

Back to the future? (Buzzing Along?)

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This presentation

- Consider what we have learnt
- Look at current ideas v evidence
- Reflect on ethics of current practice
- Current practice-gaining evidence
- Look to a positive futures

We are shaped by our history

- But do we learn from it?
- The war to end all wars- 1914-1918
- Holocaust lest we forget- Cambodia, Srebrenica, Rwanda
- Florence Nightingale –hand washing routine/spread of CMV in Nurseries
- So do we really learn from past practice? Or do we repeat it?

Before I start.....

- Would you let a local Brownie set your leg if you broke it?
- Let an unqualified professional fix a gas leak?
- Take an unknown tablet to sleep better?
- Eat a pile of mud because your 3 year old thinks its yummy?
- Specialisms are important but require regular updates and to be informed by evidence

Beliefs.....

Are socially, culturally and economically shaped

- religion, diet, preferred clothing are clear examples
- I believe ALL deaf children should have the language used in their home as a basic human right

All ToDs want to provide best practice.

I will consider:

- Colourful semantics
- Shape Coding
- Hearing aids
- British sign language (BSL)
- Unilateral hearing loss

Colourful semantics

- Has its roots in 1893 when Kathryn Barry used a 5 colour system in Colorado school for the deaf-added a 6th column for adverbial phrases!
- 1926 (Edith) Fitzgerald Key- Wisconsin school for the deaf
- 1926-1970's used in USA and in some UK provision

Persisted and developed

Goossens', Crain, Elder, 1992

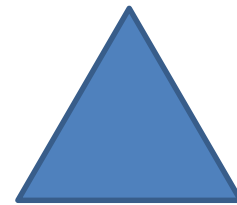


But NO evidence that this has had any positive impact on deaf children's mastery of syntax

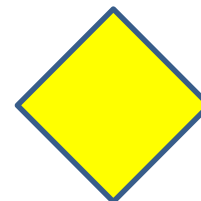
Colourful semantics

- Who can benefit from Colourful Semantics?
The approach can be used for one to one by therapy by SaLT with children with:
- Specific Language Impairment; Developmental Delay or Disorder; Autistic Spectrum Condition; Down Syndrome; Literacy difficulties
- **NO published evidence that this is of any benefit for deaf children**

Shape Coding



- Aimed at children with severe and persistent Specific language disorder (now DLD)
- Of 7 studies identified **NONE reported using shape coding with deaf children**
- All reported using this in one to one sessions with children who had identified language disorders
- ? **ONLY if a child has a clearly identified DLD in addition to deafness and then only in 1 to 1 therapy**



Could you code (Colour or Shape)?

- **I was going to go but after she rang I decided not to and to simply work instead.**
- So who is promoting such approaches ?

Hearing aids....

- Offer very significant and measurable benefits****
- Aids must be worn all waking hours and have appropriate/relevant input and be working!!!
- Resting ears is a fallacy – ears work all the time
- “If a child is using technology for only 4 hours per day , it will take 6 years for that child to hear what a typically hearing child hears in one year”

Moeller, 2012

BUT.....

- Adults require a **signal to noise ratio** of +6dB
- A young child requires a SNR of +16dB
- By 8-9 yrs hearing children perform as well as adults in steady noise
- However in talking noise they require +20 dB SNR to perform as adults at age 11-12 yrs.
(Rosen, 2009)
- **A deaf child requires a SNR of +20 to +30 dB**

AND.....

We know:

Hearing aids do not work optimally at distance or in noise

- Classrooms, halls, playing fields, gyms, dining halls
- Pushchairs, car seats, in supermarkets, in parks at playgroup, cubs, brownies, football, cross country and many other social events....

but.....

Battern (2013) of 13 different typical listening situations of infant listener- in every situation the s/n ratio was between -10 and 0 dB

“When we want to remember something we have heard, we must hear it **clearly because memory can be only as clear as its original signal...**” [Doidge, 2007]

Evidence tells us.....

