

TEST BANK

FIFTH EDITION

Articulation and Phonology in Speech Sound Disorders

A CLINICAL FOCUS



JACQUELINE BAUMAN-WAENGLER

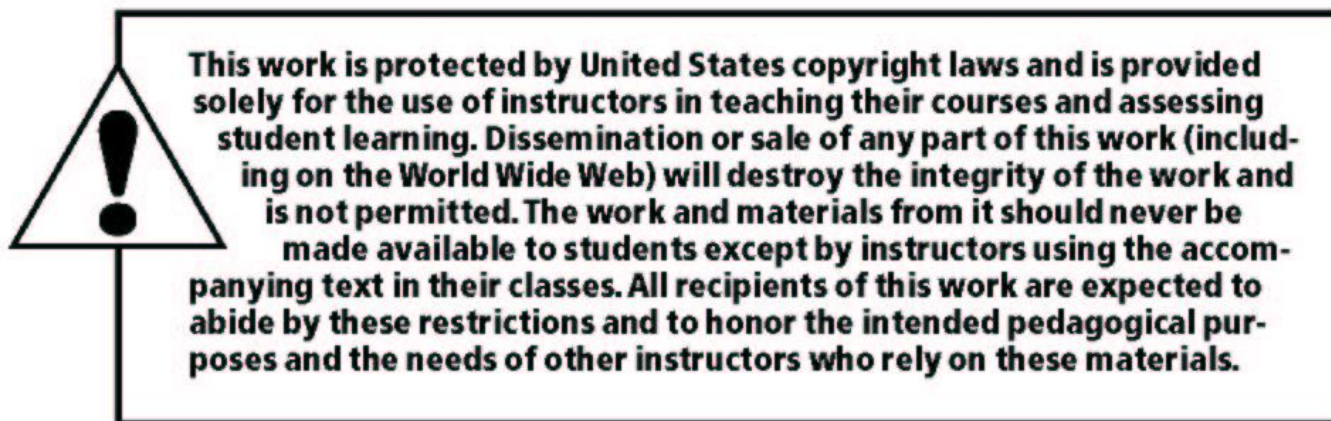
*Instructor's Resource
Manual to accompany*

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Articulation and Phonology in Speech Sound Disorders: A Clinical Focus 5e

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Clinical Framework: Basic Terms and Concepts

LEARNING OBJECTIVES

When you have finished this chapter, you should be able to:

- Define communication, language, and speech.
- Define phonology, morphology, syntax, semantics, and pragmatics.
- Define communication disorder, speech disorder, and language disorder.
- Distinguish between articulation – articulation disorder, speech sound – speech sound disorder, and phoneme – phonological disorder.
- Delineate phoneme and allophone.
- Compare and contrast terms that are used clinically and in research such as phonological disorder, speech sound disorder, speech delay, speech impairment, and residual speech sound disorder, for example.

SUMMARY

This chapter introduced the reader to several fundamental terms that are important when assessing and treating articulatory and phonological disorders. Introductory terms such as communication, speech, and language were defined based on their normal processes and what a disorder of each would entail. Language divisions of phonology, morphology, syntax, semantics, and pragmatics provided a further

delineation which could aid the reader in understanding these basic concepts. A distinction was made between articulation and speech sounds on the one hand and phonology and phonemes on the other. This distinction becomes important as a further division between articulation and phonological disorders was generated. Speech sound form versus linguistic function was used to distinguish between the speech sound and the phoneme. Based on these definitions, a differentiation between speech sound, articulation and phonological disorders were presented as well as nomenclature that is used in clinical and research settings relative to these terms.

EMPHASES

1. Review basic terms and concepts, such as communication, language, and speech. These terms were defined according to their professional usage, for example, as referenced the American Speech-Language-Hearing Association. Their practical application was emphasized.
2. Examine the subdivisions of language: phonology, morphology, syntax, semantics, and pragmatics. Definitions were given as well as the application of these terms to the specific linguistic/grammatical elements.
3. Define the broader term communication disorder as well as speech sound and language disorder. These divisions will be relevant within our clinical practice.
4. Introduce the concepts of articulation and speech sounds versus phonology and phonemes. This is an important delineation which will be important in the discussion of speech sound disorders as well as phonological disorders.
5. Define and delineate the phoneme, allophone, phonotactics and minimal pairs as they apply to phonology.
6. Define several terms that are used in clinical and research settings to discuss speech sounds and speech sound disorders.

