

## CSAD 126

### Speech Sound Development and Disorders in Children: Aspects of Articulation and Phonology

**Instructor:** Celeste Roseberry-McKibbin, Ph.D., C.C.C.-SLP  
**Office:** *email* is celeste@csus.edu  
**Website:** [www.hhs.csus.edu/homepages/SPA/Roseberry](http://www.hhs.csus.edu/homepages/SPA/Roseberry)

**Spring, 2022**  
 3 units  
 10:30-11:45

All classes and exams are face to face. Tests are not online.

All lectures will be audio recorded only and archived on Canvas for the whole semester.  
 Face to face class attendance is strongly encouraged.

#### **TEXTBOOKS**

Bernthal, J.E., Bankson, N.W., 7 Flipsen, P. (2022). *Articulation and phonological disorders: Speech sound disorders in children* (9<sup>th</sup> ed.). Pearson Education. Required.

Book of case studies. Required. Available at the bookstore.

PowerPoint outlines are posted on my website:

[www.hhs.csus.edu/homepages/SPA/Roseberry](http://www.hhs.csus.edu/homepages/SPA/Roseberry)

**Prerequisite(s):** [CSAD 110](#), [CHDV 30](#), [PSYC 2](#), [STAT 1](#), and [DEAF 51](#).

Study of typical articulation and phonological development in children. Discussion of etiologies and specific characteristics of speech sound disorders. Introductory description of foundational specific assessment and treatment principles. Analyze case studies.

#### **Equal Access:**

California State University-Sacramento, Department of Communication Sciences and Disorders, seeks to provide equal access to its programs, services, and activities for people with disabilities. If you have a documented disability and verification from the Office of Services to Students with Disabilities (SSWD), and wish to discuss academic accommodations, please contact your instructor as soon as possible. It is the student's responsibility to provide documentation of disability to SSWD and meet with a SSWD counselor to request special accommodation before classes start. **Sacramento State Services to Students with Disabilities (SSWD)** offers a wide range of support services and accommodations for students in order to ensure students with disabilities have equal access and opportunity to pursue their educational goals. Working collaboratively with students, faculty, staff and administrators, SSWD provides consultation and serves as the information resource on disability related issues to the campus community. SSWD is located in Lassen Hall 1008 and can be

contacted by phone at (916) 278-6955 (Voice) or (916) 278-7239 (TDD only) or via email at [sswd@csus.edu](mailto:sswd@csus.edu).

**Sacramento State Baccalaureate Learning Goals for the 21st Century (BLG) addressed by this course:**

Competence in the Disciplines: The ability to demonstrate the competencies and values listed below in at least one major field of study and to demonstrate informed understandings of other fields, drawing on the knowledge and skills of disciplines outside the major.

Knowledge of Human Cultures and the Physical and Natural World through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts. Focused by engagement with big questions, contemporary and enduring.

Intellectual and Practical Skills, including: inquiry and analysis, critical, philosophical, and creative thinking, written and oral communication, quantitative literacy, information literacy, teamwork and problem solving, practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance.

Personal and Social Responsibility, including: civic knowledge and engagement—local and global, intercultural knowledge and competence, ethical reasoning and action, foundations and skills for lifelong learning anchored through active involvement with diverse communities and real-world challenges.

Integrative Learning, Including: synthesis and advanced accomplishment across general and specialized studies.

Campus health and safety protocols regarding COVID-19 will be updated to match county, state, or CSU system standards. Please comply with campus requirements/protocols for vaccine certification and testing, indoor masking, physical distancing, COVID-19 symptom screening, contact tracing, and other safety measures to minimize the spread of COVID-19.

If you are attending an in-person class:

- You must certify with the University that you are fully vaccinated or have an approved medical or religious exemption.
- Masks are required for everyone, including the instructor, until the indoor mask mandate ends. According to the university, refusal to wear a mask is disruptive to the learning environment, and the [Disruptive Student Behavior Policy](#) will apply.
- If you have any [COVID-19-related symptoms](#) or you are unvaccinated and have come into close contact with someone who has a confirmed positive COVID-19 test, please contact the Student Health Center or your medical provider. If you have symptoms, do not come to class until you have tested negative or have received clearance from the Student Health Center.

- Illness due to COVID-19 or exposure to a confirmed positive individual that requires quarantine or isolation is a qualifying emergency and late work, make-up assignments, and virtual attendance will be allowed in consultation with me.

