

CD 502: RESEARCH IN COMMUNICATION DISORDERS

Instructors:

Phone:

Email:

Course Meeting and Credit

Course meets for required in-person lecture attendance from 7 to 9:45 PM in Monterey Hall, Room 101 or Room 341 (see course organization for details). Course credit: 3 units. Graded course only (no Cr/NCr; no plus/minus grading). This course is required for the M.S. degree in Communication Disorders – Speech-Language Pathology.

PRE-REQUISITES

This course is open only to Classified and Conditionally Classified graduate students in Communication Disorders and Sciences.

COURSE DESCRIPTION

Study of applied research methods in the field of communication disorders, including literature search techniques, research design, statistical test computation and interpretation, report analysis and preparation, and ethical and legal research practices.

General course organization

This course is divided into two parts. Students will spend half of the semester in class with Dr. Kekejian and half of the semester with Dr. Biel. Students in Dr. Biel's section (18790) will meet in MH 101 until 10/13. Student in Dr. Biel's section will then meet with Dr. Kekejian in MH 341 from 10/20 until the end of the semester. Students in Dr. Kekejian's section (19701) will meet with Dr. Kekejian in MH 341 from the beginning of the semester until 10/13. Starting 10/20, students in Dr. Kekejian's section will meet with Dr. Biel in MH 101 until the end of the semester.

Dr. Kekejian's lectures will cover principles of evidence-based practice, levels of evidence, and statistical methods. Dr. Biel's lectures will cover knowledge management, literature search practices, types of outcome measures, single subject design, and professional uses of artificial intelligence. Two course schedules are available on Canvas: one schedule for students enrolled in Dr. Kekejian's section (19701) and one schedule for students enrolled in Dr. Biel's section (18790). These schedules indicate the instructor, location of lectures, topics of lectures, reading requirements, and assignment deadlines.

KNOWLEDGE AND SKILLS ANALYSIS (KASA) FOR DEPARTMENT MAJORS

In Speech-Language Pathology, the course contributes to the following KASA area for ASHA professional certification:

Standard IV-F – Research The student will demonstrate the ability to analyze, synthesize and evaluate knowledge regarding processes used in research and integration of research principles into evidence-based clinical practice

As the need for research is diffuse throughout the standards for ASHA professional certification, this course also contributes to the following broad areas of the KASA for Speech-Language Pathology:

Standard IV-B: Basic Human Communication Processes (all subheadings)

Standard IV-C – Communication and Swallowing Disorders and Differences (all subheadings)

Standard IV-D: Prevention, Assessment, and Intervention for persons with communication and swallowing disorders (all subheadings)

Standard IV-E: Ethical Conduct

Standard V-B 3d. Adhere to the ASHA Code of Ethics and behave professionally

Relationship of course objectives to KASA completion and course final grade

The Knowledge and Skills Acquisition (KASA) is a set of competencies established by the American Speech-Language-Hearing Association (ASHA) as standards to be met for professional certification as a speech-language pathologist. The KASA categories must be fully satisfied and are independent of the scaling of grades for a course. In this course, each of the course objectives must be met with a grade equivalent of a “C” (minimum of equivalent of 70 percent on graded assignments) in order to satisfy the KASA requirements. Failure to earn the minimum requirements in any of the six objectives will result in a plan for remediation that will be directed by the instructors. A remediation plan must be completed no later than the end of the next course in sequence for the cohort, or by the date of the comprehensive examination, whichever occurs first. Failure to satisfy a remediation plan will result in one or more of the KASA requirements unsatisfied for ASHA certification. The final grade in the course will be determined by the grades earned on the Course Requirements, described below. The point is that satisfying KASA competencies and meeting grading standards are independent of one another.

COURSE LEARNING OBJECTIVES

1. Demonstrate knowledge of the principles underlying evidence-based practice in the professions
2. Demonstrate knowledge of the development and use of search strategies to answer clinical and research questions.
2. Demonstrate knowledge of research design of single and group studies for clinical and scientific studies in Communication Disorders.
3. Demonstrate knowledge of computation and interpretation of descriptive statistics and basic inferential tests of association and difference commonly used in Communication Disorders.
4. Demonstrate knowledge of the application and interpretation of visual analysis of single subject design experiments
5. Demonstrate knowledge of types of outcome measures and methods of data collection

REQUIRED TEXTBOOK AND READINGS

There is no required textbook for this course. Selected readings will be posted to Canvas for each class section.

