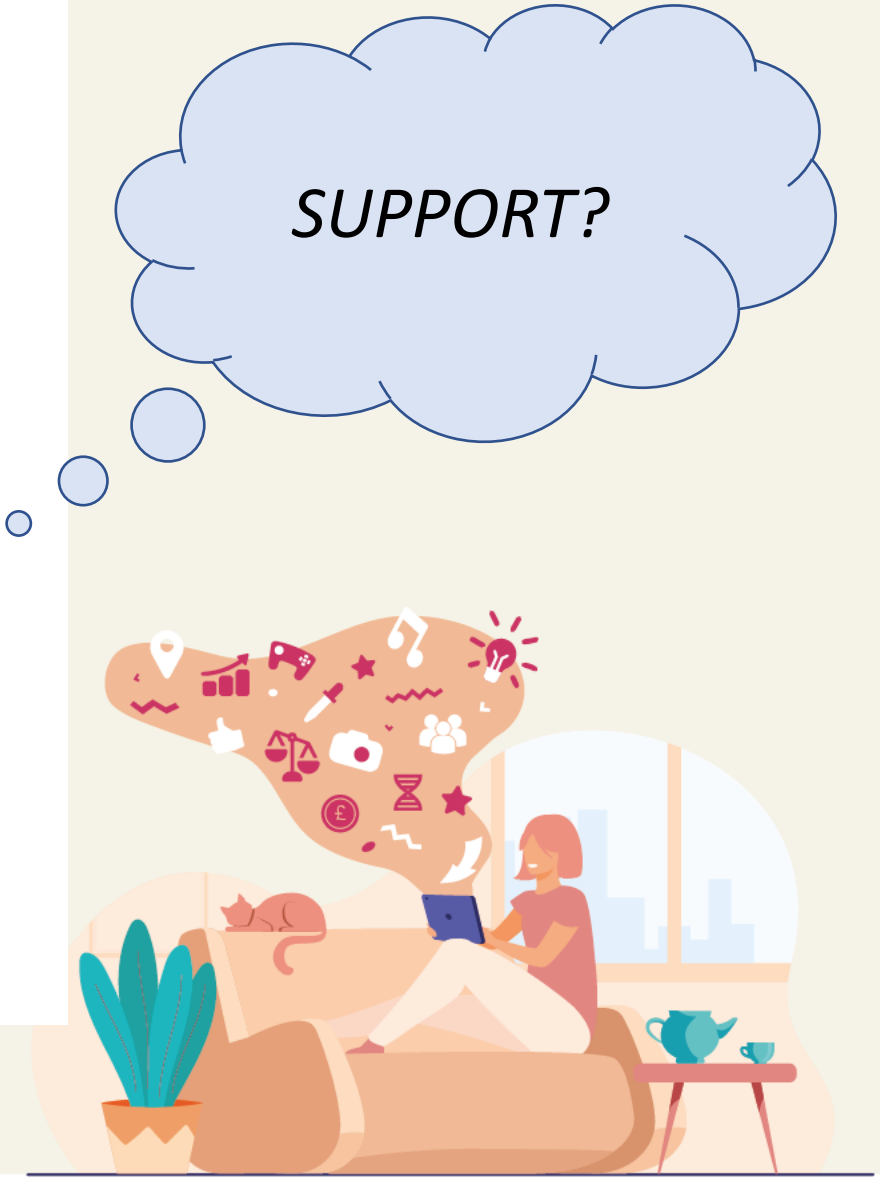
BUT

- No difference in reading (i.e reading comprehension and decoding skill)s and reading related skills (i.e phonological awareness, expressive vocabulary and speechreading) between children with CIs and HAs (Harris, Kyle and Terlektsi, 2017)

HUGE variability

Is progress in reading skills sustained?

- Forty-four percent of high school students achieved age-appropriate reading levels in high school, compared to 56% doing so in early elementary grades (Geers et al., 2008)
- Between the ages of 12 and 16 years, children and young people who had received a cochlear implant were reading no better than their peers who were using a hearing aid (Harris and Terlektsi, 2011)
- College students with CIs scored no higher than deaf non-users on lecture specific learning (Marschark, et al., 2019).



