Language Deprivation

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- Brief educational history
- Diagnosis
- Separation of eye and ear
- Risk factors
- Knowledge deficits
- Carroll’s model of school learning
- Disruptions
- Inside the school setting
1960’s and 1970’s

- Elementary and Secondary Education Act
- Rehabilitation Act of 1973
- Education for all Handicapped Children Act

American Sign Language recognized as an autonomous language (Stokoe, 1960)
Psychology of Deafness published (Myklebust, 1960)

Education Reform

- IDEA
  - Expansion of definition of children with disabilities
  - Process for parents to resolve disputes with LEA
- NCLB
  - Included new provisions for assessment of English Learners – progress and proficiency in English
  - Annual targets for achievement
- IDEIA

Defining the rights for inclusion

It is often assumed that deaf children enter school with basic language skills. People often forget or have not learned that one of the greatest impacts of hearing loss is the ability to acquire language.

(Siegel, 2001)
Diagnosis

- DSM-5 recognize language disorder or thought disorder
- Language deprivation is not yet an official diagnosis

Language disorder concerns problem in **PROCESSING** of linguistic info

Thought disorder concerns problem in **ORGANIZING** cognition
Language deprivation defined

✓ Dysfluency
✓ Knowledge deficits
✓ Disruption in thinking, mood, or behavior

504 or the IEP

<table>
<thead>
<tr>
<th>Modification</th>
<th>Accommodation</th>
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</thead>
<tbody>
<tr>
<td>expectation on learning</td>
<td>how learn</td>
</tr>
<tr>
<td>less homework</td>
<td>level the playing field</td>
</tr>
<tr>
<td>omit</td>
<td>preferential seating</td>
</tr>
<tr>
<td>lower level</td>
<td>notes</td>
</tr>
<tr>
<td>previews</td>
<td>extra time</td>
</tr>
<tr>
<td>waiver or excused</td>
<td>typing</td>
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<tr>
<td>pass fail</td>
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Deprivation is a reality
Human interaction relies on language

- **Etiology**  (Crump & Hamerdinger, 2017)
- **Deprivation** (Gulati, 2003)
- **Dysfluency** (Fellinger, 2012)
- **Deprivation v. Dysfluency** (Glickman, 2007)
- **Fund of Information Deficit**  (Pollard, 1998)
- **Language assessment, demographics, diagnoses**
- **Information Deprivation Trauma** (Schild & Dalenberg, 2012)
- **Health Literacy Failure**  (Pollard & Barnett, 2009)

**Language Deprivation**

- Taken away from individual
- Empty from individual
- Exposure to language limited
- Have not learned relationships
- Mental desktop preoccupied

Language is a “brain” thing. Through language, we develop cognition.
Crossmodal recruitment

Visual Motion detection discrimination

Lateralization of Language Function
  Left Hemisphere  Right Hemisphere

(Bosworth & Dobkins, 2002; Neville et al, 1998)

Marked deficits in visual attention

✓ If a deaf child cannot monitor their environment...
✓ Language to scaffold internal regulation of attention

Neurocognitive deficits that impact functional language development
  (Landsberger et al, 2014)

Capacity for Intelligence

<table>
<thead>
<tr>
<th>Verbal 35%</th>
<th>Reasoning</th>
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</thead>
<tbody>
<tr>
<td>Nonverbal 65%</td>
<td>Visual processing</td>
</tr>
<tr>
<td>Facial Expressions</td>
<td>Retrieval of Memory</td>
</tr>
<tr>
<td>Tone of Voice</td>
<td>Perception</td>
</tr>
<tr>
<td>Appearance</td>
<td>Eye Contact</td>
</tr>
<tr>
<td>Gestures</td>
<td>Features</td>
</tr>
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Transactional Neuropsychological Models Understanding Childhood and Adolescent Disorders, 2016.
What happens when a “word salad” forms when deaf children toss in several different words or concepts into one melting pot of language to self-regulate?

Gulati, 2014

Children with language deprivation can show spectacular levels of acting out as they face frustration in identifying and expressing needs, coupled with uncertainty about whether or how their needs can be met.

Late language exposure

Unable to put feelings into words
Lack cause-effect narrative

Emotional Regulation

Late language exposure

Unable to talk to themselves
Availability of emotional support is lacking

Words and sentences by itself may not describe intent.

How does a student reconstruct knowledge while missing information?

FAPE v. LRE

The first psychological trauma someone with hearing loss encounters is not their disability of deafness but rather the deprivation of full access to language.

(McCullough, 2016; Siegel, 2002)
Younger children – at risk for visual spatial, visual-perceptual, visual-motor skills

Older children – at risk for reasoning and complex language

Behavior? Language?

Strong link between language and behavior problems.

Diagnosis of language disorder has higher incidence of behavior problems.

