

SPHR 210: Research Methods in Speech and Hearing
Spring semester 2008
3 credits
CRN 93945

Professor: Adrienne Hancock, Ph.D.
Time and Location: Thursdays, 8:00-10:30 am
Monroe B37
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Office Hours: MW 2:00-4:00; sign up sheets on my office door

Purpose of Course:

This course has three main purposes. The first is to introduce first-year graduate students to the fundamentals of quantitative research design and procedures in the speech and hearing sciences. The second purpose is to assist students in becoming critical evaluators of research in speech and hearing sciences. The final purpose is to assist students in improving their scientific writing skills.

KASA standards pertinent to this course

- Standard III-E: Student has demonstrated knowledge of standards of ethical conduct
- Standard III-F: Student has knowledge of processes used in research and the integration of research principles into evidence-based clinical practice
- Other standards may pertain, depending on the content of your prospectus

E-portfolio Requirement

Every SPHR graduate course will specify at least one assignment that should be put in your e-portfolio upon successful completion of the assignment. For this course, the *Written Prospectus* assignment is designated for your e-portfolio. This means that your work on this assignment should end up in your e-portfolio.

Required Textbooks and Readings:

Schiavetti, N. and Metz, D. (2006). Evaluating research in communicative disorders. 5th edition. Boston: Allyn and Bacon.

Alley, M. (1996). The craft of scientific writing. 3rd edition. New York: Springer.

ASHA EBP Introduction and EBP Position Statement (on BB in Week 1)

Bernstein Ratner article on Evidence-Based Practice (on BB in Week 14)

Expectations:

In order to stimulate critical thinking and discussion, this class is conducted in a traditional seminar format in which students are responsible for leading discussions on the assigned readings. These discussions will address pertinent research-related topics. These discussions will be followed by discussions of how these research-related topics will be addressed in your individual projects.

It is possible to be a passable speech pathologist and never read an article in the Journal of Speech, Language, and Hearing Research or any other peer-reviewed journal. However, in order to be an up-to-date speech pathologist on the cutting edge of the profession, one must be a critical evaluator and consumer of research. One must develop critical thinking skills in order to evaluate current research, form opinions about it, and draw conclusions from it. From these conclusions you will develop your own theories that you will continually test out in your own research and clinical practice. It is this continual hypothesis testing that keeps clinical practice new and exciting; without it, the potential for burn out is high.

Academic Integrity:

I expect that your work will be your own. Students should be familiar with GWU's Code of Academic Integrity (<http://www.gwu.edu/~ntegrity/code.html>). Academic dishonesty (see Code for examples) will not be tolerated in this class.

Assignments and Grades:

Learning about research methods involves both processes and products. As you can see, there are many assignments in this class throughout the semester. These assignments will contribute to your learning the *processes* involved in research. The assignments will also contribute to the writing of a prospectus on a topic related to hearing and speech science. The written prospectus and poster presentation are the primary *products* of the class.

1. Written prospectus (400 points)
2. Provision of peer feedback (120 points)
3. Homework assignments
 - Revised Initial Paragraph with five peer-reviewed sources (10 points)
 - Written outline of Introduction (10 points)
 - Written outline of Method (10 points)
 - Protection of Human Subjects on-line quiz (10 points)
 - Reflecting on the research and writing process (10 points)
4. EBP assignment: research-based clinical practice (80 points)
5. Poster presentation and peer-evaluation of posters (100 points)
6. Participation
 - a. Discussion Leadership (90 points)
 - b. Discussion participation (60 points)
7. Class Attendance (see below)

Written prospectus. Information on this assignment is on another handout. **A passing grade in this course is contingent upon the completion of an acceptable, peer-reviewed and professor-reviewed prospectus that has met all deadlines in the syllabus and that is submitted to the professor on the due date.**

Provision of peer feedback. Information on this assignment is on another handout.

Homework assignments are listed on the syllabus throughout the semester.

Poster presentation. Information on this assignment is on another handout.

Participation as discussion group leaders and discussants. Discussion leaders will: a) be intimately familiar with the chapter to be discussed; b) if necessary, seek additional information if their background does not permit a thorough understanding of

the chapter; c) prepare a brief summary of the chapter (to present verbally, no more than 2-3 sentences); d) prepare a list of questions on the week's topics/issues to discuss (list will be **emailed to the professor by noon on the Tuesday prior to Thursday's class or by Wednesday prior to Friday's class**. I will review it, provide feedback, and then you can post it to BlackBoard after any revisions are made). Please see Discussion Rubric for more information on expectations.

Discussants will: a) read and be familiar with all chapters; b) contribute to the discussions in appropriate and respectful ways. If you are ill and cannot attend a class and you are a discussion leader, make arrangements to trade assignments with a classmate for that day. If you are absent when you are scheduled to be a discussant, then provide me with a brief written summary and critique of the chapters to be discussed during your absence. This will count toward your class participation grade. Please see Discussion Rubric for more information on expectations.