If you wish to confer privately with me about your vaccination, exposure, or positive test status, you should first affirm that you are voluntarily disclosing your medical information. Any information you share with me will be treated securely and only be shared with the Student Health Center to follow established safety protocols. Students entering/working in clinic may be required to adhere to different mask requirements. Please follow updated mask procedures on entry. Adhering to clinic policies is a skill that you as a student must develop and maintain.

### **LEARNING OUTCOMES—The student will:**

1. List and describe the structural (anatomical--physiological) mechanisms of speech production.
2. Demonstrate knowledge of basic definitions of articulation and phonology and be able to explain the clinical distinction between *articulation* and *phonology*.
3. Demonstrate knowledge of typical speech sound development in children, including being able to list major milestones from birth through age 8.
4. Explain models of speech sound development and disorders in children.
5. Identify the phenomenology and etiology of speech sound development and disorders in children.
6. Explain the concept of speech sound *differences* vs. *disorders* in children and adults who speak English as a second language.
7. Discuss principles for effective, nonbiased assessment and treatment of culturally and linguistically diverse children with speech sound disorders.
8. Explain variables (e.g., language, sensory) related to speech development and performance.
9. List and describe assessment procedures for children with speech sound disorders and demonstrate ability to interpret and apply this information to specific cases discussed in class.
11. List and describe intervention principles and currently-used clinical techniques for use with children with speech sound disorders.
12. Identify basic treatment principles and procedures for adults and children with organic and neurogenic disorders such as dysarthria and childhood apraxia of speech.
13. Describe methods and materials for integrating intervention for speech sound disorders into classroom curriculum for school-aged children.
14. Expand on information presented in lectures through class discussion and interaction, analyzing the information and making critical evaluations of it from research and clinical perspectives.
15. Understand and apply research to specific case studies of children with speech sound disorders as presented in class.
16. Promote the student's knowledge of evidence-based practice through analysis of relevant current research.
17. Incorporate principles of cultural competence as a foundation for all assessment and treatment procedures.
18. Discuss the importance of integrity, effective communication skills, and accountability when working with clients and their families.

19. Highlight procedures for engaging in collaborative practice with other professionals in order to provide the most comprehensive services for clients.

### **COURSE OUTLINE**

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| <b>1/25/22</b> | <b>COURSE INTRODUCTION</b>  |
| <b>1/27/22</b> | <p><b>FOUNDATIONS OF SPEECH SOUND DEVELOPMENT AND DISORDERS</b></p> <p>Fundamentals of articulatory phonetics—consonants and vowels<br/>Suprasegmental aspects of speech</p> <p><b>Chapter 2</b></p>      |
| <b>2/1/22</b>  | <p><b>FOUNDATIONS OF SPEECH SOUND DEVELOPMENT AND DISORDERS (continued)</b></p> <p>Phonetics and speech sound disorders<br/>Phoneme classification<br/>Dynamics of speech production</p> <p>Chapter 2</p> |
| <b>2/3/22</b>  | <p><b>TYPICAL DEVELOPMENT: INFANCY THROUGH EARLY SCHOOL YEARS</b></p> <p>Infant milestones; development of meaningful speech<br/>Stages of infant speech development</p> <p>Chapter 3</p>                 |
| <b>2/8/22</b>  | <p><b>TYPICAL DEVELOPMENT: INFANCY THROUGH EARLY SCHOOL YEARS (continued)</b></p> <p>Factors influencing typical speech sound acquisition</p> <p>Chapter 3</p>  |
| <b>2/10/22</b> | <p><b>TYPICAL DEVELOPMENT: INFANCY THROUGH EARLY SCHOOL YEARS (continued)</b></p> <p>Chapter 3</p> <p>Development of the sound system<br/>Speech intelligibility</p>                                      |
| <b>2/15/22</b> | <p><b>TYPICAL DEVELOPMENT: INFANCY THROUGH EARLY SCHOOL YEARS (continued)</b></p> <p>Development and use of phonological patterns</p>   |

