

# LANGUAGE DISORDERS



# OUTLINE

- 1. Speech, Language and communication
- 2. Types of Language Disorders:
  - 2.1. Stuttering
  - 2.2. Aphasia
  - 2.3. Rhotacism
- 3. Language Disorders in Children
  - 3.1. Dyslexia
  - 3.2. Apraxia Kids
  - 3.3. Selective Mutism
- 4. Treatments to Some of the Problems
- 5. Conclusion



# Nature of Speech, Language, and Communication

Speech: expression of language with sounds

Language: rule-based method of communication

Phonology: The sounds characteristic of a language, rules governing their distribution and sequencing, and the stress and intonation patterns that accompany sounds

Morphology: The rules governing how words are formed from the basic element of meaning

Semantics: Rules for how to string words together to form phrases and sentences—the relationships among the elements of a sentence

Syntax: The linguistic realization of what the speaker knows about the world—the meanings of words and sentences

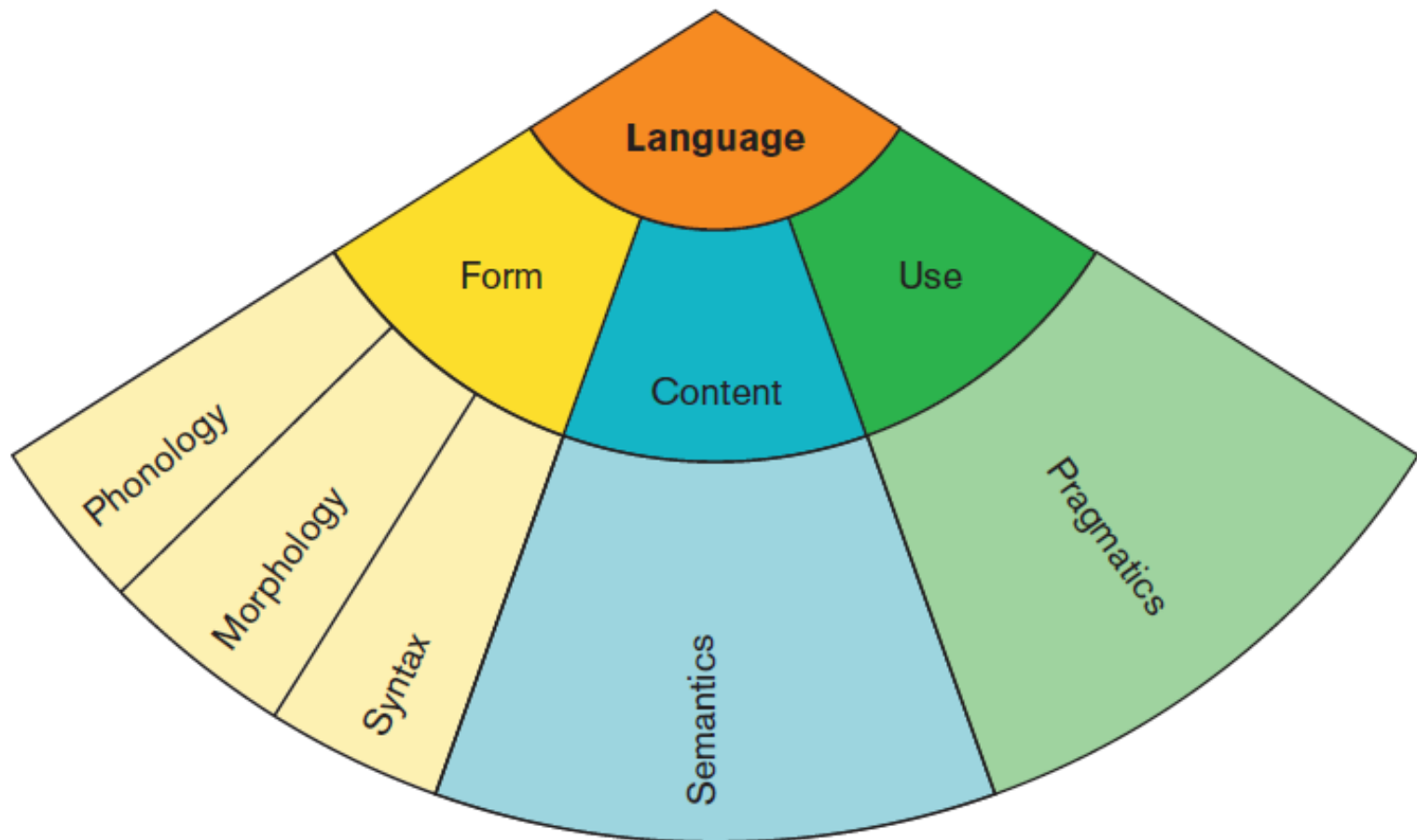
Pragmatics: The social effectiveness of language in achieving desired functions—rules related to the use of language in social contexts

Communication: involves verbal and nonverbal behaviors



■ ■ ■ ■ ■ Figure II.1 Basic Components of Language

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SOURCE: Adapted from R. Owens, *Language Development: An Introduction*, 8th ed. (Boston, MA: Allyn & Bacon, 2012), p. 19.