Class attendance. I expect you to be an active participant in class. Learning the research process relies heavily on formative feedback regarding your ideas, organization of information, and writing. Much of this feedback occurs during class. Absences #2-14 will result in grades being lowered by one half grade for every class missed.

Final grades for the course will be based on the number of points obtained out of a total of approximately **900** points. Course grades will be computed on the following scale:

A	=	94-100%	C+	=	79-76%
A-	=	93-90%	C	=	75-73%
B+	=	89-86%	C-	=	72-70%
B	=	85-83%	F	=	69 and below
B-	=	82-80%			

Research Librarian Appointments Available at Gelman Library

Research librarians are fantastic resources and they are here to help if necessary. Two of these librarians, Jennifer Nutefall (jnutefal@gelman.gwu.edu) and Tina Plottel (plottel@gelman.gwu.edu) specialize in SPHR-related areas. As such, they are the two most appropriate librarians to contact if you would like some individual assistance in finding resources for your project. You are not required to make an appointment but they are available if you need them.

Learning Outcomes:

Students who successfully complete the course will be able to:

1. Explain the importance of having a research-based profession and how research interacts with clinical practice
2. Perform accurate and comprehensive searches for topics using electronic and non-electronic resources
3. Define and describe the different sections of a research article and the types of information present in each one
4. Explain the steps involved in evaluating evidence in research articles and analyze scholarly articles for level of evidence
5. Explain the differences between independent and dependent variables
6. Define the steps involved in the research process
7. Define the types of reliability and validity and how they relate to measurement
8. Describe threats to reliability and to validity and what can be done to minimize these threats
9. Analyze research scenarios for ethical and unethical conduct
10. Explain the process of informed consent and why it is critical to research involving human subjects
11. Develop a clear and concise research question on a SPHR-related topic
12. Write a research prospectus on a SPHR-related topic:
 - a. Develop an answerable and feasible research question that is appropriately complex
 - b. Write an organized and well-developed literature review that contains an analysis of the existing literature related to the topic
 - c. Write a prospectus that is organized, concise, and related to the topic
 - d. Write a prospectus that is relatively free of grammatical errors
13. Present their proposal clearly and accurately during a 10 minute poster presentation
14. Provide appropriate, respectful, and useful feedback to peers on research and writing
15. Work efficiently and effectively with groups of your colleagues

Information for students with disabilities:

Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. At a student's request, DSS prepares an individualized letter to professors which verifies the nature of the student's disability and documents the need for auxiliary aids and services and/or academic adjustments. Students are encouraged to meet with each professor early in the semester to discuss the academic implications of the disability as they relate to the specific course and to request accommodation. For additional information please refer to: <http://gwired.gwu.edu/dss/>.

University Counseling Services:

The University Counseling Center (UCC) assists students in addressing personal, social, career, and study problems that can interfere with their academic progress and success.

Services for students include:

- academic support and Peer Tutoring Services:
<http://gwired.gwu.edu/counsel/AcademicSupport/>,
<http://gwired.gwu.edu/counsel/AcademicSupport/PeerTutoringService/>
- crisis consultations at 202-994-5300 (24/7)
- confidential counseling services (individual and small group)
- podcasts and self-help materials on website:
<http://gwired.gwu.edu/counsel/PodCast/>,
<http://gwired.gwu.edu/counsel/OutreachSelfHelp/>

They encourage students to check out their website and to call them with questions!

Week 1: January 17: Linking research to clinical practice

Required Readings:

Bring an article that you used to support treatment last semester;
Read ASHA's EBP position statement and Introduction to EBP (on Blackboard); Schiavetti and Metz, pages 131-139

Due: Fill out Pre-Class Assessment (in Week 1 on Bb) and email to professor

Topics:

Evaluating evidence
Levels of evidence (see Robey chart in Schiavetti & Metz, chapter 5)
Discussion: What makes a "good" research study?
Using evidence-based practice principles to evaluate clinical research

Week 2: January 24: What is research, besides being a scary word?

Required Readings:

Schiavetti & Metz, preface and chapter 1
Alley chapters 1, 2
Start compiling and reading for your study ideas

Topics:

Scientific method and Overview of research process
Writing, critical thinking, and research methods are related
Research strategies and process: common steps
Developing key word lists

Due Next TUESDAY, January 29 by noon:

Write paragraph describing your initial thoughts and five key words for a research topic, using the *initial paragraph template* as needed; email this to professor, who will forward to research librarians

Week 3: January 31: Locating peer-reviewed research

Required Readings:

You should continue compiling and reading research for you study

Due:

EBP Clinic Assignment

Topics:

Meet at Gelman (Room TBD); come with lists of "key words" to search
Jennifer Nutefall and Tina Plottel will orient us to resources pertinent to SPHR
Perform electronic database searches
Familiarize self with resources available at Gelman