## Chapter 3

<b>2/17/22</b>	<b>Test One</b>
<b>2/22/22</b>	<p><b>VARIABLES ASSOCIATED WITH SPEECH SOUND DEVELOPMENT AND PERFORMANCE</b></p> <p>Anatomical, neurological, and physiological factors  Language skills, individual characteristics  Environmental factors</p> <p>Chapter 4</p>
<b>2/24/22</b>	<p><b>VARIABLES ASSOCIATED WITH SPEECH SOUND DEVELOPMENT AND PERFORMANCE</b></p> <p>Chapter 4</p>
<b>3/1/22</b>	<p><b>VARIABLES ASSOCIATED WITH SPEECH SOUND DEVELOPMENT AND PERFORMANCE</b></p> <p>Chapter 4</p>
<b>3/3/22</b>	<p><b>CULTURE AND COMMUNICATION: BIDIALECTICAL AND BILINGUAL CONSIDERATIONS IN SPEECH SOUND TRANSFER</b></p> <p>African American English  Spanish-Influenced English  Asian and Pacific Islander languages</p> <p>Contrastive analysis practice and phonetic transcription</p> <p><b>Chapter 14</b></p>
<b>3/8/22</b>	<p><b>CULTURE AND COMMUNICATION: BIDIALECTICAL AND BILINGUAL CONSIDERATIONS IN SPEECH SOUND TRANSFER (continued)</b></p> <p>Practical considerations for assessment and intervention  Contrastive analysis practice and phonetic transcription</p> <p>Chapter 14</p>
<b>3/10/22</b>	<b>TEST 2</b>
<b>3/15/22</b>	<p><b>ASSESSMENT OF SPEECH SOUND DISORDERS</b></p> <p>General principles of assessment; assessment objectives  Conducting a speech screening  Gathering a case history</p>

## Chapter 6

3/17/22

**ASSESSMENT OF SPEECH SOUND DISORDERS**

Administering standardized tests  
 Collecting connected speech samples  
 Conducting stimulability testing  
 Performing contextual and speech discrimination testing

## Chapter 6

Have a wonderful Spring break! ☺

3/29/22

**ASSESSMENT CONTINUED**

Analyzing and interpreting assessment information  
 Making a diagnosis and prognosis

## Chapter 7

3/31/22

**Caesar Chavez Day no classes**

4/5/22

**ASSESSMENT OF CHILDREN WITH ORGANICALLY-BASED SPEECH SOUND DISORDERS**

Assessment of children with dysarthria and childhood apraxia of speech  
 Assessment of children with cleft palate

4/7/22

**Test 3**

4/12/22

**BASIC PRINCIPLES AND PROCEDURES IN THE TREATMENT OF SPEECH SOUND DISORDERS**

Selecting target behaviors and establishing baselines  
 Developing measurable objectives  
 Planning and developing a treatment program

## Chapter 9

4/14/22

**MOTOR-BASED APPROACHES TO INTERVENTION**

Traditional approach to therapy—Van Riper  
 Successive approximation/shaping  
 Context utilization

## Chapter 10

4/19/22

**MOTOR-BASED APPROACHES TO INTERVENTION**

Traditional approach to therapy—Van Riper

Successive approximation/shaping  
Context utilization

Chapter 10

**4/21/22 LINGUISTICALLY-BASED APPROACHES TO INTERVENTION**

Minimal and maximal contrast approaches  
Hodson's cycles approach  
Naturalistic approach

Chapter 11

**4/26/22 LINGUISTICALLY-BASED APPROACHES TO INTERVENTION**

Minimal and maximal contrast approaches  
Hodson's cycles approach  
Metaphon approach, naturalistic, and whole language approaches

Chapter 11

**4/28/22 TREATMENT OF CHILDREN WITH CHILDHOOD APRAXIA OF SPEECH**

Core vocabulary approach  
Dynamic temporal and tactile cuing  
Prompts for restructuring oral muscular phonetic targets (PROMPT)

Chapter 12

**5/3/22 SPECIFIC TREATMENT TECHNIQUES—INDIVIDUAL PHONEMES**

<b>5/3/22</b>	<b>Assignment due—upload into Canvas by 5:00 PM</b>
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**5/5/22 SPECIFIC TREATMENT TECHNIQUES—INDIVIDUAL PHONEMES**

<b>5/10/22</b>	<b>TEST 4</b>
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**5/12/22** **Wrap up, discussion of what is on the final, dismiss early. If you want to stick around for me to privately help you calculate what you need on the final to boost your grade, I am happy to do this.**



**COURSE REQUIREMENTS**

**Participation.** Although attendance and participation are not formally graded, I will informally note them. I will take role randomly on days as I choose. I anticipate that you will do all assigned readings. All readings should be completed **before class** on the day they are to be discussed. Please remember that lectures will be much easier to follow if

you have read the day's assignment BEFORE you come to class. I suggest that you do the following:

1. Before class, read the reading(s) and highlight important information.
2. Attend class, hear the lecture.
3. After class, re-read the reading(s).