**Table 11.2 Components of Language**

Component	Definition	Receptive level	Expressive level
Phonology	The sounds characteristic of a language, the rules governing their distribution and sequencing, and the stress and intonation patterns that accompany sounds	Discrimination of speech sounds	Articulation of speech sounds
Morphology	The rules governing how words are formed from the basic element of meaning	Understanding of the grammatical structure of words	Use of grammar in words
Syntax	Rules for how to string words together to form phrases and sentences—the relationships among the elements of a sentence	Understanding of phrases and sentences	Use of grammar in phrases and sentences
Semantics	The linguistic realization of what the speaker knows about the world—the meanings of words and sentences	Understanding of word meanings and word relationships	Use of word meanings and word relationships
Pragmatics	The social effectiveness of language in achieving desired functions—rules related to the use of language in social contexts	Understanding of social and contextual cues	Use of language to affect others

SOURCE: Adapted from I. McCormick, "introduction to language acquisition," in I. McCormick, D. Loeb, and R. Schiefelbusch (eds.), *Supporting Children with Communication Difficulties in Inclusive Settings*, 2nd ed. (Boston, MA: Allyn & Bacon, 2003).

# Defining Speech and Language Impairments

The IDEA label for students with communication difficulties is **speech and language impairment** and they are eligible for special education if they have “a communication disorder such as stuttering, impaired articulation, a language impairment or a voice impairment, which adversely affect a child’s educational performance.”



# INTRODUCTION

- Language disorders are those **problems** that involve the **processing of linguistic information** such as grammar or semantics.
- They can be **receptive** problems (language comprehension) or **expressive** problems (language production)
- Language disorders affect both written and spoken language.



## Additional Considerations

*Social, Psychological, and Educational Impact:*

Does a child's language performance have a negative impact on her ability to function in society?

*Language Disorder vs. Language Differences:*

Take into consideration the cultural contexts in which a child is raised and expected to perform by using both norm-referenced and cultural expectations

*The Meaning of "Significant":* What is serious enough to be considered a disorder?



# Defining Speech and Language Impairments

- The American Speech-Language-Hearing Association defines a **communication disorder** as “an impairment in the ability to receive, send, process, and comprehend concepts or verbal, nonverbal, and graphic symbols systems. A communication disorder may be evident in the processes of hearing, language, and/or speech.”



# Defining Speech and Language Impairments

- The IDEA WORDING for students with communication difficulties is **speech and language impairment** and they are eligible for special education if they have “a communication disorder such as stuttering, impaired articulation, a language impairment or a voice impairment, which adversely affect a child’s educational performance



# Terminology

*Childhood aphasia, language deviance, language delay* – outdated and inaccurate

*Late talkers* – early language delay, but at least half will catch up with peers later

*Language disorder/impairment* – preferred terms for child exhibiting language difficulties

## More Terminology

*Language disability*: language difficulties having a negative, significant impact on daily-living activities or functions

*Language-learning disability*: older children with language difficulties that negatively affect their academic achievement in language

*Specific learning disability*: federal legislation (IDEA) uses this to describe children having substantial problems understanding and using language

# Classifying Speech and Language Impairments

## Speech Disorders

### Speech Disorders

Articulation disorders:  
error in production of  
sound

Fluency disorders:  
difficulties with rhythm  
and timing of speech

Voice disorders: quality of  
voice is effected

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## Language Disorders

Phonological disorders: Difficulties  
organizing speech sounds into  
recognizable patterns

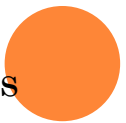
Apraxia of speech: Inability to  
control the muscles and  
thoughts that produce speech

Morphological disorders: Adding  
morphemes incorrectly to words

Semantic disorders: Poor  
understanding of word  
meanings, difficulty finding  
correct words to use

Syntactical deficits: Difficulty with  
word order and sentence  
structure

Pragmatic difficulties: Problems  
understanding and using  
language in different social  
contexts



# Prevalence and Incidence

Most common type of communication impairment affecting children

Most frequent cause for early intervention and special education services

Primary language impairment: 7-10% of children over five years of age

Secondary language impairments:

- 1 in 1000: mental retardation

- 1 in 500: autism spectrum disorder

- 1 in 50: significant head injuries each year

## II. How are Language Disorders Classified?

Each child has his/her own individual profile of the aspects of language that are impaired and those that are not

Classification of language disorders focuses on three key features:

Etiology

Manifestation

Severity

# Etiology

Primary language impairment: language difficulties in the absence of any other disability that can be held accountable

Secondary language impairment: language difficulties that are a consequence of another disorder, mental retardation, brain injury, etc.