KEY CONCEPTS

Communication is any act in which information is given to or received from another person concerning facts, thoughts, ideas, and feelings (p. 1).

Communication refers to any way that we convey information from one person to another.

Speech is the communication or expression of thoughts in spoken words (p. 2). It is oral, verbal communication. Speech can be further divided into articulation, fluency, and voice.

Language can be defined as a complex and dynamic system of conventional symbols that is used in various modes for thought and communication (p. 2). It is rule governed, includes variability and change, and can be used to communicate in many different ways. Language is described by at least five linguistic parameters: phonology, morphology, syntax, semantics, and pragmatics.

Phonology is the study of the sound system of language, and includes the rules that govern its spoken form (p. 2). Phonology a) analyzes which sound units are within a language, b) examines how these sounds are arranged, their systematic organization and rule system.

Morphology studies the structure of words; it analyzes how words are built out of morphemes, the basic unit of morphology (p. 2).

Morpheme is the smallest meaningful unit of a language (p. 2).

Syntax consists of organizational rules denoting word, phrase, and clause order. It also examines the organization and relationship between words, word classes, and other sentence elements (p. 2-3).

Semantics is the study of linguistic meaning and includes the meaning of words, phrases, and sentences (p. 3).

Pragmatics is the study of language used to communicate within various situational contexts (p. 3). Pragmatics examines language use in context.

Communication disorder is the impairment in the ability to receive, send, process, and comprehend concepts including verbal, nonverbal, and graphic symbol systems (p. 4).

Speech disorder indicates oral, verbal communication that is so deviant from the norm that it is noticeable or interferes with communication (p. 4).

According to the American Speech-Language-Hearing Association (1993), speech disorders are divided into articulation, fluency, and voice disorders.

Language disorder refers to impaired comprehension and/or use of spoken, written, and/or other symbol systems (p. 4). A language disorder may involve one or more of the following areas: phonology, morphology, syntax, semantics, and pragmatics.

Articulation refers to the totality of motor processes that result in speech (p. 4). It represents a highly complex activity in which - respiratory, phonatory, resonatory, and articulatory mechanisms and as many as 100 muscles may be involved. In the articulatory mechanism alone up to 22 muscles may alter their degree of tension many times during the utterance of a simple sentence (Hanson, 1983). The sequencing and timing of speech muscle activity is an integral portion of articulation.

Speech sounds represent physical sound realities; they are end products of articulatory motor processes (p. 5).

Phoneme is the smallest linguistic unit that is able, when combined with other such units, to establish word meanings and distinguish between them (p. 5-6). For example, in General American English /p/ and /s/ are phonemes because they function to distinguish between words such as "pat" and "sat". On the other hand, in General American English the aspiration of stop/plosives does not have phonemic relevance. [p^hit] and [pit], in spite of their differences in production, do not result in two words with different meanings. However, aspiration versus nonaspiration of stop/plosives is phonemically relevant in many languages. For example, in Swahili [pɑ] is the word for "climb" while [p^hɑ], with an aspirated [p], signifies the name for a specific type of antelope. As linguistic units, phonemes characterize how speech sounds function within a language to differentiate word meaning.

In everyday usage, professionals often do not distinguish between the terms speech sound and phoneme. One could hear someone say that they transcribed a particular phoneme, for example. However, theoretical and definitional differences do exist; these terms represent two distinct concepts. While the technical term speech sound stands for the physical reality of sound form, the term phoneme refers exclusively to how these forms function within a given language as linguistic units to differentiate between word meanings.

Allophones are variations in phoneme realizations that do not change the meaning of a word when they are produced in differing contexts (p. 6).

Phonotactics refers to the description of the allowed combinations of phonemes and in a particular language (p. 6). Both the inventory of phonemes and their possible combinations are unique and vary according to the particular language.