The first year of life is a foundation for later learning

- In AUDITORY terms this is when a child starts to build listening skills (Kuhl,2004; Christophe et al.,1993: Jusczyk & Hohne, 1984)
- In the first ten months of life that infants begin to change the way they perceive speech **based on their exposure to their native language**, (Nozza, 2000)

Purely in terms of evidence

- Hearing aids work optimally up to 1 metre in quiet
- Children are seldom in such settings
- Hearing aids alone will NOT provide access to speech in the majority of listening situations children live and learn in
- **Radio aids, if used sensitively, will provide such access (Mulla & McCracken, 2013; Cooper & Statham 2015)**

Health/Education

- We URGENTLY need to change the conversation
- We can't needs to be if we work together can we change practice
- Is it appropriate to deny children access to technology that can provide them with access to sound, friends, TV, X box, playgroup, Brownies/Cubs/Woodcraft, family life?

Sign Language

- Stokoe 1957- ASL (and other native sign languages) are full languages with their own syntax, vocabulary
- It is a multi-layered complex language
- It has its own history, can evolve new vocabulary and is recognised in its own right by the Govt.
- It is culturally and socially central to Deaf culture

Sign Language

- It can be used to tell poetry, in the theatre
- To relax and chat with friends
- It is not a written language although sign linguists have devised ways of notating it for research studies

BUT looking at **evidence**

Having a native user of a language is optimum for gaining age appropriate use of any language

- ***NO evidence that BSL, ASL, ISL etc allow a child to access age appropriate literacy skills***

Lack of evidence of the impact of sign language on development of ToM in writing – watch this space.....

Unilateral hearing loss

Commonly thought a good position in class will allow a child with a unilateral loss to access curriculum

I am unaware of any services that have a specific approach which looks at the specific needs of this group

Often not on caseload????

Is this evidence based as an approach?

Hearing Research Feb: 2019

Weiringen et al. (2019):-

- Localisation errors (28 degrees v 4-6 in NHC)
- Reduces ability to listen in noise and increases cognitive demand
- Identified differences in functional connectivity of brain networks involved with executive, cognitive and language functioning (Jung et al, 2017)

And.....

- 41 % of children with UHL in study had delays in pre-verbal vocalisations (Kishon & Rabin, 2005)
- Corroborates study by Kiese-Himmel (2002) that children with UHL v NH were 5 mths delayed in use of two word phrases
- Fischer & Lieu, (2012) - such differences are maintained rather than the gap being closed

And.....

In children with profound unilateral h. loss:-

- Vestibular and balance function is often impaired
- Wolters et al., (2016)- high prevalence of balance disorders this may be demonstrated in delayed motor milestones
- Effort required to maintain balance reduces cognitive effort for other tasks

Where is classroom research?

- ToDs have probably never had more demands on them
- Many work in isolation
- May have Heads of Schools or Services where there is no specialist training in deaf education
- Many do not have research training
- Children are dispersed with >70% in mainstream schools

Buzzing along

- Symbol of Manchester a hive of industry and activity
- It takes one bee its whole life and all its energy to make $1/8^{\text{th}}$ of a teaspoon of honey
- As ToDs we need to work together and with other professionals BUT not be dictated to by others.....

No panaceas

- Whilst people will always look for easy ways to approach any task
- We, as professionals, have to clearly separate beliefs and evidence
- This is challenging as we **all** have biases and strong beliefs

Where next?

The University of Manchester prides itself in its history of 100 years of evidence based practice

Heads of Schools for the deaf complained to the University when Irene Ewing (nee Goldsack) was appointed in 1919?

What do you believe was the issue?

Choose

1. *Because she was a woman*
2. *Because she was deaf*
3. *Because she believed experience precedes language*
4. *Because they felt training should be in schools not universities*

The future.....

Is always unknown but.....we already know

- NICE have agreed to introduce Genomic screening
- Cortical evoked potentials may offer a way to sensitively fit hearing aids very early
- Remote supervision may be useful for home visits in rural areas or busy cities
- It is exciting, challenging

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The future.....

You are responsible for ensuring

- ALL deaf children have a evidence based approach
- That ethically, the approaches used are all fully informed and not a result of personal belief
- All professionals involved respect each others professional (evidence based!) input

The future.....

Is YOUguard it well, enjoy and
celebrate all that deaf children can do

Thank you and goodbye!