Developmental: disorder that is present from birth

Acquired: disorder that is acquired sometime after birth, result of some insult or injury



# Manifestation

## Comprehension and Expression:

- Language comprehension disorder

- Expressive language disorder

- Mixed receptive-expressive disorder

## Form, Content, and Use

- Disorder of form (syntax, morphology, and phonology)

- Disorder of content (semantics)

- Disorder of use (pragmatics)

*Focal* (only one domain affected) vs. *Diffuse* Disorders  
(multiple domains affected)

# Severity

Ranges from mild to profound

Mild: relatively little impact on a child's ability to function at home or school

Profound: may have no language skill at all and therefore may be severely limited in ability to participate in activities at home, school, or in the community

# Inter-Child Differences

Huge diversity among children with language disorders, regarding cause, manifestation, and severity

This diversity has implications for the need for accurate assessment and treatment of language disorders

No “one size fits all” approach

# Intra-Child Differences

Symptoms and severity of the language disorder can change dramatically over time, getting both better and worse

For those children in which the impairment does resolve itself, they are still vulnerable for once again exhibiting a language disorder or reading difficulties

# **TYPES OF LANGUAGE DISORDERS**



# Historical Perspectives

Historical reactions toward individuals with disabilities:

Rejection

Objects of pity

A rewarding sense of humor



# Prevalence of Speech and Language Impairments

High incidence disability

Often occurs with other disabilities

Almost 20% of children receiving special education receive services for speech and language disorders

Preschoolers with speech and language disorders represent almost half of all preschoolers receiving special education

# Characteristics of Speech and Language Impairments

## Expressive Language

May experience  
difficulties with:  
Limited vocabulary  
Incorrect grammar or  
syntax  
Excessive repetition of  
information  
Difficulty formulating  
questions

## Receptive Language

May experience  
difficulties with:  
Following oral  
directions  
Understanding  
humor or figurative  
language  
Comprehending  
complex sentences  
Responding to  
questions  
appropriately