Phonetic variation is another label for speech sound (p.6-7).

Minimal pairs are two words that differ in only one phoneme (p. 7). The words “cat” and “hat” are minimal pairs.

Speech sound disorder occurs when difficulties making certain sounds continue past a certain age (p. 7-8). According to ASHA (2014) a speech sound disorder includes problems with articulation (making sounds) and phonological processes (sound patterns). What was previously referred to as an articulation disorder versus phonological disorder are now contained under a broader terminological umbrella of speech sound disorder. Within this text, speech sound disorder and phonological disorder are separated.

Articulation disorder, as a subcategory of a speech sound disorder, is the atypical production of speech sounds characterized by substitutions, omissions, additions, or deletions that may interfere with intelligibility (p. 7-8). Articulation disorders are typically classified relative to a child’s age.

Phonological disorder refers to impaired comprehension of the sound system of a language and the rules that govern the sound combinations (p. 8). Phonology is closely related to the other areas of the language system. Several studies (e.g., Cummings, 2009; Mortimer, 2007) have documented that delayed phonological development occurs concurrently with delayed lexical and grammatical development.

Phonemic inventory is the repertoire of phonemes used contrastively by an individual (p. 8-9).

LEARNING MATERIALS: ANSWERS TO QUESTIONS FROM TEXTBOOK

Think Critically (page 11)

The following small speech sample is from Tara, age 4;3.

rabbit	[wæbət]	ready	[wɛdi]
feather	[fɛdə]	arrow	[ɛwɔ ^ʊ]
green	[gwin]	toothbrush	[tutbwəʃ]
this	[ðɪs]	thinking	[θɪŋkɪŋ]
that	[ðæt]	round	[wa ^ʊ nd]
rope	[wɔ ^ʊ p]	bridge	[bwɪdʒ]
rooster	[wustə]	street	[stwit]
bathing	[be ^ɪ dɪŋ]	thin	[θɪn]
nothing	[nʌtɪŋ]	them	[ðɛm]
bath	[bæt]	breathe	[bwɪd]

Which speech sound errors are noted in this sample?

Answer: Sounds in error are [r], [ð], and [θ]

Which sounds are substituted for the sounds in error?

Answer: Substituted sounds are [w] for [r], [d] for [ð], and [t] for [θ]

Can any phonotactic restraints be noted in the correct productions of “th” and “r”?

Answer: The [ð] and [θ] are produced correctly at the beginning of a word, however, [d] and [t] are used as substitutions when the sound is in the middle of a word or at the end of the word. The [w] is used as a substitution for [r] in all positions including in consonant clusters. It should be noted that the central vowel with r-coloring [ə̞] is produced correctly.

Based on this limited information, do you think the child has an articulation or a phonological disorder? Why?

Answer: An articulation disorder

The [r] is a later developing sound and could be an articulation error. The fact that the child can produce the central vowel with r-coloring could support the fact that this sound is gradually appearing in Tara's speech.

Although phonotactic constraints can be noted on the [θ] and [ð] productions, these errors could also be articulation-based. It is an easier task in the speech sound development of children to produce the sound correctly at the beginning, as opposed to the middle or end of words.

Test Yourself (page 12):

- | | | | | |
|--------|--------|--------|--------|---------|
| 1. (c) | 2. (d) | 3. (b) | 4. (a) | 5. (b) |
| 6. (c) | 7. (a) | 8. (c) | 9. (b) | 10. (c) |

ADDITIONAL LEARNING MATERIALS

Discussion Topics and Clinical Applications

1. Discuss how you could use minimal pairs to collect information about the phonemic inventory in the following example: A child substitutes [w] for /j/, /l/, and /r/. Which minimal pairs could you use to test the child's phonemic inventory?
2. What information could be a portion of the phonemic inventory? Discuss how you would gather information about the inventory of phonemes and phonotactic constraints.
3. What type of material could you use to examine the phonotactics of a child's inventory in the following example: A child has difficulties with the production of "s" in consonant clusters. Which words would test the possible phonotactics of s-clusters in American English occurring at the beginning and end of syllables?
4. Based on the results of an articulation test and/or a spontaneous speech sample have the students determine the phonetic inventory, the phonemic inventory, and the phonotactics of a child with an articulatory or phonological impairment. Note any patterns or constraints which are demonstrated.
5. Give one example of what could be assessed within each of the five areas of language (phonology, morphology, syntax, semantics, and pragmatics).
6. The following is a portion of a language sample from Jeannette, age 4;6.
I want some jelly beans and some chocolate.