Diagnosis of behavior problems show higher incidence of language disorders.

More often than not, dismissed as normal development phase

Isolating language from behavior is difficult.

Attention Deficit or Deafness?

✓ NIMH indicates 3%-5% hearing will be diagnosed with ADHD.
✓ Using same norms, Deaf potential 38.7% diagnosis (Parasnis, Samar, & Berent, 2003)

Easily distracted by irrelevant information than hearing peers (Dye, Hauser, Bavelier, 2009)

Testing, (Achievement or Intelligence) is problematic
Concerns

- Unable to communicate needs
- Unable to look internally to manage via language (private speech)
- Expression of emotions often shift to behavior
- Increased risk for trauma

Schild, 2012

- Deaf lower threshold on what creates trauma
- Language limitations, inability to perceive warning
- Sexual assault high scores; consider exploitation
- Death is only traumatic if person was gatekeeper
- Reoccurrence of assault, become numb
- PTSD language does not necessarily describe trauma well for incidental populations

Theme emerges - Information Deprivation Trauma
Most checklists and interviews do not measure this

Narration

- Know the meaning of more words rather than knowing how to pronounce
- Finding synonyms for words that they want to use but didn’t feel confident saying out loud
- Inability to arrange narratives in a timely sequence
Learning is incomplete, unless it is shared

- Isolation in the mainstream
  - Limited experience and interaction with the curriculum
  - Limited experience and interaction with peer reinforcement
- Inability to gain social consciousness
  - Acquisition of pre-determined set of skills
- Focus is on subject matter
  - How do we organize facts and relationships when there are missing pieces?

Delayed Acquisition of Language

- Nouns easily acquired
- Greater difficulty to acquire verbs or adjectives
- Neologism
- Abstract v. concrete
- Lacking in grammatical features
  - Plurality, pronouns, structure of sentence

Factors in Learning

- Interest in student learning time can be traced to John Carroll (1963)
- Engage in learning – reduction in behavior
- Childhood adversity – increased risk of emotional, physical, or sexual abuse
Carroll’s model was selected because it indicates opportunity

Bloom’s taxonomy requires attainment

School learning via Carroll Model (1963)

✓ Think about the time we need to study the material then divide that time needed to learn the material.
✓ School learning = f(time spent/time needed)

✓ Five factors in model of school learning
✓ Aptitude, Ability, Perseverance, Opportunity, and Quality
Aptitude
✓ Measure knowledge a student has
✓ How quickly can we learn something
✓ Deprivation invites short attention span

Caroll, 1963; Huit, 2006

Ability
✓ What are we able to understand?
✓ Learned v. not learned
✓ Deprivation results in difficulty learning new information

Caroll, 1963; Huit, 2006

Perserverance
✓ Task at hand that needs to be done
✓ Time willing to spend on learning
✓ Level of interest
✓ Deprivation increase problems with concentration

Caroll, 1963; Huit, 2006
Opportunity

✓ Time to learn in class and homework
✓ Allowed to make mistakes and learn
✓ Deprivation impairs deductive reasoning skills

Carroll, 1963; Huit, 2006

Quality of instruction

✓ Good teachers or good students?
✓ Time will it take for a teacher to master their content and then flip it?
✓ Time it takes for a student to learn by interpreting information?
✓ If quality is bad, more time is needed

Carroll, 1963; Huit, 2006

How much time in a school year?

✓ Roughly 45 minutes per class period
✓ 8 periods a day
✓ 180 school days
✓ 64,800 minutes of potential academic time
✓ 8.11% of 525,600 minutes in a year

90% of children with hearing loss will have parents that have never experienced hearing loss (Mitchell & Karchmer, 2002)

Nearly 90% of deaf children are educated in mainstream environment (Cogen & Cokely, 2015; DPI, 2010)
Daily deprivation occurs how?

- Awareness of conversation
- Context assumption
- Display of language
- Deficit in everyday information

Language Deprivation in School

- Executive Function
  - Attention under time duress
  - Inhibition vs. impulsivity
  - Concept formation
  - Content, abstract, more complex
  - Cause and Effect
  - Shifting/Flexibility
  - Control of emotion
  - Dunning-Kruger
  - Unskilled and unaware

- Social Maturity
  - Less stringent responsibilities
  - Differences in age-appropriate
  - Implementation/Adaptation
  - Cannot appreciate T.O.M.
  - Self-management
  - Respect for social rules
  - Fragile perfect (grit)
  - Entitlement

What is the student’s goal? How to responsibly activate?

Final food for thought

- Strong predictor of academic achievement is amount of time engaged in active learning. Deprivation sets a child behind the curve.

- How can you measure the quality within translation?

- Do you spend more time on “how” to teach or “what” to teach?
Subconscious hunger for unfettered access to language
-replaced by-
Subconscious hunger for altered state of mind

Questions
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