■ ■ ■ ■ ■ Table 11.3 Language Difficulties Secondary to Other Disabilities

	Phonology	Morphology/Syntax
Learning Disabilities	<ul style="list-style-type: none"> <li>• Delayed acquisition of sounds</li> <li>• Inferior perception and/or production of complex sounds</li> <li>• Inefficient use of phonological codes in short-term memory</li> <li>• Impaired sensitivity to sounds</li> </ul>	<ul style="list-style-type: none"> <li>• Shorter and less elaborate sentences</li> <li>• Failure to encode all relevant information in sentences</li> <li>• Difficulties with negative and passive constructions, relative clauses, contractions, and adjectival forms</li> <li>• Confusion of articles (<i>a, an, the</i>)</li> <li>• Difficulty with verb tense, plurality, possession, and pronouns</li> <li>• Delayed acquisition of morphological rules</li> <li>• Difficulty with rules for auxiliaries, modals, prepositions, conjunctions, and other grammatical markers</li> </ul>
Autism Spectrum Disorders	<ul style="list-style-type: none"> <li>• Difficulties with expressive prosody (e.g., fluctuations in vocal intensity, monotonous pitch, tonal contrasts inconsistent with meanings)</li> </ul>	<ul style="list-style-type: none"> <li>• Confusions of pronominal forms (e.g., gender confusion [<i>he for she or it</i>], case substitution [<i>him for he</i>], first- and second-person singular forms [<i>you for I or me</i>])</li> <li>• Less complex sentences than peers</li> </ul>
Intellectual Disability	<ul style="list-style-type: none"> <li>• Delayed development of phonological rules</li> <li>• Problems with speech production</li> </ul>	<ul style="list-style-type: none"> <li>• Production of shorter, less complex sentences with fewer subject elaborations or relative clauses</li> <li>• Delayed morpheme development</li> <li>• Delayed development of syntax</li> </ul>
Traumatic Brain Injury	<ul style="list-style-type: none"> <li>• Sound substitutions and omissions</li> <li>• Slurred speech</li> <li>• Difficulties with speech prosody (pitch, loudness, rate, and rhythm)</li> </ul>	<ul style="list-style-type: none"> <li>• Deficits in syntactic comprehension</li> <li>• Fragmented, irrelevant, and lengthy utterances</li> <li>• Mutism immediately after the injury, followed by telegraphic production</li> </ul>
	Semantics	Pragmatics
Learning Disabilities	<ul style="list-style-type: none"> <li>• Word-finding and definitional problems</li> <li>• Restricted word meanings (too literal and concrete)</li> <li>• Difficulty with multiple word meanings</li> <li>• Excessive use of nonspecific terms and indefinite reference</li> <li>• Difficulty comprehending certain conjunctions (but, or, if, then, either)</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty with questions and requests for clarification</li> <li>• Difficulty initiating and maintaining conversation</li> <li>• Difficulty with relational terms (<i>comparative, spatial, temporal</i>)</li> </ul>
Autism Spectrum Disorders	<ul style="list-style-type: none"> <li>• Word-finding problems</li> <li>• Inappropriate answers to questions</li> </ul>	<ul style="list-style-type: none"> <li>• Limited range of communicative functions</li> <li>• Difficulty initiating and maintaining conversation</li> <li>• Few gestures</li> <li>• Failure to make eye contact prior to or during communicative interactions</li> <li>• Preference to follow rather than lead in a conversation</li> <li>• Failure to engage communication partners at a level that requires sharing</li> </ul>
Intellectual Disability	<ul style="list-style-type: none"> <li>• Use of more concrete word meanings</li> <li>• Slower rate of vocabulary acquisition</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty with speech-act development</li> <li>• Difficulty with referential communication</li> <li>• Difficulty initiating and maintaining a conversation</li> <li>• Difficulty repairing communication breakdowns</li> </ul>
Traumatic Brain Injury	<ul style="list-style-type: none"> <li>• Small, restricted vocabulary</li> <li>• Word-finding problems</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty with organization and expression of complex ideas</li> <li>• Socially inappropriate and off-topic comments</li> <li>• Less use of the naming function</li> </ul>

SOURCE: Adapted from L. McCormick and D. Loeb, "Characteristics of Students with Language and Communication Difficulties," in L. McCormick, D. Loeb, and R. Schiefelbusch (Eds.), *Supporting Children with Communication Difficulties in Inclusive Settings*, 2nd ed. (Boston, MA: Allyn & Bacon, 2003).

# **LANGUAGE DISORDERS IN CHILDREN**



# STUTTERING

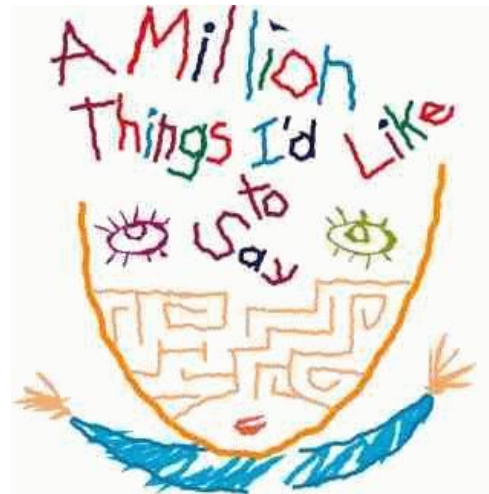
- It is a speech disorder in which sounds, syllables, or words are **repeated** or last longer than normal.
- Stuttering tends to run in families.
- It is **more common in boys** than girls because of their language abilities and interactions with others.



# STUTTERING

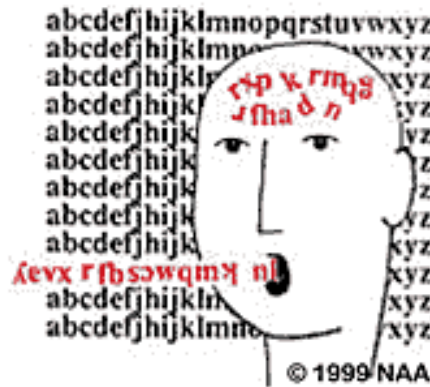
Symptoms:

- Pausing or hesitating when starting to talk
- Repeating sounds
- Very long sounds



# APHASIA

- Impairs the ability to remember words and affects reading and writing skills.
- It does not affect intelligence.
- It is caused by **stroke** or other neurological causes such as brain tumour or head injury.



