

Atypical language development

Some forms/causes of atypical development

- Mental retardation (MR)
- Autism Spectrum Disorder (ASD)
- Specific Language Impairment (SLI)
- Hearing impairment (HI)

ASHA's Definition

- Language disorder involves
 - Abnormal acquisition, comprehension, or expression
 - Of spoken or written language
 - And can involve all or some of the phonologic, morphologic, semantic, syntactic, or pragmatic components

Mental retardation

- Definition: “significantly subaverage general intellectual functioning, existing concurrently with retarded limitations in two or more...adaptive skill areas, . . . manifested before age 18”
 - American Assoc. on Mental Deficiency
 - Generally, IQ of 70 or below
 - Skill areas include things such as speech & language, self-help, sensorimotor skills, social skills, reasoning, social responsibility...

Mental retardation

- Causes are often unknown
- Often concomitant with other disorders
- Subgroups most studied with regards to language include
 - Down Syndrome
 - Williams Syndrome
 - Fragile X

Frog story examples

From Bellugi et al., 1999

- The frog is in the jar. The jar is on the floor. That's it. The stool broke. The clothes is laying there.



Frog story examples

From Bellugi et al., 1999

- Once upon a time when it was dark at night... the boy had a frog. The boy was looking at the frog... sitting on the chair, on the table, and the dog was looking through... looking up to the frog in a jar. That night, she slept and slept for a long time, the dog did. But the frog was not gonna go to sleep. The frog went out from the jar. And when the frog went out... the boy and the dog were still sleeping. Next morning it was beautiful in the morning. It was bright and the sun was nice and warm. Then suddenly when he opened his eyes... He looked at the jar and suddenly the frog was not there. The jar was empty. There was no frog to be found.

General patterns

- In general, children with MR below the age of 10 tend to show a normal but slowed pattern of development:
 - Slower acquisition (speed)
 - Less language (quantity)
- After age 10, they may differ more qualitatively.
- Mental Age (MA) is best predictor

Other characteristics

- Semantics
 - Slow vocabulary growth
 - More concrete vocabulary
- Syntax
 - Shorter, less complex sentences
 - Similar developmental sequence
- Comprehension
 - Poorer sentence recall
 - More reliance on context
 - Poorer receptive skills

Autism Spectrum Disorders or Pervasive Developmental Disorders

- Includes 5 disorders:
 - Autism
 - Rett's disorder
 - Childhood disintegrative disorder
 - Asperger syndrome
 - Pervasive developmental disorder-not otherwise specified (PDD-NOS)
- Language patterns differ amongst these

Communicative weaknesses

- Joint attention
 - Difficulty orienting or attending to social partner
 - Difficulty following gaze or pointing
 - Difficulty initiating joint attention (pointing, showing)
- Symbol use
 - Difficulty learning both names for things and symbolic gestures
 - Don't use gestures to compensate

Echolalia

- The act of repeating language heard in the speech of others.
 - Immediate echolalia
 - Delayed echolalia
 - Exact vs. mitigated
- M: Adam, are you ready?
– A: Adam, are you ready?
– M: Go open the door
– A: Go open the door.
– M: Where is your coat?
– A: Your coat.

SLI

- Language delay or disorder but with no obvious reason (no HI, cognitive impairment, etc.)
- “the inability to achieve age-appropriate language ability in the absence of detectable sensory, cognitive, physical and environmental limitations”
- A diagnosis of exclusion
- Most begin as late talkers

Lexical patterns

- Slow at word mapping
- Rely on smaller expressive lexicon, and higher proportion of general all-purpose words (“thing”, “do”)
- Slower and less accurate in naming
- More circumlocutions
- Difficulty with ambiguous words
 - The noise of the *fans* disturbed the boy

Pragmatics

- Not as severe as deficits in other areas
- Less appropriate requests and responses to requests
- Less sensitive to needs for clarification
- Poorer narratives
- Some tend to interpret language very literally

Morphosyntax

- Particularly depressed ability to use grammatical morphemes
 - Plurals
 - Possessives
 - Tense markers
 - Articles
 - Auxiliary verbs
 - Copula (verb *to be*)
 - Prepositions
 - Complementizers (such as *to* in *I need to go now*)

SLI example - age 4;7

- C: This the fireperson. This the bell.
(*indicating fire alarm*)
- A: Does the bell ring in an emergency?
- C: No. The bell, it has. . . The car come out.
- A: The cars come out when the bell rings?
- C: (*nods*) The telephone do that, too!

Plante & Beeson, 1999

Models/Causes

- Rapid Auditory Processing deficit (Tallal et al., 1985)
- Surface Hypothesis - difficulties with brief, low-phonetic substance morphemes (Leonard 1997)
- Generalized Slowing Hypothesis (Kail, 1994)
- Extended Optional Infinitive (Rice, Wexler, & Cleave 1995)
- Poor short-term memory for speech sounds (Gathercole, 1998)

Universality

- Children with SLI will always look linguistically weak - but “the characteristics of language that most sharply distinguish children with SLI from age or MLU controls will not be the same from one language to the next”
 - Ex: in English, the root form of *walked* (*walk*) is also a word. SLI children will often say *that* instead.
 - In Spanish, the root form of *to walk* (*caminar*), cannot be used - you can't say *camini-* by itself, and thus kids with SLI do not omit markings.

Hearing impairment

- Variables:
 - Degree of loss
 - Age of onset of loss
 - Etiology/Cause
 - Slope of loss
 - Age of identification
 - Age of habilitation
 - Amount of habilitation
 - Type of habilitation

Phonological development

- Particular problems producing:
 - High frequency sounds
 - Non-visible sounds
 - Sounds at ends of words
 - Sounds in clusters
- Different prosodic patterns
- Lack of fluid coarticulation

Semantic & grammatical ability

- One estimate: Deaf adults tend to have lexical abilities more akin to a normally-hearing 4th grader (Tye-Murray, 1998)
- Syntactic difficulty with patterns that are typically difficult (such as passives), but also with verb auxiliaries, infinitives, modals, gerunds.... (Quigley & Paul, 1984)

Writing example

- I really like {}college. The reason that is good for me. Also they have many students that I know. That school is good for me and keep my mind up and keep busy, they have good education in {}. Maybe I will try for AA class next year. Now I am taking MBT class this year. Also that MBT is good for in the future. that MBT is the best pay and it is hard work. There is many different jobs in the USA. I am not sure what I want like plumbing, electric, or building. I hope that I an suceful in the future Also I want my family proud of me what I am doing this.

Sheetz, 1993

ASL as first language

- Patterns of language development of children learning ASL parallels patterns of typically-developing children learning spoken language

Some educational approaches

- Oral/Aural
 - Instruction in lipreading, auditory and articulation training
- Total communication
 - Oral language supported with manual signs
- Cued speech
 - Uses handshapes near mouth to disambiguate lipreading
- Bilingual/Bicultural (bi-bi)