COURSE REQUIREMENTS

Details on graded course requirements are provided in the course website under headings of Course Schedule and Course Assignments. Below is a summary of the requirements:

Assignment 1 – developing PICO-based research questions (30 points)

In this assignment, students apply the PICO framework to develop clear, researchable clinical questions based on a series of case scenarios. Each case represents a typical communication disorder encountered in educational or clinical settings. Students independently identify the population, intervention, comparison, and outcome elements and construct complete PICO questions that can guide literature searches and evidence-based decision making. This assignment provides structured practice with evidence-based educational practice and the use of multiple sources of information (patient population, intervention, comparisons/exposure, and outcomes) to support data-driven decision making. It emphasizes the students's ability to translate clinical problems into focused research questions that support ethical and informed professional practice. **CTCPD 2b, 5a,**

Assignment 2 – literature search and annotated bibliography (50 points)

Students will select one PICO question and locate five peer-reviewed, primary studies that address it. For each article, you will briefly identify the research question, design, participant characteristics, setting, measures/outcomes, key findings, and noted limitations, then write a short statement about the study's relevance to their PICO question. This assignment provides structured practice with evidence-based educational practice and demonstrates the use of multiple sources of information to inform professional judgment. **CTCPD 2b, 5a,**

Assignment 3 – measurement and goal writing project (30 points)

Students will write measurable treatment goals for multiple case examples, justify each goal using assessment data provided in the case, and describe an objective data-collection plan. This assignment assesses students' ability to choose an appropriate target of treatment and plan an appropriate method of collecting data to determine progress. It also provides structured practice in communicating clinical goals, plans, and rationales in clear, professional language suitable for collaboration with teachers and caregivers. **CTCPD 4a, 5a,**

Assignment 4 – Visual analysis of single subject design data (50 points)

Using provided graphs from published single-subject research, students will conduct a visual analysis to determine baseline stability, treatment effects, and maintenance. This activity both provides practice and assesses students' ability to interpret data from published single-subject design (SSD) studies and to analyze graphed data used to monitor treatment progress. Students evaluate baseline stability, treatment effects, and maintenance or generalization of skills, applying data-based reasoning to determine treatment outcomes. **CTCPD 2b, 5a, CTCSLP 5e, 5e**

Assignment 5 - AI assignment (30 points)

Students will choose three emerging AI-based services relevant to SLP practice and evaluate their potential for clinical usefulness, data management, or materials creation. This assignment introduces appropriate and ethical use of AI. **CTCPD 6a, 6b**

Assignment 6: Research Article Review (25 points)

Students will summarize and critically appraise two primary research articles in communication disorders and sciences, focusing on study design, participants, and interpretation of findings. This activity provides practice evaluating assessment and treatment research. **CTCPD 2b,**

Assignment 7: Reflection on Systematic Reviews & Meta-Analyses (25 points)

After reviewing a systematic review or meta-analysis provided by the instructor, candidates write a reflective analysis describing how synthesized evidence informs treatment selection and outcome evaluation. This assignment demonstrates the candidate's ability to interpret aggregate

research to guide intervention planning and progress monitoring, satisfying use of multiple data sources and knowledge of evidence-based intervention strategies.

Assignment 8: Designing a Pre–Post Research Study (25 points)

Students will design a simple experimental study using a pre-test/post-test format. They will specify a research question, identify participants, select appropriate measures, outline an intervention, and describe data collection and analysis steps. This assignment provides structured practice in ethical and evidence-based educational practices and demonstrates application of data-based reasoning to monitor change over time. Students will show beginning competence in articulating a design that links intervention, measurement, and outcome evaluation consistent with evidence-based inquiry. **CTCPD 2b, 5a,**

Assignment 9: Designing a Mixed Methods Research Study (25 points)

In this assignment, students will design a mixed-methods study that integrates quantitative and qualitative approaches to address a research question relevant to communication disorders. They will specify participants, data-collection methods, and a plan for integrating findings. This activity reinforces evidence-based reasoning and the use of multiple sources and types of information for decision making. Candidates practice synthesizing complementary data forms to answer applied research questions in a way that reflects sound methodological and ethical principles.