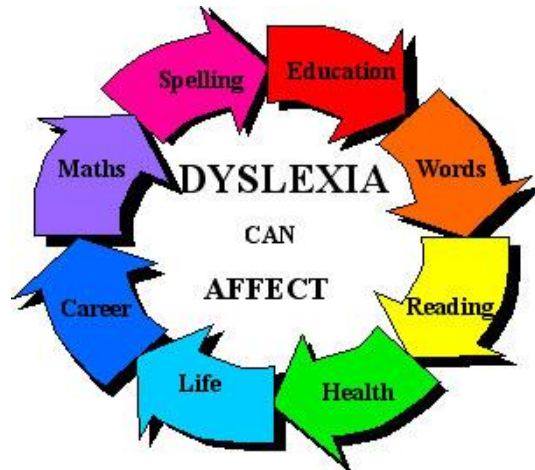
# RHOTACISM

- It is the inability or difficulty in pronouncing **the sound *r***.
- Rhotacism is more common among speakers of languages that have a trilled R such as Spanish or Italian.



# DYSLEXIA

- This problem affects children who have a very normal intellectual coefficient when **learning to read**.



- Dyslexia sometimes causes other school learning problems such as the way speech sounds make up words.
- It also causes demotivation, unselfishness to study and even exclusion.



We all see things the same way,  
We see words in groups or phrases,  
The print is more dominant than the  
background. The print shows no  
movement. The printed letters are  
evenly black. Black print on  
white paper gives the best contrast  
for everyone. White background  
looks white.

We all see things the same way,  
We see words in groups or phrases,  
The print is more dominant than the





awful. The second day, the  
house of stocks. The big side  
"On the hair money change."

Do you remember the story of the  
little boy? The new boy  
who didn't know the big  
house. He said, "Crash!"



# Prevalent Types of Language Disorders

Specific language impairment (SLI)

Autism spectrum disorder

Mental retardation

Traumatic brain injury



# Specific Language Impairment

Preschool and school-age children who show significant impairment of expressive and/or receptive language that cannot be attributed to any other cause

Typically diagnosed with SLI after their third birthday, to rule out just “late talkers”

Diverse group – some show problem in only one area and some with problems in all areas of language



# Hallmark Characteristics of SLI

Inconsistent skills across different domains

Slow vocabulary development

Problems with word finding

Difficulties with grammatical production and comprehension, especially verbs

Problems in social skills, behavior, and attention

Likelihood of language difficulties to persist over time



# Causes and Risk Factors

No known cause for SLI, but recent studies suggest biological and genetic component to predispose a child to SLI

Linked to child's exposure to additional risk factors:

- Sensory deprivation due to environmental conditions (e.g., child neglect) or biological factors (e.g., chronic middle ear infections)

- Physical health challenges due to perinatal (e.g., prematurity) and postnatal influences (e.g., exposure to toxins)



# Autism Spectrum Disorder

Describes variety of conditions characterized by difficulties in social relationships, communication, repetitive behaviors, and overly restricted interests

Together impact 1 in 500 children

Strong genetic component

Boys are 4 times more likely to be affected

Usually will exhibit a mild to profound secondary language impairment

Includes four different categories



# 1. Autism

Severe developmental disability that shows symptoms before a child's third birthday

Three hallmark characteristics:

Difficulties with social interactions (nonverbal behaviors, relationships, awareness of feelings of others)

Severe communication impairment (some never have language, others idiosyncratic, repetitive language)

Restricted and stereotypical behaviors and interests (few interests, rocking, humming)



## 2. Childhood Disintegrative Disorder

Children under 10 years of age who are developing normally until approx. 2 years of age

Then significant loss or regression of skills in two or more of the following: language, social skills, bowel control, play, or motor skills

Show similar language and behaviors as children with autism





### 3. Asperger's Syndrome

“higher functioning” children with the characteristics of autism

Language skills are usually well-developed but problems with social interactions and difficulty initiating conversation with peers

Also show restricted and idiosyncratic behavioral patterns and interests



# Pervasive Developmental Disorder

Severe problems with social interactions and communication

Repetitive behaviors and overly restricted interests

Still do not otherwise meet the criteria for any of the other three disabilities within autism spectrum disorder



# Causes and Risk Factors

Results from organic brain abnormality

Several risk factors:

- Prenatal and perinatal complications (e.g., maternal reubella, anoxia)

- Developmental and physical disabilities (e.g., encephalitis, fragile X syndrome)

- Severe sensory deprivation



# Mental Retardation

1% of children in American schools, accounting for 10% of special education

Two key considerations:

- Limitations in intelligence

- Limitations in adaptive behavior and activities of daily living

Four levels of mental retardation, from mild to profound

- Mild/moderate: 95% of persons with M.R.

- Severe/profound: 5% of persons with M.R.