[a^h wʌn sʌm ʒɛli bi:ns æn sʌm sʌklət]

I don't know.

[a¹ do^un no^u]

I don't know who that is.

[a¹ do^un no^u hu dæt ɪs]

Ninja turtles fight the evil Ninjas.

[nɪnʒə tʊtəls fa¹ t də ɪvəl nɪnʒəs]

Then Shredder just comes.

[ðen ʃrɛdər ʒʌst kʌms]

And all of these other things.

[ænd əl əv ðɪs əvə tɪŋs]

- a) Write down the phonemic inventory of Jeanette using both the vowels and consonants that are presented in this small sample.
- b) Note which vowels and consonants that are normally a portion of the American English inventory are not demonstrated in Jeanette's speech sample.
- c) Make a list of the words that Jeanette pronounces differently than would be expected when compared to the adult model of pronunciation.
- d) Note any consistent patterns of substitution of one sound for another.

Multiple Choice Questions

1. The totality of motor processes involved in the planning and execution of sequences of overlapping gestures which result in speech refers to
 - a) phonology

- b) phonetics
- c) articulation
- d) phonotactics

2. The subdivision of language dealing with the meaning of words, phrases, and sentences is

- a) morphology
- b) syntax
- c) semantic
- d) pragmatics

3. The end products of articulatory motor processes that represent physical sound realities are called

- a) phonetic variations
- b) speech sounds
- c) allophonic variations
- d) all of the above

4. The repertoire of phonemes which are used contrastively by an individual is the

- a) phonetic inventory
- b) phonemic inventory
- c) phonotactics of a language
- d) allophonic variations of a language

5. The clusters [sk] and [ks] cannot occur in the same word positions in General American English. This is an example of the

- a) phonetic inventory
- b) phonemic inventory
- c) phonotactics of a language
- d) allophonic variations of a language

6. Minimal pairs are exemplified by which of the following set of words?

- a) [hit] and [sit]
- b) [sit] and [sut]
- c) [lun] and [mun]
- d) all of the above

7. Which one of the following concepts would be associated with the assessment of a phonological impairment?

- a) phonemic inventory
- b) phonotactics
- c) phonotactic constraints
- d) all of the above would be important in assessing a phonological impairment

8. Articulation disorders reflect difficulties with

- a) central linguistic abilities
- b) phoneme function
- c) relatively peripheral motor processes
- d) phonemes and phoneme patterns within a particular language

9. Communication disorders include which of the following?

- a) speech disorders
- b) language disorders
- c) hearing disorders
- d) all of the above

10. Which one of the following is *not* a typical phonotactic possibility of General American English?

- a) [sk] at the beginning of a word or syllable
- b) [ŋ] at the end of a word or syllable
- c) [lt] at the beginning of a word or syllable
- d) [mp] at the end of a word or syllable

11. Speech sound errors that persist past the typical age of acquisition (i.e., 8 or 9 years old) can be labelled as a

- a) phonological disorder
- b) language disorder
- c) persistent speech sound disorder
- d) phonological impairment

12. A term which typically indicates a process of speech sound development that is not delayed but different or speech sound errors that are not typically observed in the development of young children is a

- a) deviant speech sound development
- b) speech sound disability
- c) speech sound delay
- d) articulation disorder