\*\*I recommend that you review the day's lecture notes LATER THAT SAME DAY. This aids retention. Be sure to study all along! Research with adult learners indicates that in order to truly master information, you have to hear it at least four times and practice it six-eight times. Thus, you are encouraged to review and study course material frequently.

\*\*We forget 95% of what we hear within 72 hours.

#### **4. 4 Examinations.            100 POINTS EACH**

Five examinations will be given. You are required to take at least 4 of them. **NO MAKE-UP EXAMINATIONS ARE EVER GIVEN UNLESS THERE IS A DOCUMENTED MEDICAL EMERGENCY AND YOU HAVE WRITTEN PROOF.** If you are allowed a make-up, the make-up can only be done during the week **before** dead week. (Dead week is the week before finals.) ***You are responsible for contacting the professor for this makeup.*** No makeups are given during dead week or finals week for any reason, including medical.

If you are unable to take a test during the day and time it is administered, then you are required to take the one offered during finals week. You must take all exams during the class section you are enrolled in. For example, if you are enrolled in the 7:30 class section, you must take your exam at the 7::30 hour. On non-exam days, you may attend any section of the class you want (7:30-8:45, 9-10:15, 10:30-11:45).

You are welcome to choose not to take any one of the exams offered during the semester; however, if you miss a second exam, that score will be recorded as a "zero" and averaged in with your other test scores counting towards your final grade. If you choose to take all 5 exams, your lowest score will be thrown out and your 4 highest scores averaged together.

Examinations are based on lectures, readings, and case studies. Lectures will cover some of the book information plus additional information not covered in the text. Thus, class attendance is encouraged. Examinations will include 50 true-false, multiple choice, and matching questions worth 2 points each. Each exam is worth 100 points, and will be administered face to face via Scantron form (Form 883-E). For each exam, please bring a blue Scantron form 883-E and a No. 2 pencil to class. **A minimum of 30 points on the exam will cover material in the readings not directly referred to in the lecture.** Thus, doing the readings is critical to good test performance. (\*Note: I do not bring extra Scantrons to class. If you do not have a Scantron with you and a classmate doesn't have an extra, you cannot take that examination and will need to take the final. You may not leave class to purchase a Scantron.) Be sure to erase thoroughly on the Scantron. There is no leeway for "accidental" pencil marks or errors. In order to be fair and impartial, I will give you **whatever grade the Scantron machine indicates you earned.**

**You may bring a 3x5 notecard of notes with you to each exam. If the card is larger than 3x5 (e.g., 4x6), you will not be allowed to use it.**



*I will follow university policy regarding cheating and regarding the administration of a grade of "Incomplete." Students are allowed to drop the course only for serious and compelling reasons. It is critical to avoid plagiarism. At CSUS, plagiarism is defined as "the use of distinctive ideas or works belonging to another person without providing adequate acknowledgement of that person's contribution." Incorporation of another's work into one's own work requires adequate identification and acknowledgement.*

## 5. Assignment (50 points)

There are 2 examples of the assignment in your case study book. The assignment consists of creating therapy plans for two children who have speech sound disorders. Each client is worth 25 points. In the copy book from the bookstore, there are two examples from last year of what I expect. Please use correct style: complete sentences, correct punctuation, and correct spelling and grammar are necessary. One point will be taken off for each style error. The assignment is due at the latest by 5:00 PM on 5/3/22, and must be uploaded to Canvas by that time. If it is late, I will take off -5 points per each day that it is late. No papers will be accepted after 5/12/21. Thank you for being prompt! I expect that this assignment will be approximately 1.5 pages long single-spaced typed. If you'd like to turn it in early, I'd love that! 😊

Please choose one phonological pattern (e.g., fronting of velars) and one specific phoneme (e.g., /s/, /r/, /l/) and create a treatment plan for 2 clients of whatever age you choose. List 3 measurable objectives and a detailed description of the methods and materials you will use to remediate the speech sound error. Be sure to incorporate phonological awareness/ literacy! Assume that the therapy session is 30 minutes long.