# Language Skills

Mild/Moderate: path of language development is similar to that of normally developing children, but at a slower rate

Minor difficulties with abstract concepts, figurative language, conversational participation, etc.

Severe/Profound: some can never express themselves with language, some can but very limited

New language skills continue to emerge well into adolescence with children with M.R.



# Causes and Risk Factors

30-40%: cause unknown

60-70%: variety of different causes

- 30%: prenatal damage due to chromosomal abnormalities or maternal ingestion of toxins

- 15-20%: environmental influences, other mental conditions (e.g., sensory deprivation), or the presence of autism

- 10%: pregnancy/perinatal problems (e.g., prematurity)

- 5%: medical conditions (e.g., infection)

- 5%: heredity alone



# Brain Injury

Damage or insult to an individual's brain (the chapter focuses on acquired injuries)

Leading cause of death and disability among young children – mostly from transportation-related accidents

60% of those who are affected have lifelong serious impairments

Financial costs to both family and society are substantial



# Classification of Brain Injuries

## Severity:

Mild: most common, concussion and loss of consciousness for 30 minutes or less

Severe: coma of 6 hours or more

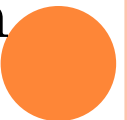
## Cause:

Infection (e.g., meningitis), disease (e.g., brain tumor), and physical trauma (called traumatic brain injury – TBI)

## TBI Types:

Closed-head injury (brain matter is not exposed or penetrated) – diffuse damage

Open-head injury (brain matter is exposed through penetration) – focal damage





# Brain Injuries and Language

Language disorders from brain injuries are influenced by:

Severity of the injury: more severe the injury, the less chance of a full language recovery

Site of the damage: often affects the frontal lobe, causing impairments in language use, and cognitive, executive, and behavioral functions

Characteristics of the child before the injury



# Causes and Risk Factors

Most common causes of brain injuries are automobile accidents, falls, and sports injuries

## Risk Factors:

- Participating in contact sports or other risky recreational activities

- Using drugs and/or alcohol during these activities or while driving/riding in a vehicle

- New adolescent drivers



## IV. How are Language Disorders Identified?

### The Assessment Process:

Referral and Screening: differentiate between children who are suspected of having a language disorder and those who do not

Comprehensive language evaluation: gather evidence

Diagnosis: made on the basis of the evidence

Involves many team members, including SLPs, teachers, pediatricians, audiologists, psychologists, and parents



# Referral

## Children under 5 years of age:

- Usually made by the pediatrician

- Child exhibits developmental or acquired disorder that puts them at risk for language disorder

- Delayed attainment of key language milestones in early years

## School-age children:

- usually made by teacher or other school personnel

- SLPs can provide in-service programs to help teachers recognize signs of possible language problems in their students



# Screening

Tool for determining the need for a language assessment, designed to determine if child has problems using or understanding language

Occurs either after a referral or as part of regular screening programs in preschools and schools (however, these become more uncommon starting in kindergarten)



# Comprehensive Language Evaluation

Develops a profile of individual's strengths and weaknesses in language, and identifies methods of improving language form, content, and use

Includes the following:

- Case history

- Interview

- Comprehensive analysis

- Evaluation of collateral areas



# Diagnosis

Careful consideration of the evidence and the severity of the problem (if it qualifies as “significant”)

Diagnosis includes:

- Type of impairment (primary, secondary)

- Impacted domains (form, content, use; comprehension, production)

- Severity (mild, moderate, severe, profound)

- Prognosis statement

- Recommended course of treatment



# Importance of Accurate Diagnosis

## False-positive:

Due to poorly constructed tests or tests that are biased due to cultural or linguistic factors

Tendency for professionals to misdiagnose language differences for disorders

Implications: an inappropriate label, expensive and time-consuming treatment process

## False-negative:

Also due to poor tests or tendency to mistake another disorder for a language disorder

Implications: children are not receiving the services they need and are entitled to by federal law





# How are Language Disorders Treated?

## *A. Treatment Targets*

Elements of language that are addressed during intervention

Some professionals may emphasize only one or two targets at a time, while others may target many goals all at once



## *B. Treatment Strategies*

Way an individual approaches a task

Strategy training can improve children's abilities in diverse language tasks

Steps in strategy instruction:

- Pretest on strategy knowledge

- Describe strategy

- Model strategy

- Have child discuss and rehearse strategy

- Have child practice strategy

- Have child use strategy across settings

Child-centered vs. clinician-directed



### *C. Treatment Contexts*

Settings in which treatment targets and strategies are used

Treatment should include as many settings as possible (home, classroom, clinic, etc.)