13. A serious speech sound or phonological disorder might be labelled as
a
a) language disorder
b) speech sound delay
c) persistent speech sound disorder
d) speech or phonological disability
14. Which of the following terms would be synonymous with a speech sound/phonological disorder?
a) speech sound delay
b) speech sound or phonological impairment
c) speech sound or phonological disability
d) all of the above
15. Which category is used to indicate a mismatch between the child's speech sound acquisition and what is considered to be the norm reference? Can also possibly indicate that the child will catch up with his/her development given time.
a) speech sound or phonological impairment
b) speech sound delay
c) persistent speech sound disorder
d) speech sound or phonological disability

True/False Questions

1. Articulation difficulties result from an impairment of central linguistic abilities.
2. Three subdivisions of language include pragmatics, articulation, and syntax.
3. Phonetic variations and allophonic variations are both phonemic realizations.
4. Speech sounds and phonemes represent exactly the same concepts.
5. Impaired comprehension of the sound system of a language and the rules that govern the sound combinations represents a phonological

disorders.

6. Speech sounds are transcribed using brackets [] while phoneme values are symbolized by slanted lines or so-called virgules / /.
7. The phonemic inventory refers to the inventory of phonemes an individual uses contrastively.
8. Phonology is not related to the other constituents of the language system such as morphology, syntax, semantics, or pragmatics.
9. The phonetic inventory includes all the speech sounds the individual uses including their specific production features.
10. Articulation and phonological disorders never co-occur.

Short Answer Questions

1. Define communication disorder.
2. Explain why a child with “s” difficulties, might have problems in the area of morphology.
3. Contrast the terms speech sound and phoneme.
4. Contrast the terms articulation disorder versus phonological disorder.
5. Write a brief definition and give an example of each of the following terms: phonology, morphology, syntax, semantics, and pragmatics.

Essay Questions

1. Discuss how articulation disorders represent difficulties with the physical production aspects of speech sounds. Utilize the terms "articulation", "physical sound realities", and "speech sounds" when developing your discussion.

2. Discuss how phonological disorders represent difficulties with the linguistic function of phonemes. Utilize the terms "phoneme" and "phonology" when developing your discussion.
3. Discuss the differences between a language and a speech disorder. Give specific examples for each type.
4. Articulation errors are referenced by a child's age. Referring to the definition and characteristics of the term "articulation" state why this is a meaningful reference point.
5. Based on the definition of a phonological disorder, state why a child with a phonological impairment may have difficulties with other areas of language such as morphology, syntax, semantics, or pragmatics.

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Test Bank

ANSWERS TO QUESTIONS IN INSTRUCTOR'S RESOURCE MANUAL

1

Clinical Framework

BASIC TERMS AND CONCEPTS

Discussion Topics and Clinical Applications (Refer to textbook)

1. See pages 10-11
2. See page 9
3. See material on page 274 for consonant clusters
4. See pages 8-10
5. See pages 2-4
6. a) Vowels: [aⁱ, ʌ, ε, i, æ, ə, o^u, u, ɪ, ʊ, ɑ]

Consonants: [w, l, r, m, n, ŋ, b, t, d, k, h, f, v, s, ʃ, ʒ]

b) Not in inventory Vowels: [ɔ¹, a^u, e^l, ə^v, ɜ^v] The diphthongs were not contained in the small sample.

Consonants: [p, g, j, z, tʃ, dʒ, ð, θ]

c) jelly, chocolate, that, turtles, the, then, Shredder, just, these, other, things

d) [t/θ], [v, d/ ð], [ʒ/ dʒ], [s/z], [ʃ/tʃ] (“chocolate”), [ə/ə^v], [ʊ /ɜ^v]

Multiple Choice Questions

- 1) c 2) c 3) d 4) b 5) c
6) d 7) d 8) c 9) d 10) c
11) c 12) a 13) d 14) b 15) b

True/False Questions

1. FALSE 2. FALSE 3. TRUE 4. FALSE 5. TRUE
6. TRUE 7. TRUE 8. FALSE 9. TRUE 10. FALSE

Short Answer Questions

1. Define communication disorder. See page 4.
2. Explain why a child with “s” difficulties, might have problems in the area of morphology. See page 2.
3. Contrast the terms speech sound and phoneme. See page 5.
4. Contrast the terms articulation disorder versus phonological disorder. See pages 7- 8.