Week 4: February 7: Research strategies and methods

Required Readings:

Schiavetti & Metz, chapters 2 and 3

Due:

Locate, copy and read at least five articles that appear pertinent to your study.
Revised topic paragraph with five complete citations in APA format due

Topics:

Types of variables

Types of research

Types of research designs

Sampling of variables and designs from your studies

Expectations of Peer Reviewers; Orientation to evaluation checklists from page 238 and p. 311-313 in Schiavetti and Metz textbook

Discussion Leaders: Chapter 2 Chapter 3

Week 5: February 14: Developing the *Introduction* section of a prospectus

Required Readings:

Schiavetti & Metz, overview of part II and ch. 7

Alley, chapter 3, Appendices A and B

Due:

Write an outline of the introduction section of your study, incorporating research you have read. Refer to handouts in Blackboard Week 5
Continue searching for literature that is pertinent to your study.

Topics:

What information should be in the Introduction?

Review of APA style

To cite or not to cite?

Based on your reading of the research, do you need to refine your question?

How to think about statistics

Discussion Leaders: Chapter 7

Week 6: February 21: Measurement issues

Required Readings:

Schiavetti & Metz, chapter 4 and 5

Topics:

Factors affecting quality of measurement

Reliability of measurement

Validity of measurement

Discussion of measurement issues in your research studies

Discussion Leaders: Chapter 4 Chapter 5

Due noon MONDAY Feb 25: Draft of Introduction due to peer reviewer

Week 7: February 28: Developing the *Method* section of a prospectus

Required Readings: Schiavetti & Metz, chapter 8

Due: Peer reviewer completes written peer review of Introduction; bring copies for writer and for Professor (with tracking sheet attached)

Due: Write an outline of your Method section and be prepared to: a) state your research question; b) state the population(s) you wish to study; c) describe materials you will use; and d) describe at least one procedure that your subjects will do.

Topics:

What information should be in the Method section?

Methodology workshop

Class and professor feedback on proposed methodology

Discussion Leaders: Chapter 8

Due noon MONDAY, March 3:

Revised draft of Introduction section due to professor

Week 8: March 6: Developing the *Method* section of a prospectus

Required Readings:

Alley chapter 4 and 5

Topics:

Methodology workshop continued

Feedback on questions from class and professor.

Due noon MONDAY March 10:

Draft copies of Research question and variables and Method section due to peer reviewer

Week 9: March 13: Developing the *Results* section of a thesis or scientific paper

Required Readings:

Schiavetti & Metz, chapters 6 and 9

Alley chapters 6 and 7

Due: Peer reviewer completes written peer review of Method section, bring peer reviewed copies for writer and for Professor (with tracking sheet)

Topics:

What information should be in the Results section?

Selecting appropriate statistics

Discussion Leaders: Chapter 6: Professor Chapter 9

Due noon TUESDAY March 25:

List of research questions, study variables, Method section, Expected Results due to Professor

Week 10: Spring Break

Week 11: March 27: Developing the *Results* section of a thesis or scientific paper

Required Readings:

Schiavetti & Metz, chapters 6 and 9

Alley chapters 6 and 7

Topics:

Selecting appropriate statistics (continued)

Week 12: April 3: Developing the *Discussion* section of a thesis or scientific paper

Required Readings:

Alley chapters 8 and 9

Due: Draft of entire prospectus (Introduction, Method, Expected Results sections) due to different peer reviewer

Topics:

What does it mean to be “peer-reviewed?”

The peer-review process

Research ethics

What information should be in the Discussion section?

Week 13: April 10: Protecting human subjects

Required readings: those that you have found pertinent to your prospectus

Due: Peer reviewer completes written peer review of entire prospectus (Introduction, Method, Expected Results sections), bring peer reviewed copies for writer and for Professor (with tracking sheet)

Continue revising your prospectus

Review chapters from Alley to evaluate your writing

Topics:

What is an IRB? Why have one?

What is informed consent?

Populations deserving special protections

****Final copy of Prospectus due in class on THURSDAY April 17****

Week 14: April 17: Sharing and publishing research

Required Readings:

Schiavetti and Metz pages 18-19

Alley chapters 11 and 15

Ratner (2005) article on EBP

Topics:

What makes a good presentation?

What makes a good poster presentation?

Critique of posters

Why a research-based profession?

Week 15: April 24: Sharing *your* research

Required Readings: None

Due: Visit the website <http://cme.cancer.gov/clinicaltrials/learning/humanparticipant-protections.asp>. Take and pass this free course, then print out the certificate of completion and give the original to me.

Due: Course evaluations (see Blackboard)

Topics: Poster presentations (turn in critiques)

Final exam date: week of May 5-13, 2008

Due on final exam date (emailed to Professor): Reflecting on the research and writing process