Young children: home-based interventions

Older children: treatment in the school setting

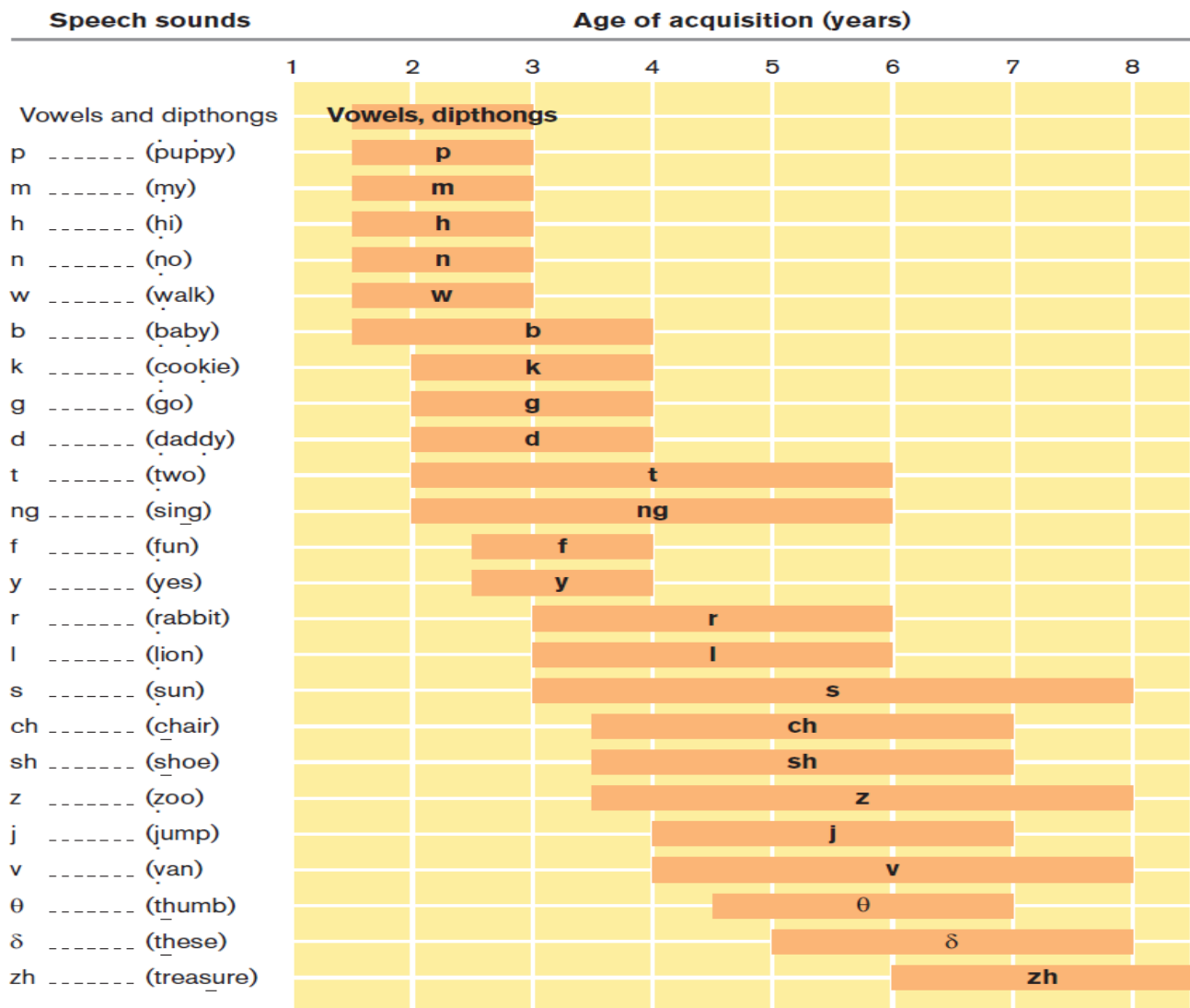
Transition from pull-out model to targeting language goals within the classroom environment



# Prevention of Speech and Language Impairments

- Children typically develop language within acceptable limits
- Language is learned in social contexts
- Provide early language experiences to infants and young children
- Genetic testing may be warranted in some situations

Figure 11.3 Age of Acquisition of Speech Sounds



NOTE: Beginning of bar represents age at which children begin to acquire each sound. End of bar represents age at which most children have mastered each sound.

SOURCE: D. Sindrey, *Listening Games for Littles II* (London, Ontario: Wordplay Publications, 2002).