Writing skills

- Participants were performing significantly better in writing as compared to reading (Spencer et al., 2004)

BUT

- Less students achieved average level of achievement in writing compared to reading (Watson, 2002)
- 44% evidenced achievement at or above grade level in writing compared to 88 % in reading (Mayer et al., 2016)

Less evidence compared to reading

Social and emotional outcomes

- Positive effect impact of CIs on their social-emotional skills (Leigh et al., 2009; Moog et al., 2011).
- Higher levels of social functioning of deaf adolescents than they did prior to the use of a CI, when they had been more likely to find communication with hearing peers challenging (Percy-Smith et al., 2008; Leigh et al., 2009; Sahli & Belgin, 2006).
- Better peer relationship outcomes for children and adolescents with CIs compared to those who use hearing aids (Michael et al., 2018).

BUT

- Dammeyer, Chapman, and Marschark (2018) found that 55.4% of the adolescents felt different from others of their age, whereas 18.5% reported trying to hide their CIs often or all the time.

Terlektsi et al., 2020

Not feeling confident
Maybe I should be a bit more confident. I'm not that... I'm not too, too confident. I should be a bit more confident and be more positive about myself. And have faith in me. Because sometimes, when I do my A-levels thing, I'm always telling my friends, "Oh my God, I can't do this, I'm gonna fail this, I'm gonna do this so bad."

Not feeling part of the group/ feeling worried
Sometimes I don't like reminding my friends or my family that I'm deaf. Sometimes, like... when my implant battery's run out in the middle of a class, I tell the teacher, "Oh, I need to go to the toilet," and I change it. I don't tell my friends or family

Feeling anxious about the future
At university we've got to be, you know, it's going to be completely different because it's not like that we know everyone there and we're comfortable in there. We've actually got to stand up and, you know, talk to people and make the effort that way.