## LETTERS OF RECOMMENDATION

Please see my website for specifics about this—click on the Courses link, and follow this to Letters of Recommendation. I require a minimum of **4 weeks' (28 days)** notice, and all documents and forms must be turned in at least 4 weeks (28 days) in advance. I do not accept or fill out any requests or forms (hard copies *or electronic*) AFTER **November 10** in the fall and **April 10** in the spring. If an electronic link arrives after November 10 in the fall, for example, it will not be filled out until February of the new year.

## EMAIL

I answer emails Monday through Friday during the school year between the hours of 6:00 A.M.-6:00 P.M. Thus, for 60 hours a week, I answer email and will do my best to reply within 1-2 days. I do not answer emails on weekends or during vacations. Any emails which come to me during vacations will be answered during the first week of the next semester.

## GRADING CRITERIA

I will calculate your grade objectively. I will take your total number of points out of 450.

94.5-100	A	73.5-76.499	C
89.5-94.499	A-	69.5-73.499	C-
86.5-89.499	B+	66.5-69.499	D+
83.5-86.499	B	63.5-66.499	D
79.5-83.499	B-	59.5-63.499	D-
76.5-79.499	C+	Below 59.5	F

1. Review each day's lecture notes later that same day to aid retention.
2. Study with other people.
3. Recite and write. Repeat material out loud. Write it out in **longhand**. Writing out material by hand really helps solidify information in your memory.
4. Study a little every day rather than having 1-2 cram sessions. It is better to study 10-30 minutes a day than in two 5-6 hour sessions.
5. Remember, every course unit = 3 hours of studying outside of class a week. So, for a 3-unit class, you'd study/do homework 9 hours a week.
6. **Write your own test questions in the instructor's format.**
7. **DO THE READINGS BEFORE CLASS.**
8. Make flashcards for key terms. Carry these flashcards everywhere you go and review them whenever you have a minute. Put the term/definition on one side and the exact definition from the book on the other side.
9. Be sure to do the **study guides on my website**.

### **CSAD 126: Speech Sound Development and Disorders in Children: Aspects of Articulation and Phonology**

This course has been designed to be in direct support of the following  
American Speech-Language Hearing Association (ASHA) Knowledge and  
Skills Acquisition for certification in Speech-Language Pathology:

#### Standard IV-C: Speech, Language, Hearing, Communication, and Swallowing Disorders and Differences

- The student will demonstrate the ability to analyze, synthesize and evaluate knowledge re: phonology, articulation disorders (including the etiologies, characteristics, and anatomical physiological, acoustic, psychological, developmental, linguistic, and cultural correlates.)
- The student will demonstrate the ability to analyze, synthesize and evaluate knowledge re: receptive and expressive language disorders (phonology, morphology, syntax, semantics, pragmatics, prelinguistic communication, and paralinguistic communication) in speaking, listening, reading, writing, and manual modalities (including the etiologies, characteristics, and anatomical physiological, acoustic, psychological, developmental, linguistic, and cultural correlates.)

#### Standard IV-D: Prevention, Assessment, and Intervention

- The student will demonstrate the ability to analyze, synthesize, and evaluate knowledge re: the principles and methods of prevention, assessment, and intervention regarding articulation.
- The student will demonstrate the ability to analyze, synthesize, and evaluate knowledge re: the principles and methods of prevention, assessment, and intervention regarding receptive and expressive language (phonology, morphology, syntax, semantics, pragmatics, prelinguistic communication, and paralinguistic communication) in speaking, listening, reading, writing, and manual modalities.

#### Standard IV-B: Basic Human Communication Processes

- The student will demonstrate the ability to analyze, synthesize and evaluate knowledge re: linguistic bases of human communication.
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**Learning Outcomes Competencies:**

- Mastery of each student learning outcome listed below is indicated by a grade of C or better on each component of the corresponding measures listed in the table. Students are required to track their progress towards meeting each learning outcome and must make an appointment with the instructor for any grade equal to or less than a C. The instructor will suggest strategies to help you establish competence and knowledge in these areas.
- Students should track their progress towards meeting each learning outcome by listing their grades on the table below over the course of the semester.

Course Learning Outcome Received	Components Indicating Competence Grades
• 1-5	Examination 1
• 6-8	Examination 2
• 9-13	Examinations 3 and 4, Assignment
• 14-16	Assignment
• 17-20	Examinations 1-4