Assignment 10: Elevator Pitch of Your Study Design (25 points)

Students will present a concise oral summary of their original study design, explaining the research question, participants, design structure, and expected results in a 4–5 slide, five-minute presentation. This assignment provides students with practice communicating effectively to an audience of peers/professionals. This presentation demonstrates integration of prior assignments and effective oral communication of research concepts. **CTCPD 4c,**

Total points for the class (both sections) = 315 points

LETTER GRADE ALLOCATION

Total Points	Total Percentage	Letter Grade
283 – 315	90 – 100	A
252 – 282	80 – 89	B
220 – 251	70 – 79	C
189 – 219	60 – 69	D
188 or below	59 or below	F

GRADING CRITERIA

Points will be assigned based on the following criteria.

- Reading assigned online lectures and other materials.
- Depth and quality of thinking and reflecting evidenced in class discussions and written work submitted.
- Timely submission of all assignments.
- Cooperative and collaborative effort.
- Professional and respectful behavior and attitude.

INCOMPLETE

Requests for an incomplete (I) must conform to University policy. An “I” is only possible when the student is demonstrating passing work in the course.

NOTE ON LATE ASSIGNMENTS

You must complete all assignments on the due date specified. Late submissions will result in a reduction in your grade and will only be accepted with prior arrangements with the instructors in the case of verified acceptable reason.

A NOTE ABOUT PROVISIONS FOR DISABILITY

If you have a disability and need accommodations, please register with the [Disability Resources and Educational Services](#) (DRES) office or the [National Center on Deafness](#) (NCOD). The DRES office is located in Bayramian Hall 110 and can be reached at (818) 677-2684. NCOD is located on Bertrand Street in Jeanne Chisholm Hall and can be reached at (818) 677-2611. Please contact and notify Dr. Kekejian and Dr. Biel if you have any accommodations.

The instructors also recognize the extraordinary demands placed upon students during this unprecedented pandemic era. Support services offered by the University include:

University Counseling Services
California State University, Northridge
18111 Nordhoff Street, Bayramian Hall 520
Northridge, CA 91330-8217
(818) 677-2366, Option 1
General E-mail: coun@csun.edu
Office Hours: Monday-Friday, 8:00 a.m. - 5:00 p.m.
For after hours, urgent care assistance: (818) 677-2366, Option 3

A NOTE ABOUT APPROPRIATE ACADEMIC CONDUCT

ACADEMIC DISHONESTY

The maintenance of academic integrity and quality education is the responsibility of each student within this university and the California State University system. Cheating or plagiarism in connection with an academic program at a campus is listed in Section 41301, Title V, California Code of Regulations, as an offense for which a student may be expelled, suspended, or given a less severe disciplinary sanction. Academic dishonesty is an especially serious offense and diminishes the quality of scholarship and defrauds those who depend upon the integrity of the campus programs. Such dishonesty includes:

A. CHEATING

Intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise.

Comments:

1. Faculty members are encouraged to state in advance their policies and procedures concerning examinations and other academic exercises as well as the use before examinations of shared study aids, examination files, and other related materials and forms of assistance.
2. Students completing any examination should assume that external assistance (e.g., books, notes, calculators, conversation with others) is prohibited unless specifically authorized by the instructor.
3. Students must not allow others to conduct research or prepare any work for them without advance authorization from the instructor. This comment includes, but is not limited to, the services of commercial term paper companies.

4. Substantial portions of the same academic work may not be submitted for credit in more than one course without authorization.

B. FABRICATION

Intentional falsification or invention of any information or citation in an academic exercise.

Comments:

1. "Invented" information may not be used in any laboratory experiment or other academic exercise without notice to and authorization from the instructor. It would be improper, for example, to analyze one sample in an experiment and covertly "invent" data based on that single experiment for several more required analyses.
2. One should acknowledge reliance upon the actual source from which cited information was obtained. For example, a writer should not reproduce a quotation from a book review and indicate that the quotation was obtained from the book itself.
3. Students who attempt to alter and resubmit returned academic work with intent to defraud the faculty member will be in violation of this section. For example, a student may not change an answer on a returned exam and then claim that they deserve additional credit.