# Assessing Speech and Language Impairments

## Formal and informal measures

- Case histories, family interviews, health assessments, observations, developmental information, family dynamics, speech and language assessments

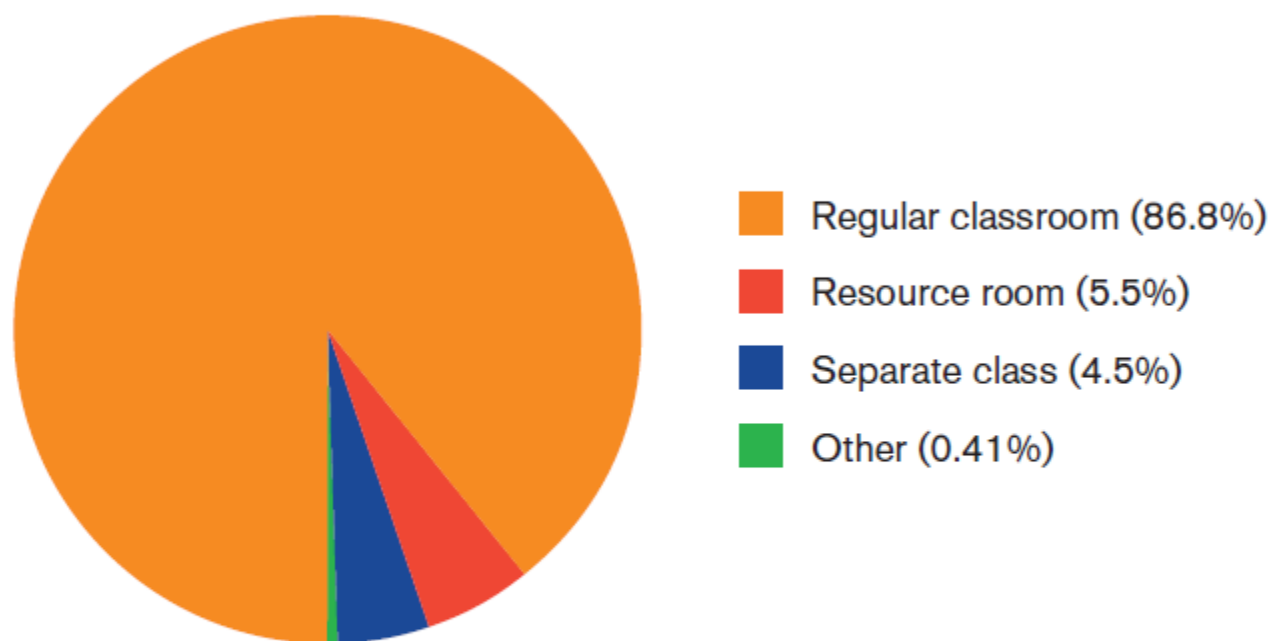
## Professionals

- Teachers, speech-language pathologists, audiologists, neurologists, physicians



## Figure II.4 Educational Placement of Students With Speech and Language Impairments

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NOTE: This figure represents the percentages of enrollment of students with speech and language impairments during the 2011–2012 school year. Excludes pupils enrolled in parentally placed private schools and individuals in correctional facilities.

Other placements include separate schools, residential facilities, and homebound/hospital settings.

SOURCE: U.S. Department of Education. (2013). *Historical state-level IDEA data files*. Retrieved November 14, 2013, from <http://tadnet.public.tadnet.org/pages/712>

# Services for Young Children with Speech and Language Impairments

- Early identification importance
- Early identification procedures
- Services available from birth to school age
- Interactions with typically developing peers





# Adolescents and Adults with Speech and Language Impairments

- Communication disorders may compound adolescent insecurities
- Transition planning for all areas of adult living



# Family Issues

- Speech-language pathologists include families in the assessment and planning process
- Speech-language pathologists provide suggestions to families to assist them in helping their children with speech or language impairments



# Issues of Diversity

Large numbers of pupils do not speak standard American English as their first language

These students are sometimes described as *limited English proficient* or *English language learners*

A lack of reliable and valid tests make it difficult to assess speech and language impairments in children from culturally and linguistically diverse backgrounds



# Trends, Issues, and Controversies

- Early intervention
- Medical innovations
- Cultural and linguistic diversity
- Controversies regarding etiologies of speech and language disorders



# Intervention Principles for Infants, Toddlers, and Preschoolers

1. Early Intervention
2. Parental Involvement
3. Naturalistic Environments
4. Social Interaction
5. Functional Outcomes



# CONCLUSION

- We have found out most language disorders appear in **early ages** and they should be treated as soon as possible. They are produced in **neurological** and **cognitive** areas.

- Besides, language disorders may lead to later social isolation, depression, or behavioral problems.