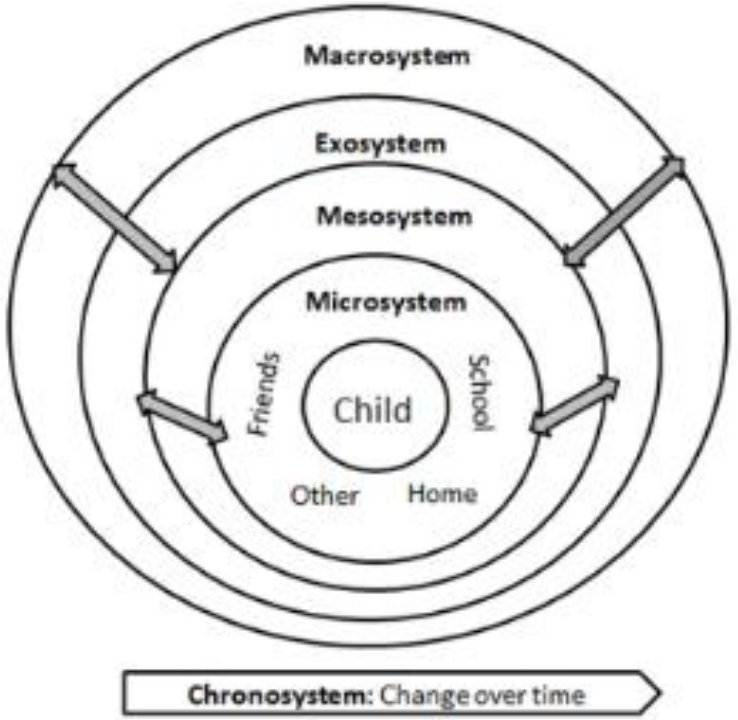
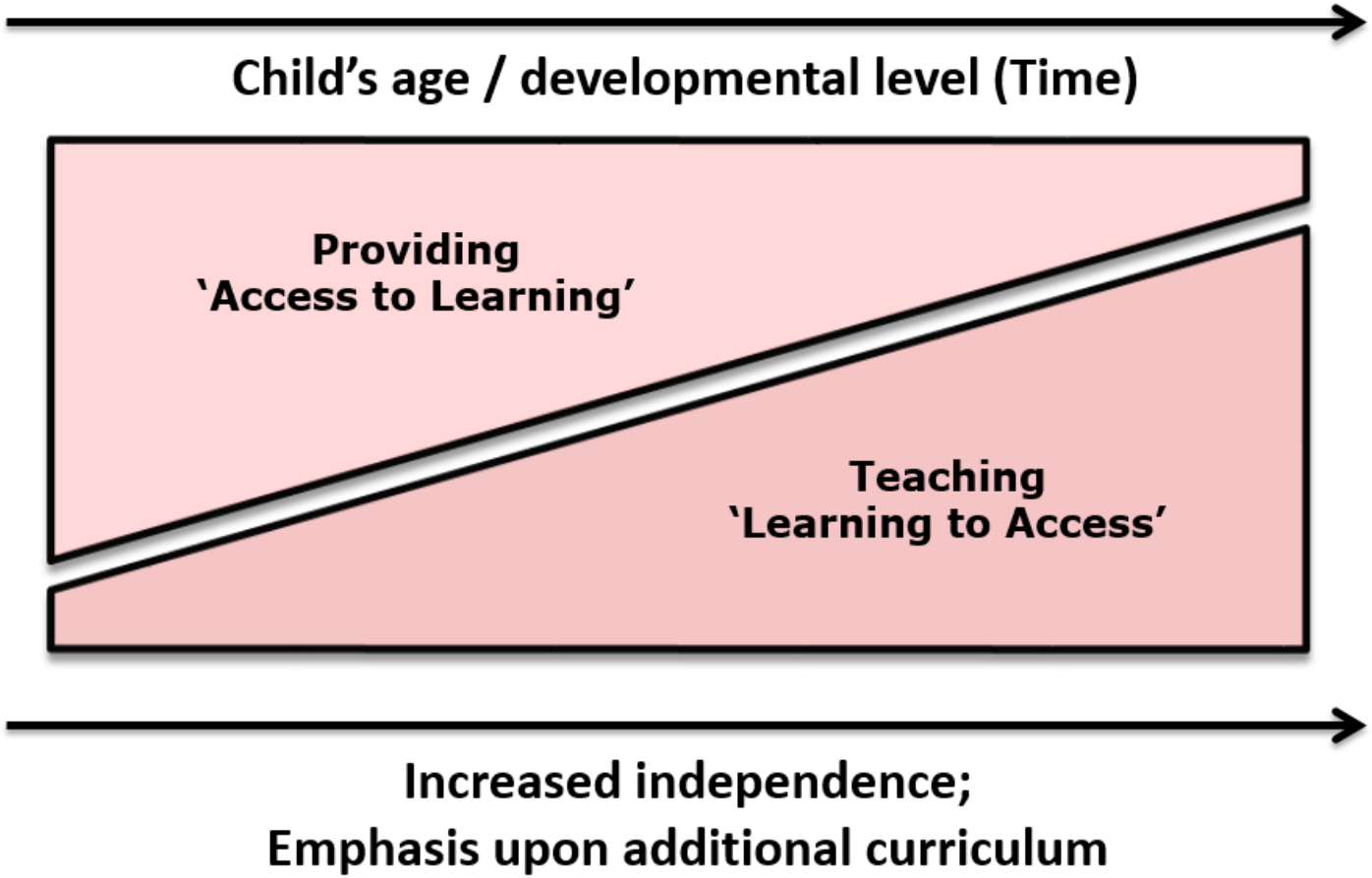


Figure 1: Ecological system framework adopted from Bronfenbrenner, 2005 and McLinden et al , 2016

Conceptual framework



McLinden, M. and Douglas, G. (2014)

It is complicated…

"Everything works for somebody but nothing works for everybody" (Marschark, 2018)

"There is currently more knowledge and skill required of a Teacher of the Deaf than at any time in the history of the field" (Leigh, 2010)

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