C. FACILITATING ACADEMIC DISHONESTY

Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.

Comments:

1. For example, one who knowingly allowed another to copy from his or her paper during an examination would be in violation of this section.

D. PLAGIARISM

Intentionally or knowingly representing the words, ideas, or work of another as one's own in any academic exercise.

Comments:

1. Direct Quotation: Every direct quotation must be identified by quotation marks, or by appropriate indentation or by other means of identification, and must be promptly cited in a footnote. Proper footnote style for any academic department is outlined by the APA Style Manual. This publication is available in the Matador Bookstore and is at the reference desk of the Oviatt Library.
2. Paraphrase: Prompt acknowledgment is required when material from another source is paraphrased or summarized in whole or in part in your own words. To acknowledge a paraphrase properly, one might state: "to paraphrase Locke's comment . . ." and conclude with a footnote identifying the exact reference. A footnote acknowledging only a directly quoted statement does not suffice to notify the reader of any preceding or succeeding paraphrased material.
3. Borrowed Facts or Information: Information obtained in one's reading or research which is not common knowledge among students in the course must be acknowledged. Examples of common knowledge might include the names of leaders of prominent nations, basic scientific laws, etc.

Materials which contribute only to one's general understanding of the subject may be acknowledged in the bibliography and need not be immediately footnoted. One footnote is usually

sufficient to acknowledge indebtedness when a number of connected sentences in the paper draw their special information from one source. When direct quotations are used, however, quotation marks must be inserted and prompt acknowledgment is required.

E. A Note About Artificial Intelligence (AI) Tools

Generative artificial intelligence tools—software that creates new text, images, computer code, audio, video, and other content—have become widely available. Well-known examples include ChatGPT, Google Gemini, and Microsoft Copilot/Bing for text and Adobe Express/Adobe Firefly, Dall-E, and Night Cafe for images. This policy governs all such tools, including those released during our semester together. A more complete statement of my AI policy will be provided in the first Zoom session, but my policy can be summarized as:

You may not use these tools to write or do research for your assignments. Tools that only check grammar and writing mechanics may be used, but only for grammar/spelling/writing mechanics. Some of these tools have Generative AI features, which may not be used.

Use of AI tools to write your papers or other assignment submissions will be treated the same as any other kind of academic dishonesty (see A NOTE ABOUT APPROPRIATE ACADEMIC CONDUCT, in this syllabus)

COURSE SCHEDULE

Week 1: Oct 20 7:00-9:45 pm MH 101 (Dr. Biel)

Topics

- Introduction to EBP
- Knowledge management for the clinic
 - PDF/reference managers
 - Note taking
 - Personal search engines
- Developing a PICO question

Readings

Hutcheson, K. A. (2017). Developing a Clinical Question Into a Research Question: The “Use It or Lose It” Example. Perspectives of the ASHA Special Interest Groups, 2(13), 147–154.
<https://doi.org/10.1044/persp2.SIG13.147>

Schlosser, R., Koul, R., & Costello, J. (2007). Asking well-built questions for evidence-based practice in augmentative and alternative communication. Journal of Communication Disorders, 40(3), 225–238.
<https://doi.org/10.1016/j.jcomdis.2006.06.008>

<https://www.asha.org/research/ebp/frame-your-clinical-question/>

Week 2: Sept 1 – no class (Labor day)

Week 3: Sept. 8 7:00-9:45 pm MH 101 (Dr. Biel)

Topics

- Literature search strategies and search databases
- Guest lecture from Marcia Henry (librarian) discussing using PubMed and understanding/using MeSH headings

Readings

Chapter 4 (pgs 63-72) “Completing a Literature Search and Literature Review” from Nelson’s *Research in Communication Sciences and Disorders: Methods for Systematic Inquiry, Third Edition* (available online via CSUN library)

Assignment

“PICO question assignment” due 9/8 at 8 am

Week 4: Sept. 15 7:00-9:45 pm MH 101 (Dr. Biel)

Topics

- outcome measures
- data collection
- goal writing

Readings

Chapter 6 (pg 157-179) “Observation and Measurement” from Hegde & Salvatore (2021) *Clinical research in communication disorders: principles and strategies, Fourth Edition* (available online via CSUN library)

Assignment

“Literature search and annotated bibliography” due 9/15 at 8 am

Week 5: Sept. 22 7:00-9:45 pm MH 101 (Dr. Biel)

Topics

- Basic concepts and components of single subject design

Readings

- Chapter 9 (pgs 266-299) from Hegde & Salvatore (2021) Clinical research in communication disorders: principles and strategies, Fourth Edition (available online via CSUN library)

Assignment

“Measurement and goal writing project” due 9/22 at 8 am

Week 6: Sept. 29 7:00-9:45 pm MH 101 (Dr. Biel)

Topics

- Types of single subject design
- Visual analysis of single subject design experiments

Readings

- TBA

Assignment

- none

Week 7: Oct. 6 7-9:45 pm MH 101 (Dr. Biel)

Topics

- Evidence based appraisal of single subject design studies
- RoBiNT scale

Readings

- <https://training.neurorehab-evidence.com> (register for Neurobite, select “RoBiNT training” and reading the following sections: “Rating guidelines” and “RoBiNT items”)

Assignment

- “Visual analysis of single subject design data” due 10/6 at 8 am

Week 8: Oct. 13 7-9:45 pm MH 101 (Dr. Biel)

Topics

- Uses of artificial intelligence in research and clinical practice

Readings

- TBA

Assignment

AI assignment due 10/13 at 8 am

Week 9: Oct. 20 7-9:45 pm MH 101 (Dr. Kekejian)

Topics

- EBP in CSD

Readings

- TBA

Assignment

- Assignment 6: Research Article Review due 10/26

Week 10: Oct. 27 7-9:45 pm MH 101 (Dr. Kekejian)

Topics

- Systematic review and meta-analysis

Readings

- TBA

Assignment

- Assignment 7: Reflection on Systematic Reviews & Meta-Analyses due 10/26

Week 11: Nov. 3 7-9:45 pm MH 101 (Dr. Kekejian)

Topics

- Types of statistical analyses

Readings

- TBA

Assignment

- none

Week 12: Nov. 10 7-9:45 pm MH 101 (Dr. Kekejian)

Topics

- Importance of evidence

Readings

- TBA

Assignment

- none

Week 13: Nov. 17 7-9:45 pm MH 101 (Dr. Kekejian)

Topics

- Experimental research design: pre-post

Readings

- TBA

Assignment

- Assignment 8: Designing a Pre–Post Research Study 11/23

Week 14: Nov. 24 7-9:45 pm MH 101 (Dr. Kekejian)

Topics

- Validity and reliability

Readings

- TBA

Assignment

- none

Week 15: Dec. 1 7-9:45 pm MH 101 (Dr. Kekejian)

Topics

- Mixed methods research design

Readings

- TBA

Assignment

- Assignment 9: Designing a Mixed Methods Research Study

Week 16: Dec. 8 7-9:45 pm MH 101 (Dr. Kekejian)

Topics

- Final presentations (Pre-post study)

Readings

- TBA

Assignment

- Assignment 10: Elevator Pitch of Your Study Design

CD 502: RESEARCH IN COMMUNICATION DISORDERS – Linking document

Legend

Introduced
Practiced
Assessed

Program Design Standards (CTCPD)

Standard 2b – pg 3 (assignment 1)
Standard 2b – pg 3 (assignment 2)
Standard 2b – pg 3 (assignment 6)
Standard 2b – pg 4 (assignment 8)
Standard 2b – pg 3 (assignment 4)
Standard 4a – pg 3 (assignment 3)
Standard 4c – pg 4 (assignment 10)
Standard 5a – pg 3 (assignment 1)
Standard 5a – pg 3 (assignment 2)
Standard 5a – pg 4 (assignment 8)
Standard 5a – pg 3 (assignment 3)
Standard 5a – pg 3 (assignment 4)
Standard 6a – pg 3 (assignment 5)
Standard 6b – pg 3 (assignment 5)

Speech-Language Pathology Services Credential Standards (CTCSLP)

Standard 5e – pg 3 (assignment 4)
Standard 5e – pg 3 (assignment 4)

